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Abstract

This short paper reviews a new book about World War II. In most such books, what is new is not usually important, and what is important is not new. This one is an exception. *How the War Was Won: Air-Sea Power and Allied Victory in World War II*, by Phillips Payson O'Brien, sets out a new perspective on the war. An established view is that World War II was decided on the Eastern front, where multi-million armies struggled for supremacy on land and millions died. According to O'Brien, this neglects the fact that the preponderance of the Allied productive effort was devoted to building ships and planes for an air-sea battle that was fought to a limited extent in the East and with much higher intensity across the Western and Pacific theatres. The Allies' air-sea power framed the outcomes of the great land campaigns by preventing Germany and Japan from fully realizing their economic potentials for war. Finding much to be said for this reinterpretation, I reconsider the true significance of the Eastern front.

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How the War Was Won: Air-Sea Power and Allied Victory in World War II. By Phillips Payson O'Brien. Cambridge: Cambridge University Press, 2015. Xx +626 pages.

How the War Was Won provides a new interpretation of the outcome of World War II. The author, Phillips Payson O'Brien, is director of the Scottish Centre for War Studies at the University of Glasgow. His book is welcome, because it is some time since I have come across any serious rethinking of major factors in the war.

O'Brien's target is the idea that the Eastern Front was decisive in the outcome of the war because that is where the biggest land battles were fought and the poor bloody infantry sustained the heaviest human losses. I have an interest because I have certainly contributed to this idea, and O'Brien argues that it cannot be right.

"There were no decisive battles in World War II," the book begins (p. 1). The great engagements on the Eastern Front, O'Brien maintains, were incidental. The war in the east was fought largely in two dimensions along a line of one or two thousand kilometres in width and, at any one time, a few dozen kilometres in depth. It engaged significant manpower of two states, the Soviet Union and Germany, but only a fraction of the latter's overall fighting power. Most of the belligerents rightly gave priority to another front, that of continuous air-sea engagement. The air-sea battle was hundreds of kilometres deep and many thousands wide. More than the land battles, it had the third dimension of altitude from the seabed to the stratosphere. This was the front line where most of the war production of Germany, Britain, America, and Japan was engaged. This, O'Brien concludes, is where and how the war was won.

How the War Was Won is based on the author's research in government and private archives in Britain and the United States, and on a voluminous secondary literature. There are many figures, tables, maps, and photographs.

Table 1. The national priority of air-sea power, 1943/44: air and naval armament and equipment, per cent of total in each country

Country	Period	Per cent
Japan	1944 (year)	83.2
USA	1943 (fourth quarter)	73.7
Germany	1944 (July)	65.2
UK	1943 (December)	65.1
USSR	1944 (year)	32.8

Notes: Figures show the procurement of air and naval munitions in each country shown as a proportion of the total. The measure is by value for all countries except the United Kingdom, where it is by the proportion of employees contracted to production for the relevant ministries. For all countries the value of merchant vessels is excluded; for the USA and Japan it is subtracted from the total before calculating shares. For Germany gun armament and ammunition for ships and planes is allocated to air and naval armament. Whether the same division is made for other countries is unclear.

Sources: O'Brien (2015), pp. 27 (Germany), 39 (UK), 53 (USA), and 60 (Japan); Harrison (1996), p. 00 (USSR).

Two chapters set out the main theses. Chapter 1 documents the priority that each country gave to the production of air-sea power in wartime. All the major powers are fully represented in the narrative, but the most relevant numerical data omit the Soviet Union. Table 1 collates the author's figures with comparable Soviet data for the period around 1943/44, and ranks the figures in decreasing order. The table shows that all the great powers but one gave at least two thirds of their productive effort to air and naval munitions; in Japan's extreme case, the proportion was five sixths. The exception is the Soviet Union which allocated only one third of its overall procurement outlays to air and naval munitions; the other two thirds went to arming and equipping the multi-million Soviet ground forces. No doubt the variation across the countries can be explained by reference to each country's strategic

environment and objectives, and this is a question to which I will return. For now, the point is that the average of these figures places the centre of gravity of the war far away from the Eastern front and away from the great land battles of Moscow, Stalingrad, and Kursk.¹

Chapter 2 shows that most powers suffered most losses of fighting power, direct and indirect, not in particular engagements on the ground but in the uninterrupted air-sea battle that began in 1940. To the direct losses that arose in combat should be added the indirect losses. These are made up by output not produced because of supply disruption (“pre-production losses”) or lost in the course of deployment before it reached the battlefield. “By 1944,” O’Brien concludes (p. 87), “only a minority of the war-making potential of Japan and Germany was actually able to be put into ‘battle’.” In a twist that appeals to the economist, the air-sea battle not only eroded the fighting power that the losers deployed but also, he argues, helped to decide how much fighting power each country could produce and bring to the front. The air-sea battle was decisive because it pinned the losers down to a point where their economies could not produce; if they could produce, they could not deploy; when deployed, their armies and navies could not move.

Chapters 3 and 4 give historical background to the emergence of the air sea battle in 1940. Chapter 3 deals with history; it shows that during the 1930s the great powers (other than the Soviet Union) began to assemble the means and concepts of the air-sea war, but with only the vaguest practical understanding of they were doing. Chapter 4 focuses on the link from ideas

¹ The concept of an average implies some kind of relative weighting of the data points. It is not easy to establish weights for the volumes of war production of the five powers. The ultimate constraint on war production was the size of the economy, however, and in 1944 the five economies were fully mobilized, so a shortcut method would take into account that in that year the British, German, and Soviet economies were of similar size; the Japanese economy was smaller by a substantial margin; and the US economy was as large as all the others combined (Harrison 2005: 140).

to policies. The architects of the air-sea war are identified. Churchill, Roosevelt, and Stalin emerge surprisingly well. Roosevelt was an early convert; Churchill adopted the same vision on the basis that Britain had no other advantage. Fully committed to the land war, even Stalin understood that in wartime the Soviet Union's first needs were bauxite for airframes and guns for air defence.

Two more chapters take the story up to 1943. In Chapter 5 the various powers wake up to the needs of the air-sea battle and look for the means to implement it. In Chapter 6 the Allies decide to attack Germany first, but then fail to stick to their decision, dispersing effort to the Mediterranean and the Pacific. By 1943 the US Navy was deploying an air force against Japan that was comparable in size to the entire Luftwaffe. Based on an account of the resources on each side, O'Brien concludes that the Allies could have invaded France in 1943 if they made it a priority to do so. He does not say whether the failure to do so was a mistake. Perhaps not, given two arguments that are made elsewhere. First, O'Brien argues, Japan was a much more serious enemy than is commonly supposed. Second, if the war was decided by the attrition of the air-sea battle, not by big battles on the ground, then in 1943 the attrition was still at an early stage.

Chapters 7 through 10 deal with aspects of the war that O'Brien regards as truly decisive: the shipping wars, the bombing offensives, and the closing combined-arms offensives against Germany and Japan. These chapters do not require detailed explanation, although the detail is often fascinating. Allied learning was based on trial and error and O'Brien points up many errors in the conduct of these campaigns. Nonetheless he does not support the view that the bomber offensive was a failure. Rather, it destroyed, tied down, or prevented the production and deployment of much more Axis armament than was destroyed in the more famous battles on land. O'Brien illustrates the argument by reference to Operation Crossbow, the Allied air campaign to destroy German V-1 and V-2 production and launch facilities.

Chapter 11 finishes the story as the German and Japanese war efforts grind literally to a halt. Deprived of supplies and unable to move, their armies must fight to the death or surrender. The means that induced them to surrender were terrible for their civilians, and O'Brien gives attention to the moral dilemmas that arose.

How the War Was Won will resonate in contemporary Western debates. Russian leaders have used the recent seventieth anniversary of 1945 to celebrate the Soviet view of the war. This view has three main components. First is Russia as the innocent victim of German aggression, wiping clean the slate of Stalin's westward expansion in 1939 and 1940. Second is the centrality of the Eastern front, the scene of a titanic struggle between two great armies, Stalin's Red Army and Hitler's Wehrmacht, beside which the engagements in other theatres are presented as sideshows. Third is the appalling 25-million toll of military and civilian losses that the Soviet Union suffered before the war came to a conclusion. *How the War Was Won* diminishes the second and third of these claims. It claims openly that the Eastern front was the sideshow. It implies that the terrible Soviet sacrifice, which is undeniable, should not be mistaken for a measure of the Soviet contribution to victory, which was much less in proportion.

The Soviet Union made little contribution to the air-sea battle. Soviet naval power remained negligible. As for air power, the Soviet economy produced tens of thousands of aircraft but these put up a disappointing show. Half the combat airplanes produced in wartime were lost in accidents (Krivosheev et al. 1993: 366-367 gives data). Most of the planes that were deployed were never sent more than a few kilometres into German-held territory. German airmen on the Eastern front did not fear them. The German infantrymen learned to fear them, but that was because there were so few German airmen; most of the German air force was committed elsewhere, in the air-sea battle against the Anglo-American forces.

In 2014, we marked the centenary of the first Great War, often seen as a pointless, counterproductive struggle in comparison with the second.

O'Brien's thinking pushes us to see the two wars as more alike than is generally supposed. Both wars arose from tensions between Russia and Germany over the division of Eastern Europe; it turns out that both wars were decided elsewhere, in the West, by the preponderance of armament and equipment that the Allies could throw into the war.

Related to this is a similarity in the pattern of attrition. In both wars Germany, with a superior combat organization, could impose greater human losses on the Allies than its own armies would suffer. This advantage was offset only by a growing Allied preponderance in armament, and especially in air-sea armament. It is true that in 1914 the means of air battle were still in gestation, but they were in production well before 1918 and made an critical contribution to the transformation of the battlefield by the end of the war. In both world wars, Allied superiority in the emerging air-sea battle facilitated the growing mobilization and integration of the Allied war effort, and undermined that of the opposing coalition, driving it apart and eventually breaking its resistance. Both wars became wars of attrition in which victory went not to the last man standing but to the last manned war machines that could still move in the air, on water, and on land.

How should a former advocate of the priority of the Eastern front respond? Was Stalingrad not the turning point of World War II? Until Stalingrad the Red Army was in full retreat. After Stalingrad the Red Army advanced continuously. Stalingrad certainly looks decisive, as I once wrote (Barber and Harrison 1991: 40):

In the winter of 1942, decisive Allied victories were won at Stalingrad in the east and at El Alamein in north Africa. The entire battle of Egypt cost Germany 75,000 troops, 500 tanks and 1,000 artillery pieces. In the battle of Stalingrad Germany lost 800,000 men (of whom only 90,000 remained alive at the moment of surrender), 2,000 tanks and 10,000 guns.

Commenting on the great battles of the Eastern front, O'Brien makes a strong point: the "2,000 tanks and 10,000 guns" lost in six months at Stalingrad were not out of proportion to Germany's annual production and consumption. But does this not set too low a value on the lost 800,000 men, the broken morale, the vanished dreams? And the territory lost and gained: was the purpose of the war not to recover old territories and take new ones?

In order for Stalingrad *not* to have been decisive, a specific view of war is required, one that downplays the control of territory, the value of personnel, and the *Schwerpunkt* of the advance on the ground. A question is whether this view works.

According to Clausewitz's (1968: 104) second reciprocal action, "the aim of all action in War is to disarm the enemy." O'Brien adapts this to his context: in the twentieth century, he writes, the purpose of war is "to stop the enemy from moving" (p. 488). This, he argues, was the outcome of the air-sea battle: it pinned down the forces of the Axis powers and stopped them moving. Once the Allies could stop the enemy moving, they had won.

But movement and territory go together. The realization of German, Italian, and Japanese war aims required the seizure of territory, and Allied war aims required its recovery. The Soviet Union also exploited the war to seize territory, which it kept. Ships and planes, the means of air-sea battle, needed home territories where they could land and be refuelled, reequipped, and redeployed. The means of battle had to be produced somewhere; the operation of factories and workers required territory on which to locate them, as the wartime evacuation of Soviet munitions factories reminds us. The air-sea battle may have destroyed the enemy's capacity to produce and deploy, but the enemy was not finally disarmed until the poor bloody infantry was able to occupy the territory of the enemy's homeland.

How the War Was Won pushes back against a view that once seemed radical and is now a tired orthodoxy. It makes the point: the war was not won on the Eastern front alone. But O'Brien pushes beyond this, perhaps too far. If the Soviet Union had lost the war on the Eastern front, the air-sea battle that

was fought in the Atlantic and Pacific would have become far more difficult. The war would have dragged on. US President Truman would have acquired the atomic bomb in very different circumstances and with unknowable consequences. The Eastern front did matter. So did Japan's land war in China.

The economist in me responds to O'Brien's message by suggesting a rebalancing of our view of the war. For every country, ships, planes, and the poor bloody infantry were partial substitutes. The need to make the best of the war effort impelled each country to equalize the marginal returns to each input into fighting power. Their goals and circumstances differed and this led to different choices, clearly illustrated in Table 1. The figures show two extremes: while Japan equipped an outstanding navy and air force, the Soviet Union built a vast army. Each country optimized within broad limits that were set, among other things, by inter-ally cooperation and exchange (extensive among the Allies, non-existent on the side of the Axis). Optimization implies that marginal returns were equalized across inputs. When returns were successfully equalized within and between the theatres, no one input was decisive, and no one theatre was decisive. Rather than being decided in one theatre above others, or in a few great battles, the war was decided everywhere at once.

How the War Was Won is a fascinating corrective to deep biases in our understanding of World War II. Readers will value it for its contributions to research, to the classroom, and to public debate. Whether or not it goes too far is likely to be contested, but its contribution will be widely recognized

References

- Barber, John, and Mark Harrison. 1991. *The Soviet Home Front, 1941-5: a Social and Economic History of the USSR in World War II*. London: Longman.
- Clausewitz, Carl von. 1832/1966. *On War*. Edited by Anatol Rapoport. London: Pelican Books.
- Harrison, Mark. 1996. *Accounting for War: Soviet Production, Employment, and the Defence Burden, 1940-1945*. Cambridge: Cambridge University Press.

- Harrison, Mark. 2005. "The USSR and Total War: Why Didn't the Soviet Economy Collapse in 1942?" In *A World at Total War: Global Conflict and the Politics of Destruction, 1939-1945*, pp. 137-156. Edited by Roger Chickering, Stig Förster, and Bernd Greiner. Cambridge: Cambridge University Press.
- Krivosheev, G. F., V. M. Andronikov, P. D. Burikov, V. V. Gurkin, A. I. Kruglov, E. I. Rodionov, and M. V. Filimoshin. 1993. *Grif sekretnosti sniat: Poteri Vooruzhennykh Sil SSSR v voynakh, boevykh deistviyakh i voennykh konfliktov: Statisticheskoe issledovanie*. Moscow: Voenizdat.
- O'Brien, Phillips Payson. 2015. *How the War Was Won: Air-Sea Power and Allied Victory in World War II*. Cambridge: Cambridge University Press.