Tactical Enthusiasm and Operational Blindness: Civilian Casualties during the Allied Air Campaign in Italy in 1940-1945

A Monograph

by

Major Giovanni Corrado
Italian Army

School of Advanced Military Studies
United States Army Command and General Staff College
Fort Leavenworth, Kansas

2015

REPORT DOCUMENTATION PAGE

Form Approved
OMB No. 0704-0188

1. REPORT DATE *(DD-MM-YYYY)*	**2. REPORT TYPE**	**3. DATES COVERED** *(From - To)*
21 MAY 2015	Master's Thesis	June 2014-May 2015

4. TITLE AND SUBTITLE
Tactical Enthusiasm and Operational Blindness: Civilian Casualties during the Allied Air Campaign in Italy in 1940-1945

5a. CONTRACT NUMBER

5b. GRANT NUMBER

5c. PROGRAM ELEMENT NUMBER

6. AUTHOR(S)
Major Giovanni Corrado, Italian Army

5d. PROJECT NUMBER

5e. TASK NUMBER

5f. WORK UNIT NUMBER

7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES)
School of Advanced Military Studies
250 Gibbon Ave.
Ft. Leavenworth, KS 66027

8. PERFORMING ORG REPORT NUMBER

9. SPONSORING / MONITORING AGENCY NAME(S) AND ADDRESS(ES)
U.S. Army Command and General Staff College
ATTN: ATZL-SWD-GD
Fort Leavenworth, KS 66027-2301

10. SPONSOR/MONITOR'S ACRONYM(S)

11. SPONSOR/MONITOR'S REPORT NUMBER(S)

12. DISTRIBUTION / AVAILABILITY STATEMENT
Approved for Public Release; Distribution Unlimited.

13. SUPPLEMENTARY NOTES

14. ABSTRACT

This monograph investigates the Allied air campaign in Italy in 1940-1945 from an operational perspective to identify those factors—relevant for today's practice of operational art—that determined the death of as many as 60,000-80,000 civilians. Analysis points towards three main causes. First, the Allies entered the war with an air doctrine that was untested on a large scale. This should have suggested prudence in its application. Second, several flaws plagued the decision making process for the air campaign. The Allies framed the Italian air campaign in analogy with the German one, failing to capture the differences between the two. Additionally, overconfidence in air power in determining Italy's collapse prevented an early integration of the air and land campaigns. Third, the Allies showed insensitivity towards civilian casualties. No operational directives urged air commanders to limit civilian casualties. The conclusion of the monograph captures several lessons that challenge current and future operational planners to identify cognitive fallacies, question assumptions, and prove the soundness of the ways and means to achieve the desired ends.

15. SUBJECT TERMS
Second World War, Italian air campaign, strategic bombing, civilian casualties, operational art, operational planning.

16. SECURITY CLASSIFICATION OF:			**17. LIMITATION OF ABSTRACT**	**18. NUMBER OF PAGES**	**19a. NAME OF RESPONSIBLE PERSON**
					Major Giovanni Corrado
a. REPORT	**b. ABSTRACT**	**c. THIS PAGE**			**19b. PHONE NUMBER** *(include area code)*
(U)	(U)	(U)	(U)	67	

Standard Form 298 (Rev. 8-98)
Prescribed by ANSI Std. Z39.18

Monograph Approval Page

Name of Candidate: Major Giovanni Corrado

Monograph Title: Tactical Enthusiasm and Operational Blindness: Civilian Casualties during the Allied Air Campaign in Italy in 1940-1945

Approved by:

_____, Monograph Director
Stephen A. Bourque, PhD

_____, Seminar Leader
Robert J. Hallett, LtCol

_____, Director, School of Advanced Military Studies
Henry A. Arnold III, COL

Accepted this 21st day of May 2015 by:

_____, Director, Graduate Degree Programs
Robert F. Baumann, PhD

The opinions and conclusions expressed herein are those of the student author and do not necessarily represent the views of the U.S. Army Command and General Staff College or any other governmental agency. (References to this study should include the foregoing statement.)

Abstract

Tactical Enthusiam and Operational Blindness: Civilian Casualties during the Allied Air Campaign in Italy in 1940-1945, by Major Giovanni Corrado, 67 pages.

This monograph investigates the Allied air campaign in Italy during the Second World War from an operational perspective to identify those factors—relevant for today's practice of operational art—that determined a very high number of civilian casualties (as many as 60,000-80,000).

Analysis points towards three main causes. First, the Allies entered the war with an air doctrine that was untested on a large scale. This should have suggested prudence in its application to measure its effectiveness and rapidly adapt ways and means to achieve the desired ends. It did not happen. Second, several flaws plagued the decision making process for the air campaign. Allied planners framed the Italian operational environment in analogy with the German one, failing to capture the substantial differences between the two. Additionally, excessive confidence in the supposed decisiveness of air power in bringing about the collapse of Italy prevented an early integration of the air and land campaigns. Third, Allied leadership showed insensitivity towards civilian casualties. There were no operational directives that urged air commanders to limit the casualties amongst the civilians.

The conclusion of the monograph captures several lessons that challenge current and future operational planners to be ready to identify cognitive fallacies, to question assumptions, and to prove the soundness of the ways and means to achieve the desired ends.

Acknowledgments

I would like to thank Dr. Stephen Bourque for his patience as my monograph director. We share a common interest on the topic and this made this project stimulating and challenging at the same time. His connections at the United States Air Force Historical Research Agency in Maxwell, AL, provided me with timely and accurate primary sources for my research. Sir, good luck for the success of your book. I am also grateful to my seminar leader, Lieutenant Colonel Robert Hallett, United States Marine Corps, for his steady guidance. A special thanks also to my Leavenworth and Kansas City sponsors for their support in making my prose more understandable to an English-speaking public. I would like to also thank Major Alessandro Vivarelli, Italian Army, for catching several mistakes in the monograph's final reading.

A monograph based on historical sources is not possible without the invaluable support of librarians and archivists. I wish to thank the archivists of the Eisenhower Presidential Library in Abilene, KS, who, with short notice, allowed me to access helpful sources. I am also indebted to Elizabeth and John Dubuisson of the Ike Skelton Combined Arms Research Library at Fort Leavenworth, KS. They dedicated time in actively supporting my research. I am also grateful to the officers of my monograph syndicate that provided well founded and precise criticism to my work. Among those, a special thanks to Major Kathryn "Taboo" Gaetke, United States Air Force: having an air force pilot challenging your analysis on strategic bombing adds value to the final product. I also wish to thank Dr. Claudia Baldoli of the University of Newcastle, whose civilian perspective, enriched with the knowledge of the topic, improved the quality of my work.

Last but not least, thanks to my family. Their support was the linchpin of my work. My wife Claudia and my sons Gabriele and Andrea were the true motivation to stick to the schedule and complete the monograph as quickly as possible. Finally, I am grateful to those who will pause

to read the monograph: the time you dedicate to this will contribute to make the Italians dead under the Allied bombs less ‘forgotten.’ Thank you all.

Table of Contents

Figures

Page

Introduction

In 1943, San Lorenzo was a densely populated and anti-fascist neighborhood in Rome. In the postwar period, it had lost most of its nineteenth-century proletarian fashion. Today it is the university district of the Italian capital. In the heart of the district, a few hundred meters north of Termini rail station, in the *Parco dei Caduti del 19 Luglio 1943* (park of the fallen of July 19, 1943), a long marble plaque commemorates the names of the 1,674 Romans killed during the Allied bombing that devastated the city on that day. Between 11:00 a.m. and 3:00 p.m., more than 600 Allied bombers dropped 9,125 bombs in an attempt to hit the nearby freight yards, Tiburtina rail station, and the airdromes of Ciampino and Littorio.[1] The effects of the American daylight bombing were so devastating that the Italian authorities still have not been able to account for the total number of victims. In fact, besides the 1,674 officially remembered, more recent studies report some 3,000 deaths, with an additional 11,000-20,000 wounded.[2]

Regrettably, the next day, a New Yorker enjoying his daily reading of *The New York Times* in Central Park did not learn about the consequence of the American bombing of the freight yards in Rome. The headline on the front page was "Allied bombs blast Rome military areas; Times man from air sees shrines spared; Axis forces steadily fall back in Sicily."[3] Herbert L. Matthews, an American war journalist flying over Rome in a B-17 heavy bomber, praised the accuracy of American bombers in hitting the freight yards and the airdromes. Matthews claimed

---

[1] Marco Gioannini and Giulio Massobrio, *Bombardate l'Italia: Storia della Guerra di Distruzione Aerea, 1940-1945* (Milan: Rizzoli, 2007), 335.

[2] Ibid.; "San Lorenzo: I Bombardamenti del 19 Luglio 1943," ViviSanLorenzo, accessed August 20, 2014, http://www.vivisanlorenzo.it/bombardamenti_del_19_luglio_1943_a_san_lorenzo.htm.

[3] Headline, *The New York Times* 92, no. 31,223, 20 July 1943, accessed August 14, 2014, http://www.freerepublic.com/focus/chat/3045264/posts.

that in the bombing "no other parts of Rome were damaged."[4] In his three-page long article, the journalist described how the great network of rail lines converging into the San Lorenzo freight yard was "as a target . . . a bombardier's dream," and how the bombs were dropped right on the target so that "tonight . . . our bombers could not have killed many Romans."[5] Matthews did not mention the extensive damage that changed life in San Lorenzo neighborhood forever.

The war diary of the Twelfth Air Force, Fifty-Seventh Bombardment Wing, 310th Bombardment Group reported the bombing of Rome with an even more triumphal tone. The group contributed to the raid with seventy-two sorties of B-25 medium bombers, dropping 426 500-pound bombs on the thirty-five Italian aircraft stationed in Ciampino airfield. The bombardiers on the aircraft reported only one direct hit observed on an aircraft and another ten aircraft believed destroyed by direct hits in the dispersal area southeast of the airfield. According to the 310th Bombardment Group's war diary, the air blitz gave "Musso's [Italian Prime Minister and dictator Benito Mussolini's] front porch, better known as Rome . . . [the] first taste of the sort of punishment "dished out" by our American Air Force," marking July 19, 1943 as "a day that will long be remembered by [German Chancellor and dictator Adolf] Hitler's down under stooges."[6] The report of the bombing did not account for any damage to civilian residences, stressing that no bombs struck in the center of the city.[7] For the Allied narrative, today the *Parco dei Caduti del 19 Luglio 1943* should not exist. On July 20, 1943, the best reference a reader of

[4] Herbert L. Matthews, "Raid is explained: Axis Troops Were Using Rome Railways to Rush Aid to Sicily," *The New York Times* 92, no. 31, 223, 20 July 1943, accessed August 14, 2014, http://www.freerepublic.com/focus/chat/3045264/posts, 1, 3-6.

[5] Ibid., 5.

[6] 310th Bombardment Group War Diary, "Monday, 19 July 1943," *12th Air Force, 57th Bombardment Wing, 310 Bombardment Group History: July 1943,* accessed August 5, 2014, http://57thbombwing.com/310thHistory/310_BG_1943-07.pdf, 122, 123, 125.

[7] Ibid., 128.

The New York Times could find about the civilian victims of the American bombing of Rome was in a marginal column on page six of the newspaper. Therein, Daniel T. Brighman, a *New York Times* Geneva-based journalist, reported some semi-official Italian sources claiming heavy casualties after civilian residences were pulverized because of the air raid. The journalist described extensive damages also to monuments such as the ancient basilica of San Lorenzo Fuori le Mura and the historic cemetery of Campo Verano.[8]

Operation Crosspoint—the bombing of Rome—was part of a larger Allied air campaign aimed at crippling Italian morale and forcing Italy out of the war.[9] The Allies agreed on the idea of bombing the ancient city during the Trident Conference in Washington, DC from May 12-27, 1943. The successful conquest of North Africa in May 1943 presented the Allies with new operational opportunities in the Mediterranean. It called for a reorientation of the previous Allied grand strategy set during the Arcadia Conference held in Washington, DC between December 1941 and January 1942. In fact, Arcadia had endorsed the principle that the defeat of Germany would lead to the defeat of Japan and the collapse of Italy.[10] During Trident, British Prime Minister Winston Churchill suggested the concept that "[t]he great price . . . [in the Mediterranean] , , , was to get Italy out of the war by whatever means might be the best."[11] Now

---

[8] Daniel T. Brigham, "Noted Church Hit, Italians Report. Stefani and Vatican Radio Say Pope Visited The Damaged San Lorenzo Basilica," *The New York Times* 92, no. 31,223, 20 July 1943, accessed 14 August 2014, http://www.freerepublic.com/focus/chat/3045264/posts, 6.

[9] Claudia Baldoli and Andrew Knapp, *Forgotten Blitzes. France and Italy under Allied Air Attack, 1940-1945* (London: Continuum International Publishing Group, 2012), 12.

[10] American-British Joint Chiefs of Staff, *Proceedings of the American–British Joint Chiefs of Staff Conferences Held in Washington, DC on Twelve Occasions between December 24, 1941 and January 14, 1942*, pt. II, Annex I to JCCs-7, Ibiblio: The Public's Library and Digital Archives, accessed July 22, 2014, http://www.ibiblio.org/hyperwar/Dip/Conf/Arcadia/ARCADIA.PDF, 1-5.

[11] US Secretary, Office of the Combined Chiefs of Staff, *Trident Conference, May 1943. Papers and Minutes of Meetings* (Washington, DC: Office of the Combined Chiefs of Staff,

the Combined Chiefs of Staff agreed that the collapse of Italy might be the beginning of the German doom because Hitler would be forced to withdraw units from the Russian front to fill the gap that the Italian army would leave in the Balkans and Italy itself. The operational dilemma was about the ways and means to achieve the end of knocking Italy out of the war. Churchill argued either the Allies needed to invade the soil of Italy or they could crush the Allied Axis by air attack only. The British Prime Minister also introduced the issue of the bombing of the marshalling yards in Rome. He urged the British War Cabinet and the American President Franklin D. Roosevelt to empower the Supreme Commander of the Allied Expeditionary Force of the North Africa Theater of Operations, General Dwight D. Eisenhower, to carry on the bombing whenever it would assist the invasion of Sicily. Earlier in the discussion, the Chief of Staff of the United States Army, General George C. Marshall, had pointed out how the marshalling yards in Rome were a pure military objective whose bombing would be advantageous for the whole campaign. In fact, the psychological effect of the bombing of Rome would be even more important in view of the possible military options after Operation Husky.[12] The conference did not achieve an agreement on operations after the invasion of Sicily, and the decision to put Allied soldiers on mainland Italy did not come until July 1943. However, the Allies began bombing Italy from North Africa as early as December 1942 for degrading the Axis war potential and "in the hope that heavy and sustained bombing might result in the collapse of Germany's junior partner."[13] This also had been the aim of the British Royal Air Force during the bombing campaign against

---

1943), Ibiblio: The Public's Library and Digital Archives, accessed July 22, 2014, http://www.ibiblio.org/hyperwar/Dip/Conf/Trident/TRIDENT.PDF, 253, 499-500.

[12] Ibid. Operation Husky was the code name for the Allied invasion of Sicily.

[13] Headquarters, US Army Air Forces, Historical Office, *Air Phase of the Italian Campaign to 1 January 1944* (Washington, DC: Headquarters, Army Air Forces: 1946), accessed July 30, 2014, http://cgsc.contentdm.oclc.org/cdm/ref/collection/p4013coll8/id/3205, 1-2.

Italy from 1940-1942. However, as the Allies pointed out, the Royal Air Force bombing of Italy was not a real air offensive because its attacks were too irregular and of limited entity.[14]

The Allied air offensive against Italy had four identifiable phases.[15] The first phase took place between December 1942 and April 1943 in support of the Tunisian campaign with the objective of curtailing supplies flowing from Italy to the Axis troops in Libya. The second phase occurred from May to August 1943 in support of Operation Husky and in preparation for Operation Avalanche, the amphibious landing in Salerno near Naples, and Operation Baytown, the amphibious landing in Reggio Calabria, planned for September 1943. The objective of the second phase was to hinder the movement of Axis reinforcements to southern Italy. In September 1943, the Allies executed the third phase of the Italian air campaign, with Italy now a co-belligerent of the Allies, in direct support of Avalanche and Baytown. The third phase of the air campaign aimed at preventing effective build-up of German forces in Italy by striking at enemy communications to retard the movement of reserves, forcing the enemy to move its air power assets farther north, and preventing the Axis air forces from disrupting the Allied amphibious landings. With Italy out of the war and the British Eighth Army and the US Fifth Army with secure lodgments on the mainland, the fourth and last phase of the Italian air campaign developed from mid-September 1943 to early May 1945. The objectives set in the aftermath of Avalanche

[14] Headquarters, US Army Air Forces, *Air Phase of the Italian Campaign,* 2. Between 1940 and 1940, the British Royal Air Force performed 219 bombing missions against Italian cities, causing more than 2,200 deaths. Throughout the monograph, data about number of bombing missions on Italy and consequent civilian casualties come from the analysis of the online appendix to Marco Gioannini and Giulio Massobrio, *Bombardate l'Italia: Storia della Guerra di Distruzione Aerea, 1940-1945* (Milan: Rizzoli, 2007), accessed November 8, 2014, http://rcslibri.corriere.it/bombardatelitalia/.

[15] The phasing of the Italian air campaign derives from the analysis of the official history as captured in Headquarters, US Army Air Forces, *Air Phase of the Italian Campaign.* This is due to the lack of an initial overarching planning document that covered the development of the campaign from Sicily to the Brenner.

and Baytown at the end of September 1943 remained the same throughout the rest of the Italian campaign. Such objectives were the disruption of the German withdrawal, forcing concentration of men and material for the subsequent attack by light bombers, the destruction of German critical communication nodes north of the battle area, and executing counter-air missions against German air forces. These objectives were in support of the advance of the Allied armies along the Italian peninsula.[16]

The Allied air campaign in Italy was a massive undertaking. Between 1940 and 1945, the US Army Air Forces dropped 269,106 tons of bombs on Italy, where the British Royal Air Force contributed an additional 109,785 tons. This accounted for 13.7 percent of the total tonnage dropped on Europe.[17] The *United States Army Air Forces Statistical Digest World War II* suggests slightly different figures, with a total of 276,312 tons of bombs dropped on Italy by American aircraft alone.[18] In 1943, when the US Army Air Forces assumed responsibility for most Italian operations, the American bombers dropped 46,448 tons of bombs on the Italian peninsula. Even though on September 8, 1943 Italy had signed an armistice with the Allies committing land forces as a co-belligerent country to defeat the German occupation forces, in 1944, the Allies pounded Italy with 166,494 tons of bombs. Between January and early May 1945, an additional 63,370 tons of bombs gave the final blow to a disfigured Italian territory.[19]

---

[16] Headquarters, US Army Air Forces, *Air Phase of the Italian Campaign*, 10, 13, 61-62, 76, 157.

[17] US Strategic Bombing Survey, *Over-All Report (European War)*,vol. 2A, *Statistical Appendix to Over-All Report (European War)* (Washington, DC: US Department of War, February 1947), chart no. 1 ”Distribution of Bomb Tonnage,” 5.

[18] Headquarters, US Army Air Forces, Office of Statistical Control, *Army Air Forces Statistical Digest World War II* (Washington, DC: Headquarters, Army Air Forces, December 1945), table 141 “Tons of Bombs Dropped in Theaters vs Germany, by Type of Airplane and by Country,” 240-241

[19] Ibid.

Missing from the official reports and statistical summaries is any mention of the bombing's effects on the Italian people. Official Italian records report 59,796 civilians killed because of the Allied aerial bombing, of which 18,376 occurred before the armistice with the Allies and 41,420 after Italy became an Allied co-belligerent country.[20] In contrast, the Italian military casualties of Allied bombing amounted to only 3,954 in the pre-armistice period and 5,157 after the armistice.[21] Though striking, this data does not capture the complexity of the issue. A recent work of matching official records with local unofficial sources allowed some Italian scholars to estimate about 80,000 civilian victims of the Allied bombing. This death toll represents a mean between the 60,000 officially recorded victims and the overestimated 130,000 deriving from the analysis of local official sources.[22]

Yet the story of the civilians dead during the bombing of Italy is almost unknown in the post-war narratives of the Allied countries. Even in Italy, after 1945 the national rhetoric of the *liberazione* (liberation) reduced the bombing of Italy to a necessary evil in view of the defeat of the Nazi German occupation troops. In the aftermath of the war, historians simply neglected the bombing of Italy and the resulting civilian casualties, although Italy had suffered more air raids than Great Britain. Between 1940 and 1945, Italy was bombed for only a month less than Germany and more Italians died because of Allied bombing than British during the Axis bombing of Great Britain. The tonnage dropped on Great Britain counted less than one-fifth of the Italian total. Rome alone absorbed more tonnage of bombs than all British cities put together. Northern

---

[20] Istituto Nazionale di Statistica, *Morti e Dispersi per Cause Belliche negli Anni 1940-45* (Rome: ISTAT, 1957), accessed July 17, 2014, http://lipari.istat.it/digibib/causedimorte/IST3413mortiedispersipercausebellicheanni1940_45+OCRottimizz.pdf, table 2-8 "Morti nel Territorio Nazionale, per Causa e Sesso," 26.

[21] Ibid., table 2-9 "Morti Militari, per Grado e Causa di Morte," 27.

[22] Gioannini and Massobrio, 492.

Italian industrial centers such as Genoa, Milan, and Turin suffered more than fifty air raids each, whereas Naples and Messina in southern Italy received more than 100 raids each.[23] This neglect is more curious since it represents a significant portion of the employment of air power during the Second World War. Only recently have scholars pointed out the severe consequences for the civilian population of the Allied bombing in countries such as Italy and France.[24] However, these works analyze the issue from a political and strategic standpoint and do not enter into the study of the Italian air campaign from an operational perspective. In fact, the focus of the scholars is on the societies under the bombs and the civil defense of the population by their respective governments. Such an approach does not capture the underlying factors that influenced the negative outcome of the Allied air offensive in terms of civilian casualties. In fact, a fundamental question remains unanswered: why were there so many Italian civilian casualties because of the Allied air operations in the Second World War?

There are several potential answers to the question. Claudia Baldoli, senior lecturer in European history at Newcastle University, United Kingdom, points out how the bombing method of the British Royal Air Forces, the so-called area bombing, "signaled, at best, indifference to civilian lives."[25] Richard Overy, professor of modern history at the University of Exeter, United Kingdom, maintains that the American precision bombing also proved scarcely more precise than the British area bombing due to the cloudy European weather. This eventually forced the US Army Air Forces to resort to area bombing because it could fly with favorable weather for only

[23] Baldoli and Knapp, 2, 6-7; Richard J. Overy, *The Bombing War: Europe 1939-1945* (London: Allen Lane, 2013), 486.

[24] This is the case of the specific secondary sources of the monograph. Baldoli and Knapp; Overy.

[25] Baldoli and Knapp, 18.

few days a month.[26] These arguments provide only a partial answer to the question and only capture the most obvious part of the issue, which is the bombing method. More important, the arguments do not motivate the contemporary operational planners to see the air phase of the Italian campaign as a cautionary story concerning collateral damage and a stimulus to question the soundness of the matching ways and means to achieve the desired ends. The high number of Italian civilian casualties during the Allied air operations in the Second World War was due to the immaturity of air power doctrine, several flaws in the decision making process for the bombing offensive, and the insensitivity of Allied leadership on issues concerning civilian casualties. From an operational perspective, Italian civilian casualties were the result of the faulty cognitive process that led the Allies to frame incorrectly the problems that the Italian campaign posed. Additionally, Allied planners demonstrated over-reliance on air power as the panacea to solve operational problems through an air force that was still in its formative years. The bombing method was only the tip of the iceberg.

Immaturity of Air Doctrine

One major cause of the civilian casualties because of the Allied bombing of Italy was the immaturity of Allied air doctrine.[27] After the early use in combat of the aircraft during the First World War, the theoretical development of air doctrine experienced a lively debate during the interwar period. The Italian general and military theorist Giulio Douhet was its most vocal advocate. Douhet pointed out the necessity of an air force independent from the other services,

[26] Overy, 346.

[27] The US Department of Defense defines doctrine as "[f]undamental principles by which the military forces or elements thereof guide their actions in support of national objectives. It is authoritative but requires judgment in application." See Joint Chiefs of Staff, Joint Publication 1-02, *Department of Defense Dictionary of Military and Associated Terms* (Washington, DC: Government Printing Office, 2014), 73.

capable of bypassing the enemy defensive lines and bringing the war to the very heart of the enemy country. The city centers would be a preferential target for the strategic bombers because they were sizable targets and maximized the panicking effect on the civilian population.[28] Starting from Douhet's basic premise, the development of the doctrine for strategic bombardment followed two different paths in Great Britain and in the United States. The British Royal Air Force espoused the idea that the effects of strategic air bombardment should be concentrated on city centers to foster civil unrest and pressure the enemy government to sue for peace. On the other hand, the US Army Air Forces adopted a more indirect approach, focusing on the concept of destroying enemy war-making capabilities, and as a second-order effect, its will to fight.[29] In both cases, the strategic bombing of the enemy country would result in a quick, bloodless, and cheap victory. When the Second World War erupted in 1939, air doctrine had not been tested on a large scale. Therefore, the Mediterranean Theater of Operations became the laboratory in which the Allied air forces experimented with its implementation. In this context, rigidity characterized the early application of this acclaimed revolutionary doctrine. Enthusiastic expectations on the decisiveness of strategic bombing to decapitate Axis countries prevented the Allied air forces from questioning the soundness of the doctrine. When late in the war the Allies had the opportunity to realize that not even a continuous and concentrated strategic bombardment might be sufficient to force a population to surrender, they became a victim of the sunk cost fallacy.[30]

---

[28] Giulio Douhet, *The Command of the Air*, eds. Joseph P. Harahan and Richard H. Kohn (Tuscaloosa, AL: University of Alabama Press, 2009), 6, 9, 22.

[29] Phillip S. Meilinger, ed., *The Paths of Heaven: the Evolution of Airpower Theory* (Maxwell Air Force Base, AL: Air University Press, 1997), 51-52, 79.

[30] Cambridge Dictionaries Online defines the sunk cost fallacy as "the idea that a company or organization is more likely to continue with a project if they have already invested a lot of money, time, or effort in it, even when continuing is not the best thing to do." Cambridge Dictionaries Online, "sunk cost fallacy," Cambridge University Press, accessed December 6, 2014, http://dictionary.cambridge.org/us/dictionary/business-english/sunk-cost-fallacy.

Despite contrary evidence, the Allies increased the intensity of the bombardment in the hope of meeting the pre-war expectations, causing the American precision bombing to progressively assume the pattern of the more indiscriminate British area bombing.[31]

In April 1918, Great Britain established its air force as an independent service. The German Zeppelin raids from 1915 to mid-1917 and the Gotha raids from 1917 onward caused panic in the British population, forcing the British Cabinet to unify the Royal Naval Air Service and the Royal Flying Corps into the Royal Air Force. In the aftermath of the First World War, the Royal Air Force struggled with preserving its independence and relevance vis-à-vis the army and the navy. The senior services saw in the newborn Royal Air Force a drain of resources under the financial constraints of the Ten Year Rule.[32] The Royal Air Force reaffirmed its relevance by providing a cheap and efficient way to police the Empire. In 1920, British General James A. Haldane, General Officer Commanding in Iraq, pointed out that "with three battalions of infantry and a tank or two in the background, the air force can control the country."[33] In addition, Air Marshal Hugh M. Trenchard, the first postwar Royal Air Force chief of staff, pushed strategic bombing as the central mission of the Royal Air Force and a decisive capability for success in war, peculiar only to the air force.[34]

---

[31] Even the over-publicized surrender of Japan as a consequence of the firebombing of Tokyo and the nuclear air attacks on Hiroshima and Nagasaki overlooks the more compelling reason for the Japanese cabinet of the Soviet Union's declaration of war on Japan. On this specific topic, see Tsuyoshi Hasegawa, *Racing the Enemy: Stalin, Truman, and the Surrender of Japan* (Cambridge, MA: The Belknap Press of Harvard University, 2005), and Richard Frank, *Downfall: The End of the Japanese Empire* (New York: Penguin Books, 2001).

[32] The Ten Year Rule was a guideline of the British government that the armed forces in their planning should assume that Great Britain would not fight a major war for ten years. Williamson Murray and Alan R. Millet, eds., *Military Innovation in the Interwar Period* (Cambridge, England: Cambridge University Press, 1998), 104.

[33] Andrew Boyle, *Trenchard* (New York: W.W. Norton & Company Inc., 1962), 392.

[34] Murray and Millet, 104.

In 1922, the Royal Air Force codified its doctrine in Confidential Document (CD) 22, *Operations Manual for the Royal Air Force.* CD 22 stressed that victory occurred only by pressuring the enemy population so that it would push the government to sue for peace. However, the publication did not call for the indiscriminate bombing of civilians. Bombardment had to be against legitimate military objectives and measured in order to prevent damage to hospitals and other privileged buildings protected under the Hague and Geneva Conventions. In 1928, Air Publication (AP) 1300 superseded CD 22. Although it did not explicitly mention the bombing of city centers, it stressed that collapse of enemy civilian morale was an imperative for victory. The criterion for target selection was the effect it had in weakening the enemy resistance and will to continue the war. This would come through the attack of vital centers such as the transportation and communication system, industries, and supply organization. The updated AP 1300 of 1940 pointed out that the air force's contribution to victory would be by instilling war weariness into the enemy population. The destruction of targets in the enemy industrial and economic system would depress enemy civilian morale and the will to continue with the war. Above all, strategic bombardment would be decisive by itself in determining victory.[35]

In the interwar period, the evolution of strategic air doctrine in Great Britain developed in response to elements such as its geographical position, the German bombardments during the First World War, and the rise of an antagonistic center of power on the European continent. The United States lacked all of these elements. Above all, there was no threat close enough to the

[35] Royal Air Force Confidential Document 22, *Operations Manual for the Royal Air Force* (London: Air Ministry, 1922) 5, 57-58; in Royal Air Force, AIR 10/1197, *Operations Manual RAF*, The United Kingdom National Archives, London. Royal Air Force, Air Publication 1300, *Royal Air Force War Manual* (London: Air Ministry, 1928) chapter 8, in Royal Air Force, AIR 10/1910, *Royal Air Force War Manual Part I-Operations*, The United Kingdom National Archives, London; Royal Air Force, Air Publication 1300, (1940) *Royal Air Force War Manual* (London: Air Ministry, 1940), VIII/12, in Royal Air Force, AIR 10/2311, *Royal Air Force War Manual Operations (Provisional),* The United Kingdom National Archives, London.

continental United States to justify strategic bombing and strategic bombers. For these reasons, not until 1947 did the United States establish an independent air force. In fact, before the war, in an inconceivable war against Canada or Mexico, bombers could have played only the limited role of coastal defense. On the other hand, the United States Navy would have taken the burden of a major confrontation with Japan.[36] However, this limitation did not prevent the rise of an enthusiastic advocate of air power. In 1925, Major General William "Billy" Mitchell, Assistant Chief of the US Army Air Service, pointed out that "[this new element of warfare will result in] the amelioration and bettering of conditions in war because it will bring quick and lasting results."[37] Additionally, "[i]t will require much less expense as compared with that of the great naval and land armies which have heretofore been the rule and it will cause a whole people to take an increasing interest as to whether a country shall go to war or not, because they are all exposed to attack by aircraft, no matter if they live in the remotest interior of the country."[38] In this context, the ultimate goal of the air force was to destroy "the hostile nation's power to make war . . . this means the manufactories, the means of communication, the food products, even the farms, the fuel and oil and the places where people live and carry on their daily lives. Not only must these things be rendered incapable of supplying armed forces but the people's desire to renew the combat at a later date must be discouraged."[39]

In the 1930s, instructors of the Air Corps Tactical School at Maxwell Field, AL, detailed Mitchell's concepts by developing the industrial web theory. According to this theory, the

---

[36] Murray and Millet, 106.

[37] William Mitchell, *Winged Defense. The Development and Possibilities of Modern Air Power - Economic and Military* (New York: The Curtis Publishing Company, 1925), 14.

[38] Ibid.

[39] Ibid., 126-127.

ultimate aim in war was to destroy the will of the people at home. Unlike land and sea forces, air forces could achieve the aim in a short period by wrecking the economic system of a nation. This would hamper the social welfare and morale of the enemy population. In 1941, Major General Henry "Hap" Arnold, Chief of the US Army Air Corps, and Colonel Ira C. Eaker, Commanding Officer of the Twentieth Fighter Group, conceptually phased the air action required to destroy the enemy means of making war. First, the air force had to destroy the enemy efforts of mobilization, the transportation and communication infrastructure, and the air force and aeronautic industries. In a second phase, it would attack the enemy munition plants and supply agencies.[40]

In both the American and British cases, the dominant element in the discussion about strategic bombing was the promise of a quick, bloodless, and cheap victory in war. However, the two air forces established two different approaches. The Royal Air Force elected the enemy population as a deliberate target, determining that the area bombing of city centers would be the most adequate way to achieve the aim of the war. In September 1941, the British Air Staff defined the aim of area bombing missions as "to break the morale of the population which occupies [the town areas]. To ensure this we must achieve two things: first, we must make the town physically uninhabitable and, secondly, we must make the people conscious of constant personal danger. The immediate aim is, therefore, twofold, namely, to produce (i) destruction, and (ii) the fear of death."[41]

---

[40] Air Corps Tactical School, "Air Force: The Aim in War," lecture, March 28, 1939, Air Force Historical Research Agency, Maxwell Air Force Base, AL, 10, 12, 15; Air Corps Tactical School, "Air Force: National Economic Structure," lecture, April 5, 1939, Air Force Historical Research Agency, Maxwell Air Force Base, AL; Henry H. Arnold and Ira C. Eaker, *Winged Warfare* (New York: Harper & Brothers Publishers, 1941), 150-151.

[41] British Air Staff paper. September 23, 1941, quoted in Arthur T. Harris, *Despatch on War Operations 23rd February, 1942, to 8th May, 1945* (London: Frank Cass, 1995), 7.

In contrast, the US Army Air Forces did not aim directly at killing civilians but at depressing their morale by destroying the enemy war-making means. American airmen remained consistent with this position throughout most of the war. In August 1944, Lieutenant General Carl "Tooey" Spaatz, Commander of the Strategic Air Forces in Europe, refused to execute Operation Thunderclap against the administrative center of Berlin. The operation was in support of the British Royal Air Force and consisted in dropping 5,000 tons of high-explosive bombs during the day and another 5,000 tons during the night. He communicated to General Eisenhower, now Supreme Allied Commander in Europe, that "[t]he U.S. Bombing policy, as you know, has been directed against precision military objectives, and not morale. I am opposed to this operation as now planned. We are prepared to participate in an operation against Berlin, but in doing so will select targets for attack of military importance."[42]

The different doctrine of the two air forces brought about different bombing methods. In fact, in the British case, precision was not required, and thus the Royal Air Force adopted a nighttime, high-altitude, bombing technique. The US Army Air Forces, on the other hand, adopted daylight, high-altitude, precision bombing of military objectives that would theoretically produce more accurate results. The two methods were mutually reinforcing because they allowed for the round-the-clock bombardment of objectives in the Axis countries.[43] At the same time, they were experimental in nature because the Allies had not had any other chance to test them on a large scale before the beginning of the Second World War. In short, air doctrine had a sound,

---

[42] Lieutenant General Carl A. Spaatz, letter to General Dwight D. Eisenhower, subject: Thunderclap, August 24, 1944, in Eisenhower's Pre-Presidential Papers, Principal File, Box 110, Dwight D. Eisenhower Presidential Library, Abilene, KS.

[43] Overy, 308. The Anglo-American Joint Planning Staff first codified this principle in the AWPD (Air War Planning Division)–42 directive in August 1942. The Combined Chiefs of Staff officially endorsed the principle during the Casablanca conference in January 1943 (C.C.S. 166/1/D directive).

though questionable, theoretical basis but no empirical corroboration. This circumstance would have suggested prudence in the implementation of the doctrine in order to identify and address anomalies to best serve the achievement of the strategic aims. Conversely, the rigid application of the doctrine and the compelling expectations attached to strategic bombing hindered the Allied ability to learn from the experience of the earliest stage of the war and improve the effectiveness of the air forces. The most direct consequence was a continued mismatch of the ways and means to the desired strategic ends, which caused unwarranted harm to the civilian population to no operational outcome.

Two major examples would provide the Allies with the unique opportunity to detect anomalies in the interwar air doctrine and adjust it before the all-out bombing of Italy from mid-1943 onward. The example of Malta stands above all. The small island in the central Mediterranean had been part of the British Empire since 1814. Between 1940 and August 1944, Axis air forces directed 3,302 raids against the island in an attempt to secure the flow of supplies for the Axis troops in North Africa and neutralize the Allied air units based in Malta. The bulk of the air attacks occurred between January and April 1942, when 16,230 sorties of the German Luftwaffe pounded the island with 7,605 tons of bombs. The Axis air forces aimed mainly at military targets, such as ports, military ships, and airfields. Morale was an indirect objective, with more than 30,000 buildings destroyed or damaged (of which 5,200 were permanently uninhabitable). Despite such a huge effort, the Maltese population stood bravely and demonstrated that a sustained air bombardment alone would not cause the collapse of the morale of the population. In October 1942, the Italian Air Force admitted that the only way to neutralize Malta was the occupation of the island with land forces. At the same time, the British War Office looked at the threat of a potential ground invasion as more detrimental for the civilian morale than any air attacks. The Axis blitz against Malta caused 1,486 civilians killed, some 4,000 injured,

and the destruction of the urban areas and ports of the island.[44] Considering a population of 260,000 inhabitants, the Axis air attacks on Malta killed 0.57 percent of the Maltese population. In the Italian case, the 59,796 official deaths because of the Allied bombing accounted for only 0.13 percent of a population of 44,667,000 inhabitants. In short, in Italy Allied strategic bombing caused more than four times fewer people killed as a percentage of total population. If Allied planners had had an inquiring mindset, as early as 1942 they would have had clear evidence that even a sustained aerial bombardment—with extensive lethal effects on the population—was unlikely to bring about the collapse of civilian morale.

One year later, in June 1943, Operation Corkscrew—the capture of the island of Pantelleria—provided the Allies with an additional proof of this anomaly. In preparation for Operation Husky, the Allies planned to seize the small island to base air assets and extend the operational reach of the Allied air forces. British Professor Solly Zuckerman, zoologist and scientific advisor for bombing operations to the Commanding General of the Mediterranean Air Command, British Air Marshal Arthur W. Tedder, made Operation Corkscrew a scientific experiment. He defined targets, composition of the sorties, bomb load of the aircraft, number of sorties, and density of strikes to obtain the capitulation of the island as quickly as possible. Between May 8 and June 11, 1943, the Allies flew 5,285 sorties against Pantelleria and ravaged the minuscule Italian island with 6,202 tons of bombs. Despite the sustained Allied air action, the governor of Pantelleria refused to surrender during the bombardment. He did so only when he saw the transports of the American First Infantry Division approaching the island.[45] The Allies

---

[44] Overy, 496-510.

[45] Solly Zuckerman, *From Apes to Warlords* (New York: Harper & Row, 1978), 186-187, 191; Headquarters, US Army Air Forces, Historical Office, *The Reduction of Pantelleria and Adjacent Islands. 8 May-14 June 1943* (Washington, DC: Air Historical Office, 1947), accessed November 13, 2014, http://www.afhra.af.mil/shared/media/document/AFD-090529-104.pdf, 110.

showed mixed sentiments toward the outcome of Operation Corkscrew. On one side, Zuckerman claimed, "[b]y common consent, the capture of the island was essentially due to the bombing. Naval fire had had a very little effect, and the soldiers had only to walk in."[46] On the other side, Tedder acknowledged the shattering effect of the air bombardment on the morale of the garrison but warned against the false conclusion that might be drawn from the outcome of the operation. He wrote to Air Chief Marshal Charles Portal, the British Chief of the Air Staff:

> I have pointed out here again and again right from the beginning that this operation is a most valuable laboratory experiment. The conditions are not such as we are likely to have again, e.g., no enemy air worthy of the name, an extremely limited objective and consequent ability to concentrate a terrific scale of effort on a very small area. Despite all I have said, however, even Eisenhower has now begun to say, can't we possibly do something like this for 'Husky'. In short, I can see Pantelleria becoming a perfect curse to us in this manner.[47]

In short, Tedder acknowledged that, considering the circumstances, the collapse of the morale of a population distributed on a very large area through aerial bombardment was an irrational expectation. In fact, the dispersion of the targets on a larger objective would prevent the required concentration and continuity of effort. Extrapolating the data suggests that the Allied air forces would have to fly 19,215,434 sorties against Italy to replicate the concentration achieved on Pantelleria. This would mean 10,741 sorties for each of the 1,789 days of the Allied air campaign in Italy. In terms of bomb load, this would have required 22,554,735 tons of bombs vis-à-vis the 386,097 tons actually dropped. If the death toll were linear, 3,493,119 people, or 7.82 percent of the population, would have been killed because of this scale of effort. As a term of reference, from 1941-1945 the US Army Air Forces flew in all the theaters 2,362,800 sorties and

[46] Zuckerman, 195.

[47] Arthur W. Tedder, *With Prejudice. The War Memoirs of Marshal of the Royal Air Force Lord Tedder* (London: Cassell and Company, Ltd., 1966), 443.

dropped 2,057,244 tons of bombs.[48] In short, to knock Italy alone out of the war by air attack, the US Army Air Forces should have concentrated against one single country ten times the amount of effort—in terms of sorties and tons of bombs—than it put into all the theaters of operations throughout all the war. Yet this situation would not have ruled out the necessity of a ground invasion. Tedder's warning went unheeded, and the Allied air forces continued with their pattern of bombing regardless of the impossibility of achieving the envisioned strategic ends with the available means and the conceptualized ways.

Even worse, in the last stage of the war (mid-1944 to 1945), the American precision bombing drifted toward the less discriminate British area bombing. Overy claims that, in the European cloudy weather, the Allied air forces could fly in clear conditions for only a few days a month. In mid-1943, the development of pathfinder units equipped with the H2X, or 'Blind Bombing,' equipment, allowed for bombing through overcast clouds while ground conditions were prohibitive for the take-off of enemy fighters. However, this technical development was not a guarantee of precision and actually introduced the US Army Air Forces to area bombing. From September 1943, American bombers attacked urban areas under conditions of limited visibility in the hope of hitting precise targets. As Overy claims, "[s]ensitive to opinion, the raids on city areas were defined, like Bomber Command, as attacks on industrial centres or, increasingly, as 'marshalling yards'."[49] Until late 1943 to mid-1944, the outcome of the two bombing methods made the distinction between them merely academic, although the US Army Air Forces still

[48] Headquarters, US Army Air Forces, Office of Statistical Control, *Army Air Forces Statistical Digest World War II*, table 118 "Combat Sorties Flown, by Theater: Dec 1941 to Aug 1945," and 239, table 140 "Tons of Bombs Dropped Overseas by Theater: Dec 1941 to Aug 1945."

[49] Overy, 346-347. For the explanation of the H2X 'Blind Bombing' equipment, see US Army Air Forces School of Applied Tactics, "Tactics and Techniques of Operations in a Strategic Air Force," lecture, October 1944, Orlando, FL, Ike Skelton Combined Arms Research Library, Ft. Leavenworth, KS, 6.

maintained a conceptual separation from the aim of the British area bombing.[50] Subsequently, in mid-1944, the Americans made it clear that they were mentally ready to deliberately hit the civilian population. When, in August 1944, Spaatz conveyed to Eisenhower his opposition to the idea of bombing the center of Berlin to hit German morale, the Supreme Allied Commander in Europe replied:

> The operation under discussion is one that is to take place only under a very special set of circumstances. While I have always insisted that the U.S. Strategic Air Forces be directed against precision targets, I am always prepared to take part in anything that gives real promise to ending the war quickly. The policies under which you are now operating will be unchanged unless in my opinion an opportunity arises where a sudden and devastating blow may have an incalculable result.[51]

Eventually, the American way of war—which envisioned the necessity to end the war quickly to return to the ordinary business of life using a "strategy of annihilation through a war of mass and concentration" by the most direct means—prevailed.[52]

In conclusion, the Allied air forces entered the Second World War with an air doctrine that was immature and untested. This resulted in significant civilian casualties although an early measurement of effectiveness might have pointed out that the strategic air effort was failing to achieve the promised quick, cheap, and bloodless victory. In fact, the Second World War was the first empirical test of a doctrine that had been developed only theoretically in the interwar period. Even when the bombing of Malta and Pantelleria might have showed the limitation of strategic bombing in bringing about the collapse of civilian morale, the Allies did not question their assumptions and failed to address the existing mismatch between the ends, ways, and means of

---

[50] Overy, 346-347.

[51] Spaatz.

[52] Russell Frank Weigley, *The American Way of War: A History of United States Military Strategy and Policy* (Bloomington: Indiana University Press, 1977), 327; David H. Fischer, *Washington's Crossing* (New York: Oxford University Press, 2004), 370.

the Allied strategy. Indeed, the attempt to demonstrate the decisiveness of air forces at all costs made the Allies victim of the sunk cost fallacy or, as they preferred to define it, the 'rationalization pitfall.' In the lecture "Principles of Air War" at the US Army Air Forces School of Applied Tactics, the instructor pointed out that:

> [w]e must never let our desire to do a certain thing in a certain way lead us into the trap of being biased in our development of the [decisive thought for action]. If our desire to employ a specific technique or method can not [sic], in all fairness and honesty, stand up under the scrutiny of our thinking, we should not permit our minds to justify our plan by deformed satisfaction of the requirements. To do so constitutes lack of mental integrity and we are as guilty of falsification as though we had told our seniors an outright untruth.[53]

More prudence and measurement of effects in the early stages of the application of air doctrine would have persuaded the Allies of the impossibility of achieving the expected outcomes, regardless of the efforts made. Concurrently, the early realization of the fallacies in the theoretical construct of strategic bombing doctrine would have spared several thousands of civilian lives from the destruction of the war. In shaping the Allied ways for the air campaign against Italy, Tedder's warning was not as powerful as the desire to demonstrate that pre-war air power enthusiasts had not been wrong.

A Faulty Decision Making Process

Several flaws plagued the decision making process for the air campaign, another cause of the civilian deaths during the bombing operations of Italy. First, in a blind pursuit of the current air doctrine, the Allies superficially framed the Italian context as analogous to the German one, failing to realize that the two were substantially different. Before the armistice, the Allied planners selected the Italian civilian population, the industrial centers, and the marshalling yards

[53] US Army Air Forces School of Applied Tactics, "Principles of Air War," lecture, November 1944, Orlando, FL, Ike Skelton Combined Arms Research Library, Ft. Leavenworth, KS, 22.

as deliberate objectives of the air campaign. In the vision of the British Bomber Command, the bombing of these objectives would foster a popular uprising against Mussolini's regime, make his war strategy fail, and knock Italy out of the war.[54] Second, after the armistice, the Allied air forces established the Italian railroads and industries as the main objectives to cripple the German resistance in Italy and expedite the Allied advance. This analysis proved to be unsound as it had only a modest effect on achieving the operational objectives. Evidence suggests that the deliberate bombing of the population alone did not cause the fall of Mussolini's government. Additionally, the bombing of the communication nodes and industries disrupted but did not cripple German operational effectiveness. In both cases, the civilian casualties of the Allied air campaign had the undesired effect of curtailing the support of the Italian population. Even worse, after the armistice the deliberate bombing compromised the support of the Italian partisans to the Allies.[55]

The decision making process that considered the Italian civilian population a lucrative target to deliberately engage through an air offensive disjointed from an immediate land campaign was a faulty one. Since the earliest stage of the war, the British political and military authorities considered the collapse of the Italian morale as the linchpin to knock Italy out of the war quickly. In April 1940, as it developed military options in the event Italy declared war on Great Britain, the combined French-British military committee concluded that even a limited air offensive against Italian industrial targets would have a huge moral effect on the population.[56]

---

[54] Overy, 511.

[55] Baldoli and Knapp, 7, 238.

[56] War Cabinet, Conclusions of a Meeting of the War Cabinet Held at 10 Downing S.W. 1. on Saturday, April 27**,** 1940, at 10-30 A.M., *Policy for the conduct of war against Italy,* in CAB 65/6/50 "Record Type: Conclusion Former Reference: WM (40) 105," The United Kingdom National Archives, London, accessed October 29, 2014, http://discovery.national

The British Prime Minister shared and endorsed the operational vision of the Bomber Command. Churchill was convinced that the elimination of Italy from the war could be achieved through an air offensive alone. On November 18, 1942, he suggested to Roosevelt that "[a]ll the industrial centres should be attacked in an intense fashion, every effort being made to render them uninhabitable and to terrorize and paralyze the population."[57] In pursuit of this objective, in October 1942, the British Bomber Command inaugurated its strategy of area bombing of the major Italian cities. Between October 1942 and July 1943, Bomber Command conducted twenty-four area bombing missions of Italian city centers, causing some 3,436 civilian deaths.

In July 1943, concurrent with the invasion of Sicily, the Allies intensified the bombing effort in an attempt to force a political decision to capitulate. The Psychological Warfare Branch of the Allied Force Headquarters elaborated the *Plan for Combined Air Propaganda Offensive Against Italian Morale*, whose aim was "to foment Italian impatience until Badoglio's government is forced to capitulate . . . [by making the Italian civilian population] to feel on its own body that the war is still going on."[58] The branch elaborated a list of Italian cities, whose bombing had to impress the Italian population that "the bombing of any single objective is part of a thoroughly coordinated plan for the systematic destruction of important centers in ITALY, and that this plan will be ruthlessly prosecuted unless and until the Italian Government accepts the

---

archives.gov.uk/checkout/receipt?orderKey=I%2F14%2F03629524C&paymentAmount=0&paymentCurrency=GBP&paymentStatus=0&mac=0.

[57] Churchill to Roosevelt, cable no. 195, November 18, 1942, in Franklin D. Roosevelt, *Papers as a President: Map Room Papers, 1941-1945*, Box 3, Churchill to FDR, November-December 1942, Franklin Delano Roosevelt Presidential Library, accessed November 25, 2014, http://www.fdrlibrary.marist.edu/_resources/images/mr/mr0016.pdf.

[58] Headquarters, Allied Force, Psychological Warfare Branch, *Plan for Combined Air Propaganda Offensive Against Italian Morale*, July 31, 1943, in Charles Douglas Jackson, *Papers, 1931-67*, Box 25, folder Rhythm, Dwight D. Eisenhower Presidential Library, Abilene, KS.

Allies' peace terms."[59] As a result, the *Plan for Combined Air Propaganda Offensive Against Italian Morale* inaugurated the bloodiest month in the air campaign against Italy, with some 7,570 civilian deaths between August 1, 1943 and the capitulation of Italy, which occurred on September 8, 1943.

The question remains if, and to what extent, the Allied deliberate bombing of the Italian population was able to achieve the intended objective of forcing Italy out of the war by wrecking the Italian morale and eroding popular support. Some historians point out that the bombing had a decisive effect on the Italians' ability and willingness to continue the war, and was the most relevant factor in determining the collapse of Italian morale.[60] However, today the alleged decisive effect of the bombing campaign seems an *a posteriori* justification for the civilian casualties and, in the American case, evidence in support of an air force independent from the army. As Major General Spaatz, commanding general of the US Twelfth Air Force, pointed out in June 1943, "there was one 'A' too many in the designation of U.S.A.A.F. [United States Army Air Forces]- the 'A' which stood for Army."[61] Three crucial facts help answer the question of the effectiveness of deliberate Allied bombing of the population in knocking Italy out of the war. First, no general popular uprising occurred in Italy against Mussolini or Badoglio between 1940 and early 1943. Only in March 1943 did workers start striking in northern Italy, when Axis troops in northern Africa were about to face a certain defeat and the Allies had showed the ability to project overwhelming combat power thousands of miles away from home. Second, Mussolini's

[59] Headquarters, Allied Force, G-3 Section Memorandum for the Chief of Staff, *Combined Air and Propaganda Offensive against Italian Morale,* August 5, 1943, in Jackson.

[60] Stephen Harvey, "The Italian War Effort and the Strategic Bombing of Italy," *History* 70, no. 228 (February 1985): 32-45, accessed November 2, 2014, http://www.readcube.com/articles/10.1111%2Fj.1468-229X.1985.tb02478.x?r3_referer=wol&tracking_action=preview_click&show_checkout=1.

[61] Zuckerman, 195.

government fell because of a political vote of no-confidence in the Grand Council of the Fascism on July 25, 1943. This happened only a few days after the ground invasion of Sicily. Third, Badoglio formalized the request for an armistice to General Eisenhower only after the success of Operation Husky and upon assurance that the Allies would soon land three to four divisions in Calabria, followed shortly by an additional fifteen divisions in another place.[62] At that point, Allied ground troops were better postured to take control of Italy than the German troops. In short, the deliberate bombing of the civilian population had only a modest impact on the outcome of the war and failed to achieve the desired general uprising that would lead to the fall of Mussolini's government and Italy's armistice.

This happened because the Allied planners lacked the theoretical knowledge on the dynamics that induce a society to coalesce and rebel against the constituted authority. This shortcoming would have suggested even more caution while applying military means to achieve specific effects. In 2000, Misagh Parsa, professor of sociology at Dartmouth College, pointed out that in the context of highly repressive regimes, insurgencies can arise only when a favorable opportunity emerges. Parsa deemed that a favorable opportunity might develop when an external pressure makes the state vulnerable, a schism occurs within the state, or state reforms reduce the repression against the insurgents. When such an opportunity emerges, groups and classes are more likely to engage in collective action.[63] In 2006, Stathis N. Kalyvas, professor of political science at Yale University, maintained that when two political entities are battling to gain control over a population, the side that is more able to signal credibility that it will win (the so called

---

[62] Pietro Badoglio, *Italy in the Second World War: Memories and Documents*, trans. Muriel Currey (London: Oxford University Press, 1948), 69-70.

[63] Misagh Parsa, *States, Ideologies, and Social Revolutions: A Comparative Analysis of Iran, Nicaragua, and the Philippines* (Cambridge, England: Cambridge University Press, 2000), 21-22.

'credibility of the rule') will gain the civilians' support.[64] In the Italian case, events of open dissent against Mussolini's government occurred only three years after that the first Allied bombs against Italy hit the FIAT Mirafiori plant in Turin on June 11, 1940. In March 1943, FIAT workers started the first mass strikes of the wartime period, whose effects extended to other factories in northern Italy and continued throughout the rest of the war. Although the more apparent reasons for the strikes were economic, they masked a more general dissatisfaction toward the Fascist regime and the conduct of war. In a recent article, Baldoli points out that the FIAT workers' unrest originated in the destructiveness of the first area bombing missions against Italy during the previous months.[65] However, this reasoning does not explain the protesters' timing; the protests began when the Allied forces turned the tide of the war in North Africa by marching into Tunisia to encircle the Axis Army Group Africa. Nor does it explain why the greatly desired political upheaval—Mussolini's overthrow—occurred only after Allied soldiers put their boots on Sicily. The bombardment of civilian population centers alone did not achieve these effects.

Instead, in line with Parsa's and Kalyvas' theoretical framework, the Allied land campaign was the decisive element that put external pressure on the Fascist regime, caused a schism within the system with the vote of non-confidence against Mussolini by the Grand Council of Fascism, and provided the Allies with more 'credibility of the rule' than the Germans. As US Army historian Maurice Matloff pointed out in 1959, "[t]he invasion of Sicily, accompanied by heavy bombing on the Italian mainland – especially of the marshalling yards in

[64] Stathis N. Kalyvas, *The Logic of Violence in Civil War* (Cambridge, England: Cambridge University Press, 2006), 126-127.

[65] Claudia Baldoli, "Bombing the FIAT: Allied Raids, Workers' Strikes, and the Italian Resistance," *Labour History Review* 77, no. 1 (April 2012): 75-92, accessed November 27, 2014, http://liverpool.metapress.com/content/j0w02q5m14142615/fulltext.pdf.

the Rome area on 19 July [1943] – dealt crushing blows to Italian morale and led directly to the overthrow of the Fascist regime."[66] Therefore, evidence points out that a major fault in the Allied decision making process was conceiving an air campaign disjointed spatially and temporally from a ground invasion. The political decision to overthrow Mussolini and capitulate only came about when the air and land efforts against Italy converged in time and space. Between 1940 and 1943, the prolonged bombing of the civilian population achieved only a sterile tactical outcome of killing Italians, which was disconnected from the attainment of any strategic goals.

The same disconnect characterized the bombing of industrial centers. Although the Italian industries represented a primary target for the Allied air campaign throughout the duration of the war, the limited relevance of the national industrial capabilities to both the Italian and German war strategies was not worth the 7,047 civilian deaths suffered because of the Allied bombing of the Italian industrial areas. The Allied decision making process for the air campaign incorrectly identified the industrial sector as decisive for the Italian war effort as it was for Germany, failing to realize that the two contexts were substantially different. The American historian McGregor Knox claims that by the 1930s Italy was thirty to fifty years away from becoming an industrial society as compared to Germany. In 1938, the Italian total industrial potential, the primary index of military-economic strength, was forty-six, the lowest in the major countries that participated in the Second World War. As a term of reference, France scored seventy-four, Japan eighty-eight, Great Britain 181, Germany 214, and the United States 528.[67] This was a direct consequence of

[66] Maurice Matloff, *Strategic Planning for Coalition Warfare, 1943-1944* (Washington, DC: US Army Center of Military History, 1994), 151.

[67] MacGregor Knox, *Hitler's Italian Allies. Royal Armed Forces, Fascist Regime, and the War of 1940-1943* (Cambridge, England: Cambridge University Press, 2000), 23-25.

Mussolini's war strategy. The Italian dictator did not mobilize the industrial sector for a lengthy war because he envisioned the Italian participation in a war that would be short and rapid.[68]

The outbreak of the war changed the situation very little. Vera Zamagni, professor of economics at the University of Bologna, points out that even when it became clear that the war would be a prolonged struggle, unpreparedness and the lack of raw materials prevented the Italian war economy from reaching any considerable expansion. The Italian entry into the war caused only a limited amount of resources to shift to the heavy industry in support of war production. Key sectors such as metallurgy, chemicals, and engineering increased the consumption of energy by only four percent (from sixty-two to sixty-six percent). However, this increase was mainly due to new production processes that used more electricity rather than an augmented output. As an example, from 1933 to 1943 the Italian aircraft industry was never able to manufacture the planned number of aircraft. In 1943, it produced only 2,024 out of the 3,822 planned aircraft.[69] A comparison with other belligerent countries is useful to put the potential of the Italian industry in the larger context of the operational environment. Before 1942, Italy was able to produce no more than sixty-five artillery pieces of caliber over seventy millimeters each month. During the same period, Hungary produced 100 pieces, France 600 pieces, and Germany 1,000 pieces. Only after 1942, when Italy achieved the peak of industrial production, was the war industry able to produce 250-300 artillery pieces a month.[70] Simply put, before the armistice the Italian industry had too

---

[68] Alan S. Milward, *War, Economy and Society 1939-1945* (Berkeley: University of California Press, 1977), 15.

[69] Vera Zamagni, "Italy: How to Lose the War and Win the Peace," in *The Economics of World War II. Six Great Powers in International Comparison*, ed. Mark Harrison (Cambridge, England: Cambridge University Press, 1998), 179-181, 213-214, 196.

[70] Nino Arena, *L'Italia in Guerra 1940-45. Retroscena Tecnico della Disfatta* (Parma: Ermanno Albertelli Editore, 1997), 44.

little potential to be decisive for the success of the Italian war strategy in a conflict in which mechanization, firepower, and air support were key.

Despite the limited capabilities of the Italian industry, since May 1940 the British Air Ministry had identified the Italian northern industrialized regions as vital for the sustainment of the Fascist war effort. The British believed that bombing this area of Italy would have decisive effects on Mussolini's war strategy both morally and materially.[71] The British Royal Air Force Bomber Command's effort in interrupting the Italian war production was huge. Between October 1942 and September 1943, the British bombers dropped 34,414 tons of bombs over Italy.[72] In the same timeframe, the industrial cities of Milan, Genoa, and Turin received more than fifty raids each. These simple measures of performance say little about the operational effectiveness of the bombing operations. Despite every effort, the Allies did not achieve the strategic objective of interrupting the Italian war production. The major effect creditable to the action of the Royal Air Force was to disrupt rather than interrupt the war production. Overy points out that the Italian war production declined from autumn 1942 throughout 1943 for both the heavy bombing of the industries and the demand to relocate the facilities in protected areas outside the major cities. However, considering that after the conflict the war losses to industrial plants were limited to only twelve percent of their 1939 book value, it is plausible that the decreased production was mainly due to the relocation of the industries rather than the bombing itself. This effect would have been further mitigated if the Italian industrialists had abided by the pre-war directions of the Italian government for the preventive movement of the industrial plants to more protected areas.[73]

---

[71] Air Ministry, AIR 20/5304, "Bombing of Italy," minutes of 30 May 1940, "Possible Operations Against Italy," The United Kingdom National Archives, London.

[72] Harris, 44, table 1 "Territorial Distribution of Tonnage, Cumulative Tonnage Totals Month by Month."

[73] Baldoli and Knapp, 6; Overy, 518; Zamagni, 211; Arena, 85.

Therefore, before the armistice, the British bombing of the industries had a limited impact on compromising the Italian war effort because the Italian industry was not a critical requirement for the war strategy. At the same time, the civilian population suffered heavy casualties because of the area bombing of entire industrial suburbs.[74]

The situation changed little when Italy became a co-belligerent country. On one side, Portal suggested treating the occupied Italy in the same way as France and sparing anti-Fascist cities from the damage of the bombs. On the other side, the Deputy Director of Bombing Operations, Air Vice Marshal Sydney Bufton, opposed this view by claiming that "[i]f we promised Italian cities immunity from an area bombing as a reward for non cooperation with the Germans, we might find ourselves in difficulties if an urgent military necessity arose to bomb precise targets (e.g. marshalling yards) within those cities."[75] What the British Chief of the Air Staff alluded to was an Air Ministry directive dated February 5, 1942 that regulated the bombing of French industries in German-occupied territory. Under the provisions of the directive, Bomber Command could bomb targets into France to destroy factories working for the Germans and discourage French labor from supporting the German war effort, but had to avoid casualties to French civilians.[76] Italian workers and civilians living near the factories never benefited from such a protection and, after the armistice, the bombing continued with the same pattern as 1940-1943.

The Italian workers and civilian population living in the industrial suburbs suffered heavy casualties throughout the war regardless of Italy being an Axis power or an Allied co-belligerent

[74] Gioannini, 88.

[75] Portal to Bottomless and Bufton, September 15, 1943; Bottomley to Bufton, September 17, 1943; Bufton to Bottomley, September 22, 1943, in Air Ministry, AIR 2/7757, The United Kingdom National Archives, London, quoted in Baldoli and Knapp, 33-34.

[76] Air Ministry, S.46368 D.C.A.S., File Ref. 107A-III, February 5, 1942, in Harris, 191.

country. Before the armistice, civilian casualties were the unintended victims of a faulty decision making process that incorrectly had identified the weak Italian industry as decisive for the sustainment of Mussolini's war ambitions. At the same time, the population was the intended victim of the same faulty decision making process that called for a continued bombing of the industries although, as early as 1941, available intelligence indicated that Italian workers and industrialists were not supportive of the Fascist regime and the war in general.[77] The armistice should have encouraged the Allies to reframe the operational problem and consider alternative ways to hamper the German war effort in Italy. This did not happen. The Allies continued to rely on direct air attacks to the plants rather than devising alternative ways and means less harmful for the civilian population. This was, for example, the case of the Italian resistance groups, which were so effective in sabotaging the industries under German control that, on September 6, 1944, British General Sir Harold Alexander, commander-in-chief of the Allied Armies in Italy, had to restrain their actions in order to preserve the production capabilities of the Italian industries for the post-war period.[78]

Like in the case of the deliberate bombing of the civilian population and industrial centers, the destruction of the marshalling yards—usually located in populated areas—caused unwarranted harm to the population with limited operational effect. The Allies designed the operation against the Italian rail lines to weaken the enemy by disrupting his lines of communication over a long period in order to facilitate Allied ground advance.[79] If this was the

[77] Baldoli and Knapp, 19.

[78] Paolo Ferrari, "Un'Arma Versatile. I Bombardamenti Strategici Anglo-Americani e l'Industria Italiana," in *L'Aeronautica Italiana. Una Storia del Novecento*, ed. Paolo Ferrari (Milan: Franco Angeli, 2004), 421-424.

[79] Headquarters, Mediterranean Allied Air Forces, Intelligence Section, *Assessment of Air Operations Against Enemy Communications in Italy*, June 16, 1944, in Lauris Norstad Papers

end, the way to the end was the bombing of the marshalling yards in the major urban centers. Zuckerman played a major role in shaping the vision of the Allied planners. Analyzing the results of the bombing campaign against the communication centers in southern Italy, Zuckerman pointed out that bombing the nodal points in the system that regulated major traffic caused the dislocation of the movement of troops and military supplies. Since there was no established contrary doctrine on the specific issue, Tedder concurred with Zuckerman's conclusions, which became part of the *modus operandi* of the Allied air forces.[80] In fact, on February 13, 1944, Headquarters, Mediterranean Allied Air Forces accepted Zuckerman's findings in an operational directive called *Interruption of Italian Rail Communications.* The Headquarters endorsed the concept that "the strategical effect of destroying the enemy's means [sic] is best achieved by attacks on large railway centers which contain important rail facilities."[81] At the same time, the directive warned against the high risk of damage from bombing due to the concentration of the target and the necessary increased strength of the bombing formations to cover such a large area.[82]

An assessment of the effectiveness of the bombing of marshalling yards requires a cost-benefit analysis. The cost may be expressed in terms of the about 19,000 Italians that died because of the bombardment of the marshalling yards. Between 1940 and 1945, the Allied bombers flew 378 missions to target rail lines and marshalling yards, of which ninety-eight (10,900 deaths) occurred before the armistice on September 8, 1943. The cities that suffered the

---

1930-87, Box 1, Interdiction of Italian Railways, Dwight D. Eisenhower Presidential Library, Abilene, KS.

[80] Zuckerman, 203.

[81] Headquarters, Mediterranean Allied Air Forces, *Interruption of Italian Rail Communications*, February 13, 1944, in Lauris Norstad Papers.

[82] Ibid.

highest number of casualties in a single raid were Rome (1,674-3,000 deaths on July 19, 1943), Pescara (more than 1,500 deaths on August 31, 1943), and Treviso (more than 1,700 deaths on April 7, 1944). The benefit would be the achievement of the desired goal, which was to stop the enemy rail movements. The Allies realized that "cutting a railway line, whether it is a marshalling yard or a bridge, does not stop traffic except for a very limited period."[83] Furthermore, the Germans were able to sustain their defensive battle along the Italian peninsula through the supplies stockpiled during the previous months, motor transports, horse-drawn vehicles, and small craft.[84] As Tedder had pointed out, the Germans demonstrated that a well-organized army could continue fighting a strong defensive battle even without air support and lacerated lines of communications.[85] What matters is that, at the end of May 1944, the Allies were not able to confirm a reduction of supplies flowing toward the German battlefront.[86]

In short, the bombing of the Italian marshalling yards, and more in general, of the rail system did not achieve the desired effect of disrupting the enemy lines of communications. Although in June 1944 the Chief Engineer, Rome District, Italian State Railways, pointed out to the Allies that bombing the marshalling yards caused damage almost exclusively to civilians goods because little marshalling of military trains took place there, the Allies did not make any effort to conceive any collater damage-free ways and means to achieve the desired effect.[87]

---

[83] Headquarters, Mediterranean Allied Air Forces, Director of Operations, Memorandum to the Air Commander-in-Chief, March 16, 1944, in Lauris Norstad Papers.

[84] Headquarters, Mediterranean Allied Air Forces, Intelligence Section, *Assessment of Air Operations Against Enemy Communications in Italy*.

[85] Tedder, 464-465.

[86] Headquarters, Mediterranean Allied Air Forces, *Interdiction of Italian Railways. Weekly Status Report Period 18 May to 25 May 1944*, May 26, 1944, in Lauris Norstad Papers.

[87] Ibid.

Again, this was the case of the sabotage of the rail system that Italian partisans were conducting with no integration with the Allied campaign plan. In early June 1944, the Allies recognized that "[there were] several acts of sabotage [of the Italian railways] which were either unknown to us, or inadequately known as to duration and date of perpetration."[88] As a term of reference to make clear the capabilities of the Italian resistance groups, in June 1944 alone the Italian partisans were able to destroy bridges ahead of and behind German retreating forces in central Italy, blew a railway line in Tuscany causing a train full of explosive to derail, and destroyed a power station in northern Italy which paralyzed the communication with the French border for six months.[89]

In conclusion, the Allied faulty decision making process for the air effort during the Italian campaign led to the selection of a set of objectives that failed to achieve the desired ends fully while causing great harm to the civilian population. Italian civilians were a deliberate target since the earliest stage of the war in an attempt to foster civil unrest and erode popular support to Mussolini. Regardless of the intensity of the bombing campaign, the Italian population organized personal resentment against the Fascism into collective action only when Allied ground troops were close to establishing a presence on the peninsula. The bombing of the industrial apparatus went hand in hand with the bombing of the population. Here the Allied planners failed to realize that the Italian war industry was not as decisive for the national war strategy as it was in the German case. The limited industrial outcome and its limited relevance to the success of the war was not worth the thousands of civilian deaths that the area bombing of industrial cities caused. Alternative ways to disrupt the Italian war production, such as the exploitation of unconventional actions by the Italian partisans, would have prevented the Germans from benefiting from the

[88] Headquarters, Mediterranean Allied Air Forces, Intelligence Section, *Assessment of Air Operations Against Enemy Communications in Italy*.

[89] Headquarters, Mediterranean Allied Air Forces, *Interdiction of Italian Railways. Weekly Status Report Period 9 June to 15 June 1944*, June 16, 1944, in Lauris Norstad Papers.

residual Italian war production after September 1943. Finally, the realization of the inutility of bombing the marshalling yards would have spared several thousands of Italian lives. Concurrently, integrating the actions of the Italian partisans in the campaign plan would have provided better results in terms of disruption of the German operational and tactical distribution system with a more limited collateral damage to the civilian population. The claimed decisive contribution of the Allied air forces to the capitulation of Italy seems more an *a posteriori* justification for the faulty decision making process that led to the selection of objectives with a high level of collateral damage to the population. In short, air power alone was not able to achieve the desired conditions for a favorable conclusion of the Italian campaign while it inflicted avertable harm to the population of a co-belligerent country.

Leadership Insensitivity

Allied leadership demonstrated insensitivity on issues concerning civilian casualties and did little to enforce an operating concept that prevented the wanton bombing of the population. In the case of the Italian air campaign, there were no operational directives that urged air commanders to restrain their action and limit the casualties amongst the civilians. Under very similar circumstances, British Air Marshal Trafford Leigh-Mallory, commander-in-chief of the Allied Expeditionary Air Force for the Normandy invasion (Operation Overlord), operated under a partial restraint of no more than 10,000 civilian casualties during the bombing of the transportation infrastructure in French enemy occupied territory (Transportation Plan).[90] In Italy, the Allies imposed restraints only on bombing operations that would cause collateral damage to the historic and religious heritage. Churches and monuments benefited from more protection than populated neighborhoods. All other conditions being equal, civilian casualties were less a concern

[90] Forrest C. Pogue, *United States Army in World War II. The European Theater of Operations. The Supreme Command* (Washington, DC: Government Printing Office, 1989), 132.

when compared with the potential collateral damage to cultural sites. The Allied aircrews and planners accepted civilian casualties as an unavoidable byproduct of the effort to liberate Italy. Therefore, as Baldoli remarks, they became indifferent to civilian casualties.[91] It did not really matter if the civilian casualties resulting from each bombing operation were ten or 1,000. Over the long term, indifference to civilian casualties seemed to permeate the minds of even the most scrupulous aircrew.

The Allied leadership did not implement strong corrective actions to discipline such an aberration. Ill-executed bombing operations would trigger an investigation only in case of occurrence of casualties amongst friendly troops besides the civilians. Civilian casualties alone were not worthy of it. However, such investigations were usually inconclusive. In cases where the investigating officer ascertained carelessness by the aircrew as the cause of the casualties, severe punishment resulted in only a minor administrative admonishment. This lack of action of the leadership promulgated an organizational culture in the air wings that civilian casualties were tolerable, if the aircrew completed the assigned mission and in respect of the established technical standards.

During the bombing campaign of Italy, the Allied operating concept was more focused on the idea of not damaging the Italian patrimony than to the killing of civilians. In July 1943, Marshall suggested that Eisenhower consider measures for the protection of artistic and historic monuments. Marshall recommended advising the civilian population to remove all works of art likely to be damaged by military operations. Furthermore, he directed Eisenhower to “avoid destruction of immovable works of art insofar as possible without handicapping military

[91] Baldoli and Knapp, 18.

operations."[92] A couple of months later, John J. McCloy, the American assistant secretary of war, urged Eisenhower to take action to contain the damages to the Italian heritage made in the name of military necessity.[93] On December 29, 1943, Eisenhower addressed the issue of the protection of the Italian monuments to the subordinate commanders. He exhorted the commanders to make any efforts to preserve the patrimony of a country that has contributed to the American cultural inheritance. He pointed out that it was the responsibility of the major subordinate commands to identify the location of historic monuments and spare them from the damage of war. However, the Commander-in-Chief in the Mediterranean acknowledged, "nothing can stand against the argument of military necessity."[94] Eisenhower made clear that the lives of Allied soldiers counted more than any historic building. At the same time, he clearly admitted that what the commanders on the battlefield meant by military necessity often was "military convenience or even [of] personal convenience."[95] In the words of the Commander-in-Chief, such a situation masked "indifference and slackness" in the conduct of military operations.[96]

---

[92] General George C. Marshall, cable to General Dwight D. Eisenhower, "Protection-Artistic Historic Monuments in Italy," October 14, 1943, in Eisenhower's Pre-Presidential Papers, Principal File, Box 132, Cables Official (GCM/DDE), July 29, 1943-February 19, 1944 (3), Dwight D. Eisenhower Presidential Library, Abilene, KS.

[93] John J. McCloy, memorandum to General Dwight D. Eisenhower, December 13, 1943, in Eisenhower's Pre-Presidential Papers, Principal File, Box 75, McCloy John J. (3), Dwight D. Eisenhower Presidential Library, Abilene, KS.

[94] General Dwight D. Eisenhower, message to all commanders, "Historical Monuments," December 29, 1943, in CAD 000.4 (3-25-43) (1), Sec. 2, Security Classified General Correspondence, 1943-July 1949, General Records, Civil Affairs Division, Records of the War Department General and Special Staffs, RG 165, US National Archives, accessed October 20, 2014, http://blogs.archives.gov/TextMessage/2014/02/10/general-dwight-d-eisenhower-and-the-protection-of-cultural-property/.

[95] Ibid.

[96] Ibid.

Eisenhower's directive had some results. On February 23, 1943, the Headquarters, Mediterranean Allied Air Forces issued an operational directive to regulate the bombing of cities with important artistic patrimony. The directive divided the cities into three categories. The bombing of category A cities (Rome, Florence, Venice, Torcello) required the authorization of Headquarters, Mediterranean Allied Air Forces. Category B cities (twenty-two cities, including Assisi, Parma, and Aosta) had little military importance and Headquarters, Mediterranean Allied Air Forces would accept full responsibility of the bombing if done for operational reasons. Finally, category C cities (other twenty-four cities, including Modena, Pisa, Lucca, and Perugia) presented important military objectives and could be bombed with no particular restrictions. However, in the absence of enemy occupation forces, even the bombing of category B and C cities required special care. Aircrews had to avoid releasing bombs on these cities when unable to locate the actual target or when clouds obscured the target itself.[97] In respect of the directive, on March 1, 1944 Eaker, now commander-in-chief of the Mediterranean Allied Air Forces, and Alexander requested from the Chiefs of Staff Committee authorization to bomb the marshalling yards of Campo di Marte and Rifredi in Florence. Based on military necessity, the two generals stressed that the selected objectives were of great importance to stop the rail traffic to Bologna, Pisa, and Rome, and to destroy major locomotive repair shops. They made clear that, since the objectives were only a mile away from the *Duomo* (Florence cathedral), only experienced and accurate bomber squadrons would perform the bombing. The Chiefs of Staff Committee submitted the request to the War Cabinet, which cleared the bombing.[98] On March 11 and 23,

[97] Headquarters, Mediterranean Allied Air Forces, *Italian Historical & Religious Monument,* March 19, 1944, in Lauris Norstad Papers.

[98] War Cabinet, Chiefs of Staff Committee, 71st meeting, March 1, 1944, *Operations in Italy-Attacks on Marshalling Yards at Florence,* in CAB 79/71/12 "War Cabinet. Chiefs of Staff Committee: Minutes of Meeting," The United Kingdom National Archives, London, accessed

1944, the US Army Air Forces Twelfth Air Force bombed the marshalling yards in Florence. The experienced aircrew avoided any collateral damage to historic monuments. However, several bombs fell on a peripheral neighborhood and two hospitals, killing 215 civilians.[99] This demonstrates that the Allied operating concept for the air operations had a real concern for potential collateral damage to the artistic patrimony. Only the political authority could clear targets in cities with a huge cultural heritage. On the other hand, it showed indifference for civilian casualties. As long as bombs fell away from churches and historic buildings, the bombing mission was a success.

This first element of insensitivity to civilian casualties of the Allied leadership reinforced the deviating effect of another anomaly in the Allied air forces' *modus operandi* during the Italian campaign. Investigations on wrongful bombing operations with collateral damage to civilian population occurred only in case of casualties amongst friendly ground troops. In March 1944, British Lieutenant General Oliver W. H. Leese, commanding general of the British Eighth Army, launched the third assault near the town of Cassino to breach the German-held Winter Line and open the way to Rome. The air plan's objective in support of the ground operation was to "accomplish complete reduction of CASSINO TOWN. Particular attention will be directed to the destruction of all the buildings within the town proper."[100] In clearer terms, Eaker explained that Cassino represented a roadblock on the way to the valleys of Liri and Rapido rivers because

---

October 19, 2014, discovery.nationalarchives.gov.uk/orders/download/?o=I/14/03588659V&a =C387146.

[99] Baldoli and Knapp, 40.

[100] Headquarters, Mediterranean Allied Air Forces, *The Bombardment of Cassino, 15 March 1944* (Washington, DC: Headquarters, Mediterranean Allied Air Forces, 1945), table D "Air Plan and 15 Air Force Operations Order," Plan of air operations of Headquarters, Mediterranean Tactical Air Force, March 13, 1944.

ground troops could not bypass it due to the morass nature of the surrounding terrain.[101] On March 15, 1944, the US Army Air Forces Fifteenth Air Force dispatched four groups of B-17 heavy bombers and seven groups of B-24 medium bombers to bomb Cassino. Thirteen out of the nineteen B-24 medium bombers from Forty-Seventh Bombardment Wing, 451st Bombing Group dropped their bombs short of the bombline in and around the town of Venafro, eighteen kilometers east of Cassino. This was well outside the combat zone.[102] The report of the battle damage of the faulty bombing indicated ninety-six casualties among Allied soldiers (seventeen killed) and 140 Italian civilians (forty killed).[103] Of note, three bombs also reached the Eighth Army tactical headquarters, 3.5 kilometers east-southeast of Cassino. Two bombs hit Lieutenant General Leese's personal encampment.[104] Furthermore, additional bombs wrongfully dropped one kilometer east of the Eighth Army tactical headquarters represented a danger close to a party of six high-ranking Allied officers observing the operation near the town of Cervaro.[105]

---

[101] Ibid., table O "Miscellaneous Comments by Various Commanders ," Letter from General Eaker to General Arnold, March 21,1944.

[102] Headquarters, Mediterranean Allied Air Forces, *The Bombardment of Cassino, 15 March 1944*, table H "Investigation of Faulty Bombing," Report of Investigation - Cassino Operation, March 15, 1944, April 12, 1944.

[103] Ibid., table H "Investigation of Faulty Bombing," Memorandum to General Eaker, April 5, 1944.

[104] Ibid., table H "Investigation of Faulty Bombing," Summary of Reports of Bombing Behind Own Lines-15th March 1944.

[105] The party consisted of British General Sir Harold Alexander, commander-in-chief of the Allied Armies in Italy, American Lieutenant General Jacob L. Devers, commanding general of the North African Theater of Operations, Lieutenant General Eaker, American Lieutenant General Mark W. Clark, commanding general of the American Fifth Army, American Major General Frederick L. Anderson, deputy commanding general of the US Strategic and Tactical Air Forces, and American Major General Charles C. Chauncey, chief of staff of the Mediterranean Allied Air Forces.

Eaker ordered a prompt investigation, which concluded that "[i]n some instances, there was evidence of carelessness, negligence and departure from specific instructions of such a nature and with such results as to border on violation of the Articles of War."[106] Eaker forwarded the findings of the investigation to Major General Nathan F. Twining, commanding general of the Fifteenth Air Force. Eaker designated Twining as the military agency with court-martial jurisdiction to further investigate and prepare charges against the individuals involved. Eaker deemed the view that "[t]he U.S. Army Air Forces cannot condone or overlook and allow to go unpunished any act or carelessness or of irresponsibility of its members which results in loss of life to our own troops, our Allies, our friends and civil personnel."[107] Twining appointed Brigadier General Joseph H. Atkinson, deputy commanding general of the Fifteenth Air Force, as investigating officer. In his investigation, Atkinson presented crew inexperience and technical limitations of the B-24 medium bomber as extenuating circumstances for the charges. He suggested the aircrews had not committed any criminal offenses and that at worst the incident had been only the result of poor judgment. In formulating his conclusion, the investigating officer warned also against the "depressing reaction" that the situation would have amongst the combat personnel if the charges were referred to a court-martial.[108] In the best interest of the service and war effort, Atkinson recommended that Twining drop the charges, admonish or reprimand the concerned personnel, close the case, and "let these young officers go on with the war."[109] Upon

---

[106] Headquarters, Mediterranean Allied Air Forces, *The Bombardment of Cassino*, table H "Investigation of Faulty Bombing," Report of Investigation.

[107] Headquarters, Mediterranean Allied Air Forces, *The Bombardment of Cassino, 15 March 1944*, table H "Investigation of Faulty Bombing," Investigation of Bombing our own troops and Civilians and Directive in connection therewith, April 15, 1944.

[108] Ibid., table H "Investigation of Faulty Bombing," Report on recommended Disposition of Charges Filed as a Result of the Cassino Raid, April 25, 1944.

[109] Ibid.

these recommendations, Twining informed Eaker that he would dismiss the charges, without prejudice, and only administratively admonish the officers.[110] This sent a message of tolerance by the air force's leadership and instilled the idea in the organizational culture of the Allied air wings that civilian and friendly troops' deaths did not diminish military success. The leadership would undertake no serious disciplinary actions to punish carelessness in the execution of the bombing operations. In the event of civilian casualties alone, it would not undertake any disciplinary actions at all.

In fact, the investigation of the wrongful bombing of civilians during the third battle of Cassino represented an exception to the normal state of affairs. Since no other references exist of investigations in the presence of civilian casualties alone, it is plausible that what triggered the investigation was the occurrence of friendly casualties. Above all, the bombing of a tactical headquarters and an observation post where high-ranking officers were directing the operation gave an image of incompetence and lack of professionalism of the Allied air forces. The Cassino investigation concluded it was in the best interest of the Allied air forces to let the young officers go on with the war.[111] Seven months later, the same bombing group of the incident of Cassino caused what Italy remembers as *la strage di Gorla* (Gorla massacre). On October 20, 1944, Forty-Ninth Bombardment Wing executed plan 'Able' to attack industrial targets in Milan. 451st Bombing Group's target was the Breda works. The Allied planners expected no fighter opposition and no flak on the target. In fact, only four anti-aircraft guns defended Milan.[112] At 11:27 a.m.,

---

[110] Ibid., table H "Investigation of Faulty Bombing," Memorandum to Commanding General, Mediterranean Allied Air Forces, APO 650, US ARMY, 5 May 1944.

[111] Headquarters, Mediterranean Allied Air Forces, *The Bombardment of Cassino, 15 March 1944*, table H "Investigation of Faulty Bombing," Memorandum to Commanding General, Mediterranean Allied Air Forces, APO 650, US ARMY, 5 May 1944.

[112] Headquarters, 49th Bombardment Wing, *Operations Order 215*, October 19, 1944, US Air Force Historical Research Agency, Maxwell Air Force Base, AL.

the first attack unit of the 451st Bombing Group reached the initial point some four kilometers west of the target.[113] The lead plane released its bombs right after the initial point, probably because of a malfunctioning toggle switch. The remainder of the box released off the leaders, and so did the high box. Only the low box remained focused on target and successfully hit it. The second attack unit approached the initial point far behind the first attack unit. On the initial point, the attack unit was supposed to turn left twenty-two magnetic degrees. In actuality, the formation turned right twenty-two magnetic degrees, taking an axis of attack that allowed for over fifteen magnetic degrees drift. The bombardier realized he could not correct the course and dropped the bombs anyway. Although the other two boxes realized that the planned target could not be hit, they dropped off the unit leader.[114]

The navigation error led the second attack unit above Gorla, a small neighborhood 2.5 kilometers southeast of the briefed target. At 11:14 a.m., the first alarm had sounded in Milan to warn the population of the approaching bombers. Fifteen minutes later, the first bomb of the 451st Bombing Group's second attack unit reached Gorla. At that time, people were still in search of a shelter. The teachers and the principal of Francesco Crispi elementary school were directing the 200 students in the basement of the building when a bomb penetrated the main entrance of the school. A total of 184 children died along with the teachers and the principal. In total, the wrongful bombing caused 614 killed in the neighborhood.[115] Lieutenant Colonel Leroy L.

---

[113] The initial point is "a well defined point, easily distinguishable visually and/or electronically, used as a starting point for the bomb run to the target." The Free Dictionary, "initial point," Farlex, accessed October 20, 2014, http://www.thefreedictionary.com/initial+ point.

[114] Headquarters, 49th Bombardment Wing, *Bombing Navigation Analysis for 20 October 1944*, October 21, 1944, US Air Force Historical Research Agency, Maxwell Air Force Base, AL.

[115] Rosa Auletta Marrucci, *Bombe sulla Città: Milano in Guerra, 1942-1944* (Milano: Skira, 2004), 75-76.

Stefonowicz, air operations officer of the Forty-Ninth Bombardment Wing, strongly criticized 451st Bombing Group for the lack of judgment and poor teamwork in the execution of the bombing mission.[116] The air operation officer declared the mission a failure because the bombing group had not executed it in respect of the prescribed technical and procedural standards. Again, civilian casualties apparently were not a concern.

Figure 1. The Bombing of Milan Breda Works

Source: Rosa Auletta Marrucci, *Bombe sulla Città: Milano in Guerra, 1942- 1944* (Milano: Skira, 2004), 73. The plot of the bombs on Gorla is southeast of the first attack unit target.

The carelessness in the execution of the bombardment is even more evident when considering the possible actions that the aircrews could have undertaken to avoid civilian casualties. When the second attack unit realized that it could not bomb the planned target, the

[116] Headquarters, 49th Bombardment Wing, *Bombing - Navigation Analysis for 20 October 1944.*

concern of the aircrews became the bomb load. Usually aircrews did not report unreleased bombs to the base and dropped them into the Adriatic Sea along their route back. Additionally, in this case there were several open fields around the town where the unused bombs could be dropped. The entire sparsely inhabited Po Valley opened only 2.5 kilometers southeast of Gorla. Evidently, the possibility of collateral damage and consequent civilian casualties was not a concern in the mind of the aircrews. For that matter, the bombs hit enemy-controlled territory.[117] The 451st Bombing Group's war diary reports, "[during the bombing of the Milan Breda Works] two ships managed to hit the target while the other planes left their bombs all over the Po Valley. It was a snafu [colloquial acronym that means "situation normal: all fucked up"] and did the 49th Wing let us know about it."[118] Besides Stefonowicz's censure, there were no consequences for the neglectful action. In March 1944, after the Cassino incident, the Allied leadership had not taken any action to make the aircrews understand that collateral damage, as the result of careless execution of the bombing was not accepted. The subsequent investigation had been inconclusive because the aircrews received only a minor administrative admonishment. Seven months later, once more the same bombing group demonstrated carelessness during the bombardment of targets near a populated neighborhood. No investigation followed the incident and the aircrews simply accepted the situation as something normal in the current state of the affairs.

These examples show how influential the operational directives (or their absence) were in shaping the organizational culture and the operating concept of the Allied Air Forces. The civilian population did not enjoy any particular protection, whereas *ad hoc* directives regulated the

---

[117] Auletta Marrucci, 74.

[118] 451st Bombing Group War Diary, "Narrative History from October 1 to October 31, 1944," *12th Air Force, 49th Bombardment Wing, 451 Bombardment Group History: October 1944*, accessed August 15, 2014, http://www.15thaf.org/49th_BW/451st_BG/History/PDFs/October_1944.pdf, 2.

bombing of cities with a rich cultural patrimony. The bombing of category A cities required the clearance of the political authority. Additionally, only bombing groups with extensive records of accuracy could fly this type of mission. Even in that context, the civilian population suffered casualties. Both planners and aircrews largely regarded the possibility of civilian casualties with indifference. It was the price that the Italian population had to accept to achieve liberty from the Nazi occupation. Seen with contemporary eyes, a major failure in the Allied operating concept for the air campaign was separating the civilian population from the context of the Italian cultural patrimony. The Italians were a part of it. In the near future, possibly any of the young students of the elementary school in Gorla might have brought revolutionary advancements in the arts and sciences for all of humanity. The Allied leadership did nothing to correct the tendency to indifference of the aircrews. They simply accepted the ambiguity for the sake of a rapid conclusion of the war and the alleged preservation of the internal cohesion of the air units. The criteria to assess success or failure of a bombing mission were technical and procedural parameters only. If the aircrews demonstrated good teamwork and judgment while causing civilian casualties, the mission was considered a success. Even when the aircrews clearly violated the technical procedures for the bombing, they were not held personally accountable for the mistake. It was simply part of the friction of war.

Conclusion

As many as 60,000-80,000 Italian civilians died as a consequence of Allied air attacks during the Second World War, and the number of wounded is still unknown. The Allied bombers dropped more tons of bombs on Rome alone than Axis bombers did on all British cities together. Other Italian cities, such as Naples and Messina, received more than 100 raids each.[119] From May

[119] Baldoli and Knapp, 2, 6-7.

28 to September 18, 1943, the city of Foggia suffered twenty-one air attacks, with seventy-five percent of the residential buildings destroyed and several thousands of civilians killed—estimates range from 8,000-20,000—out of 79,000 inhabitants.[120] Yet the account of the civilian casualties of the 1940-1945 Allied air campaign in Italy struggles to find adequate room in the historiography of the post-Second World War. In the aftermath of the war, the Allied narrative forced the controversy of bombing of civilians to sink into oblivion, stressing how the Axis evils in war made the Allied evils to appear irrelevant.[121] Only in the last few years have scholars in the United Kingdom such as Baldoli, Knapp, and Overy brought to light this forgotten piece of history. The focus of these works, however, is on the civil defense and the dynamics of the societies under the bombs, with only a limited insight in the dynamics of the military apparatus that designed, planned, and executed the bombing campaign.

The monograph attempted to answer the question of the causes of the high civilian death toll during the Allied air campaign against Italy from an operational perspective. It questioned the soundness of the Allied process to arrange tactical actions—the bombing missions—in time, space, and purpose to achieve the desired strategic ends. In doing so, the monograph's methodology purposefully avoids any moral stance. Ethics and morality tend to change over time. Judging the 1940-1945 Allied decision to bomb civilians either directly or indirectly using today's sense of morality might lead to vitiated results. At the same time, it does not mean to be the last word on the Allied bombing of Italy during the Second World War. Other interesting aspects remain in order to capture the complexity of the air campaign against Italy. Further research should be directed, for example, to analyze the discussion between the Allied Control

---

[120] "La Cronistoria dell'Estate del 1943 a Foggia," Manganofoggia, accessed December 12, 2014, http://www.manganofoggia.it/cronistoria43.htm.

[121] Anthony C. Grayling, *Among the Dead Cities: The History and Moral Legacy of the WWII Bombing of Civilians in Germany and Japan* (New York: Walker & Co., 2006), 2.

Commission for Italy and Badoglio's government on bombing Italian cities after the armistice in September 1943. A researcher might investigate if and to what extent Badoglio and the envisioned post-war Italian settlement influenced the Allied bombing policy between 1943 and 1945. Additionally, further research should be devoted to the influence of the Allied air doctrine on the *modus operandi* of the Italian Co-Belligerent Air Force after the armistice. Between 1943 and 1945, the Allies supported the creation of bombing units in the co-belligerent air force, equipped with the American light bomber Martin 187 Baltimore and the Italian medium bomber CANT Z.1007 Alcione. The Allies employed these units only against Axis targets in the Balkans in an attempt to avoid any fratricide engagements with pilots of the National Republican Air Force loyal to Mussolini. Italian pilots had witnessed the extensive damage of the Allied bombing on their own territory. However, no study has been undertaken to understand if and how that experience influenced the Italian pilots operating overseas under Allied control.

This last portion of the monograph is devoted to summarizing the main findings of the research and their relevance for the contemporary military. Evidence shows that three main factors caused the high number of civilian casualties in the Allied bombing of Italy: an immature air doctrine that had not been tested on a large scale, several flaws in the decision making process for the bombing offensive, and the insensitivity of Allied leadership on issues concerning civilian casualties. Air doctrine of the Second World War found its roots in the post-Great War attempt to find a means of war able to achieve a quick, cheap, and bloodless victory. For many air power enthusiasts in the Old and New Continents, an air force—preferably independent from the army—was the only instrument capable of meeting such an expectation. In preparation for the Second World War, the British Royal Air Force conceived and adopted a doctrine of directly bombing enemy civilians to destroy their will to fight and force surrender. On the other hand, the US Army Air Forces preferred to focus the strategic attacks on the enemy war-making means

and, only indirectly, on the enemy morale. Both doctrines were the result of a purely theoretical exercise because they had not been implemented on a large scale before the war. Under these circumstances, the prudence required in the application of an untested doctrine gave way to a rigid application of the doctrine itself. Even when evidence demonstrated that bombing a population to surrender required an effort—in terms of sorties and tons of bombs—that greatly exceeded the capabilities of the Allied air forces, the Allies did not question the soundness of the assumptions underlying the doctrine itself. This perseverance in failure was likely to be a sterile attempt to demonstrate that the pre-war Allied air theorists were not wrong.

Additionally, several flaws plagued the decision making process for the air campaign. In light of the established doctrine, the Allied air planners selected targets such as city centers, industrial areas, and communication infrastructure to achieve the strategic ends of knocking Italy out of the war, crippling the German resistance in Italy, and expediting the Allied advance. The planners failed to realize that the bombing of the Italian population could foster a popular uprising against Mussolini only if done in temporal and physical proximity to a ground invasion. In short, the air campaign alone could not force any political decision in Italy because it was not sufficient *per se* to demonstrate that the credibility of the rule was on the Allied side. Even targeting the industries and surrounding proletarian neighborhoods was of limited value in knocking Italy out of the war and hampering the German industrial program in Italy. The Allies bombed industrial plants that had not been entirely mobilized for war and were not decisive in the context of the Italian war strategy. Partisans infiltrated in the factories were able to achieve more definitive effects in the disruption of the production in support of the German war effort, while sparing civilians from the collateral damage of the bombing. Despite this evidence, the Allies contained the partisans' effort and continued with the bombing campaign. Even the bombing of marshalling yards in the city centers proved to have had limited impact on the Germans' ability to

fight a defensive battle along the Italian peninsula. The German army had stockpiled supplies in Italy in the months before the Allied invasion, which made it less dependent from the rail and road supplies. Additionally, the bombing of marshalling yards blocked the rail traffic for only a few hours and hit mainly civilian traffic because military trains seldom stationed in the marshalling area.

Finally, Allied leadership demonstrated insensitivity on issues concerning civilian casualties. Detailed operational directives established measures for safeguarding Italian monuments while no guidance existed for the protection of human lives even when Italy became a co-belligerent country. Additionally, incidents involving the wrongful bombing of civilians were never investigated even when it was the product of careless execution of the bombing mission. The rare investigations occurred only when the bombing caused victims also amongst the friendly troops. However, such investigations were generally inconclusive and resulted only in a minor administrative admonishment. Allied leadership was concerned about the detrimental effects that severe punishment of the neglectful aircrew might have on the cohesion of the air wings. Over time, such practice reinforced the idea in the minds of the Allied airmen that unnecessary civilian casualties were tolerable, provided the aircrew respected the established technical standards in the execution of the bombing mission.

The relevance of these findings for contemporary operational planners is manifold. First, an operational planner should refrain from embracing with no critical scrutiny a supposedly revolutionary instrument of war that promises an easy solution to a complicated problem. Air doctrine of the interwar period promised a quick, cheap, and bloodless victory. Similarly, today some theorists predict that “autonomous robotic systems offer numerous other potential operational benefits to the military: faster, cheaper, better mission accomplishment; longer range, greater persistence, longer endurance, higher precision; faster target engagement; and immunity

to chemical and biological weapons among others."[122] These words closely parallel those of the interwar air power true believers. Second, an operational planner should continuously question the matching of the means and ways used with the established strategic ends. The alternative risks of a waste of resources or, even worse, the defeat of the purpose of the campaign. In late 1943, Italian partisans warned the Allies that the wanton bombing was alienating many civilians that otherwise were ready to join the resistance. Additionally, many civilians stopped passing information to the partisans until the Allies ceased the indiscriminate bombing. Above all, as a second-order effect, General Marshall admitted, the bombing of the industrial areas in northern Italy favored the Communist ascendancy and the growth of the Russian prestige among the workers.[123] In short, the Allies were liberating a fascist-dominated country only to drive it into the hands of Communism. Third, an operational planner must understand what other actors have a stake in the operational environment and how they can contribute to—or hamper if not properly handled—the achievement of the strategic ends. In September 1943, the Allies rushed the public disclosure of the terms of the armistice, thus contributing to transform the Italian armed forces into a source of supply for the German army.[124] Neither did the partisans find immediate room in the Allied campaign plan. In fact, the Italian resistance established a permanent liaison with the Allies only after the summer of 1944 through a delegation in Lugano. Even then, the Allied bombing frequently caused friction and opposition between the two sides.[125] For an operational

---

[122] Mike Guetlein, "Lethal Autonomous Weapons-Ethical and Doctrinal Implication" (Paper, Naval War College, Newport, RI, 2005) quoted in Ronald C. Arkin, "The Case for Ethical Autonomy in Unmanned Systems," *Journal of Military Ethics* 77, no. 4 (December 2010): 334, accessed December 17, 2014, http://www-tandfonline-com.lumen.cgsccarl.com/doi/abs/10.1080/15027570.2010.536402#.VJJqX8b8EiE.

[123] Baldoli and Knapp, 236-239.

[124] On this topic, see Arena, 372-374.

[125] Baldoli and Knapp, 236-239.

planner, it is of paramount importance to integrate all the actors capable of contributing to the attainment of the desired strategic ends in the campaign plan as early as possible. This would ensure unity of effort and limit the undesired effects that undermine the success of the operation. Fourth, an operational planner should avoid becoming a victim of cognitive fallacies. The Allied planners framed the operational problem for the Italian air campaign in (false) analogy with Germany, failing to capture the substantial differences between the two environments. Later in the war, the sunk cost fallacy motivated the Allies to continue with the bombing, although it was not achieving the envisioned operational outcome and was falling short of its acclaimed expectations. As a last point, the joint employment of the contribution that each service can bring into the fight remains the real key to success in a military campaign. No single service has the silver bullet to defeat the complexity inherent to any major military operation that requires the synchronization of tactical actions in time, space, and purpose for the achievement of strategic ends. During the Second World War, an Italian campaign conceived exclusively as an air affair was doomed to fail. At the same time, a land invasion with no air support against forces fighting a defensive battle on favorable terrain was an invitation to failure, too.

In conclusion, the Allied air campaign against Italy and the resulting civilian casualties are a neglected part of history. This is not because there is nothing to learn from it but because the post-war Allied narrative prioritized the theme of the liberation from the Germans over the suffering inflicted to the Italians. The intent of this monograph is not to question sterilely the conduct of the Allied airmen during the air campaign against Italy. Instead, it aims at providing the general reader with an expanded view of the events of the Italian campaign and challenging current and future operational planners to question the soundness of the ways and means to achieve the desired end.

Bibliography

Books.

Arena, Nino. *L'Italia in Guerra 1940-45. Retroscena Tecnico della Disfatta*. Parma: Ermanno Albertelli Editore, 1997.

Arnold, Henry H., and Ira C. Eaker. *Winged Warfare*. New York: Harper & Brothers Publishers, 1941.

Auletta Marrucci, Rosa. *Bombe sulla Città: Milano in Guerra, 1942- 1944*. Milan: Skira, 2004.

Badoglio, Pietro. *Italy in The Second World War: Memories and Documents*. Translated by Muriel Currey. London: Oxford University Press, 1948.

Baldoli, Claudia, and Andrew Knapp. *Forgotten Blitzes. France and Italy under Allied Air Attack, 1940-1945.* London: Continuum International Publishing Group, 2012.

Boyle, Andrew. *Trenchard*. New York: W.W. Norton & Company Inc., 1962.

Commissione Italiana di Storia Militare. *La partecipazione delle Forze Armate, alla Guerra di Liberazione e di Resistenza, 8 Settembre 1943–8 Maggio 1945.* Rome: Ente Editoriale per l'Arma dei Carabinieri, 2003. Accessed November 3, 2014. http://www.difesa.it/Area_Storica_HTML/editoria/2003a/Pagine/2003a.aspx.

Douhet, Giulio. *The Command of the Air*. Edited by Joseph P. Harahan and Richard H. Kohn. Tuscaloosa, AL: University of Alabama Press, 2009.

Ferrari, Paolo. "Un'Arma Versatile. I Bombardamenti Strategici Anglo-Americani e l'Industria Italiana." In *L'Aeronautica Italiana. Una Storia del Novecento*, edited by Paolo Ferrari, 391-432. Milan: Franco Angeli, 2004.

Fischer, David H. *Washington's Crossing*. New York: Oxford University Press, 2004.

Frank, Richard. *Downfall: The End of the Japanese Empire.* New York: Penguin Books, 2001.

Gioannini, Marco. "Bombardare l'Italia. Le Strategie Alleate e le Vittime Civili." In *I Bombardamenti Aerei sull'Italia. Politica, Stato e e Società (1939-1945),* edited by Nicola Labanca, 79-98. Bologna: Il Mulino, 2012.

Gioannini, Marco, and Giulio Massobrio. *Bombardate l'Italia: Storia della Guerra di Distruzione Aerea, 1940-1945*. Milan: Rizzoli, 2007.

Grayling, Anthony C. *Among the Dead Cities: The History and Moral Legacy of the WWII Bombing of Civilians in Germany and Japan*. New York: Walker & Co., 2006.

Gribaudi, Gabriella. *Guerra Totale. Tra Bombe Alleate e Violenze Naziste: Napoli e Il Fronte Meridionale, 1940-44*. Turin: Bollati Boringhieri, 2005.

Harris, Arthur T. *Despatch on War Operations 23rd February, 1942, to 8th May, 1945.* London: Frank Cass, 1995.

Hasegawa, Tsuyoshi. *Racing the Enemy: Stalin, Truman, and the Surrender of Japan.* Cambridge, MA: The Belknap Press of Harvard University, 2005.

Kalyvas, Stathis N. *The Logic of Violence in Civil War*. Cambridge, England: Cambridge University Press, 2006.

Knox, MacGregor. *Hitler's Italian Allies. Royal Armed Forces, Fascist Regime, and the War of 1940-1943.* Cambridge, England: Cambridge University Press, 2000.

Matloff, Maurice. *Strategic Planning for Coalition Warfare, 1943-1944*. Washington, DC: US Army Center of Military History, 1994.

Meilinger, Phillip S., ed. *The Paths of Heaven: the Evolution of Airpower Theory*. Maxwell Air Force Base, AL: Air University Press, 1997.

Milward, Alan S. *War, Economy and Society 1939-1945*. Berkeley: University of California Press, 1977.

Mitchell, William. *Winged Defense. The Development and Possibilities of Modern Air Power Economic and Military.* New York: The Curtis Publishing Company, 1925.

Murray, Williamson, and Alan R. Millet, eds. *Military Innovation in the Interwar Period.* Cambridge, England: Cambridge University Press, 1998.

Overy, Richard J. *The Bombing War: Europe 1939-1945*. London: Allen Lane, 2013.

Parsa, Misagh. *States, Ideologies, and Social Revolutions: A Comparative Analysis of Iran, Nicaragua, and the Philippines.* Cambridge, England: Cambridge University Press, 2000.

Pogue, Forrest C. *United States Army in World War II. The European Theater of Operations. The Supreme Command.* Washington, DC: Government Printing Office, 1989.

Porch, Douglas. *The Path to Victory: The Mediterranean Theater in World War II*. New York: Farrar, Straus, and Giroux, 2004.

Tedder, Arthur W. *With Prejudice. The War Memoirs of Marshal of the Royal Air Force Lord Tedder.* London: Cassell and Company Ltd., 1966.

Weigley, Russell F. *The American Way of War: A History of United States Military Strategy and Policy*. Bloomington: Indiana University Press, 1977.

Zamagni, Vera. "Italy: How to Lose the War and Win the Peace." In *The Economics of World War II. Six Great Powers in International Comparison,* edited by Mark Harrison, 177-223. Cambridge, England: Cambridge University Press, 1998.

Zuckerman, Solly. *From Apes to Warlords.* New York: Harper & Row, 1978.

Conference Records.

American-British Joint Chiefs of Staff. *Proceedings of the American–British Joint Chiefs of Staff Conferences Held in Washington, DC on Twelve Occasions between December 24, 1941 and January 14, 1942.* Pt. II, Annex I to JCCs-7. In Ibiblio: The Public's Library and Digital Archives. Accessed July 22, 2014. http://www.ibiblio.org/hyperwar/Dip/Conf/Arcadia/ARCADIA.PDF.

US Secretary, Office of the Combined Chiefs of Staff. *Trident Conference, May 1943. Papers and Minutes of Meetings.* Washington, DC: Office of the Combined Chiefs of Staff, 1943. In Ibiblio: The Public's Library and Digital Archives. Accessed July 22, 2014. http://www.ibiblio.org/hyperwar/Dip/Conf/Trident/TRIDENT.PDF.

Lectures.

Air Corps Tactical School. "Air Force: National Economic Structure." Lecture, April 5, 1939. Air Force Historical Research Agency, Maxwell Air Force Base, AL.

_____. "Air Force: The Aim in War." Lecture, March 28, 1939. Air Force Historical Research Agency, Maxwell Air Force Base, AL.

US Army Air Forces School of Applied Tactics. "Principles of Air War." Lecture, November 1944, Orlando, FL. Ike Skelton Combined Arms Research Library, Fort Leavenworth, KS.

_____. "Tactics and Techniques of Operations in a Strategic Air Force." Lecture, October 1944, Orlando, FL. Ike Skelton Combined Arms Research Library, Fort Leavenworth, KS.

Official Histories.

Headquarters, Mediterranean Allied Air Forces. *Air Power in The Mediterranean. November 1942-February 1945*. Washington, DC: Headquarters, Mediterranean Allied Air Forces, 27 February 1945. Accessed July 13, 2014. http://cgsc.contentdm.oclc.org/cdm/ref/collection/p4013coll8/id/1422.

Headquarters, US Army Air Forces, Historical Office. *Air Phase of the Italian Campaign to 1 January 1944*. Washington, DC: Headquarters, Army Air Forces, June 1946. Accessed July 30, 2014. http://cgsc.contentdm.oclc.org/cdm/ref/collection/p4013coll8/id/3205.

_____. *The Reduction of Pantelleria and Adjacent Islands. 8 May-14 June 1943.* Washington, DC: Air Historical Office, 1947. Accessed November 13, 2014. http://www.afhra.af.mil/shared/media/document/AFD-090529-104.pdf

Headquarters, US Army Air Forces, Office of Statistical Control. *Army Air Forces Statistical Digest World War II*. Washington, DC: Headquarters, Army Air Forces, December 1945.

US Strategic Bombing Survey. *Over-all Report (European War)*.Vol. 2A, *Statistical Appendix to Over-All Report (European War)*. Washington, DC: US Department of War, 1947.

Online Sources.

Cambridge Dictionaries Online. “Sunk cost fallacy.” Cambridge University Press. Accessed December 6, 2014. http://dictionary.cambridge.org/us/dictionary/business-english/sunk-cost-fallacy.

“La Cronistoria dell’Estate del 1943 a Foggia.” Manganofoggia. Accessed December 12, 2014. http://www.manganofoggia.it/cronistoria43.htm.

The Free Dictionary. “Initial point.” Farlex. Accessed October 20, 2014. http://www.thefree dictionary.com/initial+point.

Harvey, Stephen. “The Italian War Effort and the Strategic Bombing of Italy.” *History* 70, no. 228 (February 1985): 32-45. Accessed November 2, 2014. http://www.readcube.com/articles/10.1111%2Fj.1468-229X.1985.tb02478.x?r3_referer=wol&tracking_action=preview_click&show_checkout=1.

Headline. *The New York Times* 92, no. 31, 223, 20 July 1943. Accessed August 14, 2014. http://www.freerepublic.com/focus/chat/3045264/posts.

Istituto Nazionale di Statistica. *Morti e Dispersi per Cause Belliche negli Anni 1940-45*. Rome: ISTAT, 1957. Accessed July 17, 2014. http://lipari.istat.it/digibib/causedimorte/IST3413mortiedispersipercausebellicheanni1940_45+OCRottimizz.pdf.

Matthews, Herbert L. “Raid is explained: Axis Troops Were Using Rome Railways to Rush Aid to Sicily.” *The New York Times*, 92, no. 31,223, 20 July 1943. Accessed 14 August 2014. http://www.freerepublic.com/focus/chat/3045264/posts.

Muntari, Massimo. “I Militari Dopo l’8 Settembre.” *Annals of the History Department of the University of Rome “Tor Vergata,”* no. 2 (2006): 55-83. Accessed November 3, 2014. http://www.biblink.it/ download%20PDF/Annali__2_06.pdf.

“San Lorenzo: I Bombardamenti del 19 Luglio 1943.” ViviSanLorenzo. Accessed August 20, 2014. http://www.vivisanlorenzo.it/bombardamenti_del_19_luglio_1943_a_san_lorenzo.htm.

Periodicals.

Arkin, Ronald C. “The Case for Ethical Autonomy in Unmanned Systems,” *Journal of Military Ethics* 77, no. 4 (December 2010): 332-341. Accessed December 17, 2014. http://www-tandfonline-com.lumen.cgsccarl.com/doi/abs/10.1080/15027570.2010.536402#.VJJqX8b8EiE.

Baldoli, Claudia. “Bombing the FIAT: Allied Raids, Workers’ Strikes, and the Italian Resistance.” *Labour History Review* 77, no. 1 (April 2012): 75-92. Accessed November 27, 2014. http://liverpool.metapress.com/content/j0w02q5m14142615/fulltext.pdf.

Biribicchi, Osvaldo. “8 Settembre 1943: Anatomia di un Disastro Annunciato e Riscossa delle Forze Armate Italiane.” *Il Secondo Risorgimento d’Italia*, no. 4 (28 November 2008): 91-95. Accessed November 3, 2014. http://www.secondorisorgimento.it/rivista/sommari/tomo08.04.pdf.

Brigham, Daniel T. “Noted Church Hit, Italians Report. Stefani and Vatican Radio Say Pope Visited The Damaged San Lorenzo Basilica.” *The New York Times* 92, no. 31,223, 20 July 1943. Accessed 14 August 2014. http://www.freerepublic.com/focus/chat/3045264/posts.

Presidential Library Records.

Eisenhower, Dwight D. Message to All Commanders, “Historical Monuments.” December 29, 1943. CAD 000.4 (3-25-43) (1), Sec. 2, Security Classified General Correspondence, 1943-July 1949, General Records, Civil Affairs Division, Records of the War Department General and Special Staffs, RG 165. US National Archives. Accessed October 20, 2014. http://blogs.archives.gov/TextMessage/2014/02/10/general-dwight-d-eisenhower-and-the-protection-of-cultural-property/.

Headquarters, Mediterranean Allied Air Forces. *The Bombardment of Cassino, 15 March 1944.* Washington, DC: Headquarters, Mediterranean Allied Air Forces, 1945. Dwight D. Eisenhower Presidential Library, Abilene, KS.

_____. *Bombing Directive no. 8.* February 18, 1944. Lauris Norstad Papers 1930-87, Box 1, Headquarters, Mediterranean Allied Air Forces. Bombing of Targets in Southern Europe (1). Dwight D. Eisenhower Presidential Library, Abilene, KS.

_____. *Interdiction of Italian Railways. Weekly Status Report Period 18 May to 25 May 1944,* May 26, 1944. Lauris Norstad Papers 1930-87, Box 1, Interdiction of Italian Railways. Dwight D. Eisenhower Presidential Library, Abilene, KS.

_____. *Interdiction of Italian Railways. Weekly Status Report Period 9 June to 15 June 1944,* June 16, 1944. Lauris Norstad Papers 1930-87, Box 1, Interdiction of Italian Railways. Dwight D. Eisenhower Presidential Library, Abilene, KS.

_____. *Interruption of Italian Rail Communications,* February 13, 1944. Lauris Norstad Papers 1930-87, Box 1, Interdiction of Italian Railways. Dwight D. Eisenhower Presidential Library, Abilene, KS.

_____. *Italian Historical & Religious Monument,* March 19, 1944. Lauris Norstad Papers, Box 14, The Ancient Monument of Italy Part I. Dwight D. Eisenhower Presidential Library, Abilene, KS.

Headquarters, Mediterranean Allied Air Forces, Director of Operations. Memorandum to the Air Commander-in-Chief. March 16, 1944. Lauris Norstad Papers 1930-87, Box 1, Interdiction of Italian Railways. Dwight D. Eisenhower Presidential Library, Abilene, KS.

Headquarters, Mediterranean Allied Air Forces, Intelligence Section. *Assessment of Air Operations Against Enemy Communications in Italy*, June 16, 1944. Lauris Norstad Papers 1930-87, Box 1, Interdiction of Italian Railways. Dwight D. Eisenhower Presidential Library, Abilene, KS.

Jackson, Charles Douglas. *Papers, 1931-67.* Box 25, folder Rhythm. Dwight D. Eisenhower Presidential Library, Abilene, KS.

Marshall, General George C. Cable to General Dwight D. Eisenhower. "Protection-Artistic Historic Monuments in Italy." October 14, 1953. Eisenhower's Pre-Presidential Papers, Principal File, Box 132, Cables Official (GCM/DDE), July 29, 1943-February 19, 1944 (3). Dwight D. Eisenhower Presidential Library, Abilene, KS.

McCloy, John J. Memorandum to General Dwight D. Eisenhower. December 13, 1943. Eisenhower's Pre-Presidential Papers, Principal File, Box 75, McCloy John J. (3). Dwight D. Eisenhower Presidential Library, Abilene, KS.

Roosevelt, Franklin D. *Papers as a President: Map Room Papers, 1941-1945.* Franklin Delano Roosevelt Presidential Library. Accessed November 25, 2014. http://www.fdrlibrary.marist.edu/_resources/images/mr/mr0016.pdf.

Spaatz, Lieutenant General Carl A. Letter to General Dwight D. Eisenhower. Subject: Thunderclap. August 24, 1944. Eisenhower's Pre-Presidential Papers, Principal File, Box 110. Dwight D. Eisenhower Presidential Library, Abilene, KS.

Unit Records.

310th Bombardment Group War Diary. "Monday, 19 July 1943." *12th Air Force, 57th Bombardment Wing, 310 Bombardment Group History: July 1943*. Accessed 5 August 2014. http://57thbombwing.com/310thHistory/310_BG_1943-07.pdf.

451st Bombing Group War Diary. "Narrative History from October 1 to October 31, 1944." *12th Air Force, 49th Bombardment Wing, 451 Bombardment Group History: October 1944.* Accessed 15 August 2014. http://www.15thaf.org/49th_BW/451st_BG/History/PDFs/October_1944.pdf.

Headquarters, 49th Bombardment Wing. *Operations Order 215*, October 19, 1944. US Air Force Historical Research Agency, Maxwell Air Force Base, AL.

_____. *Bombing Navigation Analysis for 20 October 1944*, October 21, 1944. US Air Force Historical Research Agency, Maxwell Air Force Base, AL.

United Kingdom National Archives.

Air Ministry. AIR 20/5304, "Bombing of Italy." Minutes of 30 May 1940. "Possible Operations Against Italy." The United Kingdom National Archives, London.

Royal Air Force. AIR 10/1197, *Operations Manual RAF*. The United Kingdom National Archives, London.

_____. AIR 10/1910, *Royal Air Force War Manual Part I-Operations.* The United Kingdom National Archives, London.

_____. AIR 10/2311, *Royal Air Force War Manual Operations (Provisional).* The United Kingdom National Archives, London.

_____. Air Publication 1300, *Royal Air Force War Manual.* London: Air Ministry, 1928. AIR 10/1910 "Royal Air Force War Manual Part I - Operations." The United Kingdom National Archives, London.

_____. Air Publication 1300, *Royal Air Force War Manual.* London: Air Ministry, 1940. AIR 10/2311 "Royal Air Force War Manual Operations (Provisional)." The United Kingdom National Archives, London.

_____. Confidential Document 22, *Operations Manual for the Royal Air Force*. London: Air Ministry, 1922. AIR 10/1197 "Operations Manual RAF." The United Kingdom National Archives, London.

War Cabinet. Conclusions of a Meeting of the War Cabinet Held at 10 Downing S.W. 1. on Monday, December 30**,** 1940, at 12 NOON, *Air Raids. Work After the "Alert."* CAB 65/10/31 "Record Type: Conclusion Former Reference: WM (40) 311." The United Kingdom National Archives, London. Accessed October 29, 2014. http://discovery.nationalarchives.gov.uk/checkout/receipt?orderKey=I%2F14%2F03631416F&paymentAmount=0&paymentCurrency=GBP&paymentStatus=0&mac=0.

_____. Conclusions of a Meeting of the War Cabinet Held at 10 Downing S.W. 1. on Saturday, April 27**,** 1940, at 10-30 A.M., *Policy for the conduct of war against Italy.* CAB 65/6/50 "Record Type: Conclusion Former Reference: WM (40) 105." The United Kingdom National Archives, London. Accessed October 29, 2014. http://discovery.nationalarchives.gov.uk/checkout/receipt?orderKey=I%2F14%2F03629524C&paymentAmount=0&paymentCurrency=GBP&paymentStatus=0&mac=0.

War Cabinet, Chiefs of Staff Committee. 71st meeting, March 1, 1944. *Operations in Italy-Attacks on Marshalling Yards at Florence.* CAB 79/71/12 "War Cabinet. Chiefs of Staff Committee: Minutes of Meeting." The United Kingdom National Archives, London. Accessed October 19, 2014. discovery.nationalarchives.gov.uk/orders/download/?o=I/14/03588659V&a=C387146.

Other Sources.

Joint Chiefs of Staff. Joint Publication 1-02, *Department of Defense Dictionary of Military and Associated Terms.* Washington, DC: Government Printing Office, 2014.