



University of HUDDERSFIELD

University of Huddersfield Repository

Dodd, Lindsey and Knapp, Andrew

'How many Frenchmen did you kill?' British bombing policy towards France (1940-1945)

Original Citation

Dodd, Lindsey and Knapp, Andrew (2008) 'How many Frenchmen did you kill?' British bombing policy towards France (1940-1945). *French History*, 22 (4). pp. 469-492. ISSN 0269-1191

This version is available at <http://eprints.hud.ac.uk/id/eprint/14677/>

The University Repository is a digital collection of the research output of the University, available on Open Access. Copyright and Moral Rights for the items on this site are retained by the individual author and/or other copyright owners. Users may access full items free of charge; copies of full text items generally can be reproduced, displayed or performed and given to third parties in any format or medium for personal research or study, educational or not-for-profit purposes without prior permission or charge, provided:

- The authors, title and full bibliographic details is credited in any copy;
- A hyperlink and/or URL is included for the original metadata page; and
- The content is not changed in any way.

For more information, including our policy and submission procedure, please contact the Repository Team at: E.mailbox@hud.ac.uk.

<http://eprints.hud.ac.uk/>

Authors' copy.

This article was published in *French History*, 22.4 (2008), 469-492, and is available for download, with original pagination, here: <http://fh.oxfordjournals.org/content/22/4/469.short>. Table 1 is missing from this version.

'How Many Frenchmen Did You Kill?' British Bombing Policy Towards France, 1940–1945

Lindsey Dodd and Andrew Knapp

Between 1940 and 1945, Allied air forces dropped nearly 600,000 tons of bombs on France. The death toll, of perhaps 60,000 French civilians, is comparable to that of British victims of German bombing (51,500) plus V-weapon attacks (nearly 9,000).¹ Yet the Allied bombing of France occupies a minor place in the literature. De Gaulle's *War Memoirs* allow it the briefest of allusions.² Histories of the Occupation concede it a few pages.³ Studies of bombing focus on Germany, briefly covering attacks on France in Spring 1944.⁴ Accounts of the Liberation focus on politics and on ground fighting, with bombing as a prelude and an accompaniment.⁵ The one full-length study of the subject, though comprehensive, is poorly sourced and sometimes unreliable.⁶ Not an untold story, the bombing of France is certainly an undertold one.

This article aims to redress the balance partially, by analysing how the Allies chose to devote almost a quarter of their European bombing effort to France.⁷ First, it identifies the major stakeholders, and the fora and constraints within which they made policy. Second, it analyses the aims of bombing policy towards France. Finally, it examines how the British handled objections from Vichy and the Free French.

Policy-making: actors and processes

More than any other air force, the RAF had been developed from its foundation under Lord Trenchard as an independent service for bombing. Bombers dominated aircraft development

programmes in the 1930s. Bomber Command's Officer Commanding-in-Chief from February 1942, Air Chief Marshal Sir Arthur Harris, saw the destruction of Germany's industrial cities as *the* means to victory. Sir Charles Portal, Chief of the Air Staff from 1940 to 1945, placed the strategic offensive against Germany at the heart of RAF strategy for most of the war. Attacking Germany, Bomber Command was executing a policy of which its leaders were forceful advocates.⁸ When the same aircraft attacked France, by contrast, Bomber Command was complying (sometimes unwillingly) with a strategy demanded and defined by others.

The others were, firstly, the other services. The Admiralty wanted France attacked, as Germany's forward base in the Battle of the Atlantic, from 1940. The Supreme Headquarters Allied Expeditionary Force (SHAEF), under Eisenhower, sought air support in North-West Europe as it prepared for the Overlord landings. The bombers also faced demands from political authorities. The Ministry of Economic Warfare (MEW) pressed for precision attacks on industrial targets in occupied territories as well as Germany. The Political Warfare Executive (PWE) used two bomber squadrons to drop agents and material into France, which also attracted 45 per cent of its propaganda leaflets.⁹ In 1941–2, it also demanded raids against German-related targets in France to demonstrate Britain's will to continue fighting. The Foreign Office, meanwhile, shared PWE's perspective to a degree, but also worried about alienating the Vichy government, the Free French, or the wider population.

These diverse, often conflicting, demands converged upon the RAF's political masters in the Air Ministry, and particularly on its Secretary of State from 1940 to 1945, Sir Archibald Sinclair. Lacking Cabinet rank, and serving under a Prime Minister who was also an activist Defence Minister, Sinclair acted as a policy broker not a policy initiator, balancing competing claims to limited resources and acting as the RAF's spokesman to Parliament and public.¹⁰ Sinclair also had to deal increasingly with the Americans, a consideration of direct relevance to France. All UK-based American raids until January 1943 targeted occupied territory; their volume grew, even after raids on Germany began, over the next two years.¹¹

Bombing policy was made under many constraints. The first was the availability of aircraft and bombs. Bomber Command dropped 13,000 tons of bombs on all targets in 1940, 32,000 in 1941 and 45,500 (plus the US 8th Air Force's 1,561) in 1942. These two air forces then dropped over 200,000

tons in 1943, and nearly 915,000 in 1944.¹² Targeting priorities were still vigorously contested, but by 1944 there were many more bombs for everyone, as both French and Germans found.

Political pressures complemented material constraints. Bombing policy was occasionally a domestic political issue, especially in the difficult year from late 1941 to late 1942.¹³ France, meanwhile, was officially neutral under Vichy, half-occupied by the Axis, recently an ally, and home to an internal and external Resistance movement with which Britain maintained relations, however stormy. Inevitably, operations here entailed difficult political choices.

Vichy broke off diplomatic relations with Britain in July 1940 but unofficial contacts persisted through embassies at Madrid and Washington. The danger that France's fleet and colonial possessions, especially in North-West Africa, would fall into German hands constantly preoccupied Churchill; fear of pushing Vichy into Germany's arms restrained bombing policy.¹⁴ So, for a time, did the United States. Like some 40 countries worldwide, Washington initially viewed Vichy as France's legitimate government. Through its ambassador to Vichy, Admiral Leahy, the Roosevelt administration pursued positive engagement with Pétain's régime even after America had entered the war; and Churchill had no wish to quarrel with Washington over France. Only Laval's return to government in April 1942 prompted an American reappraisal and Leahy's recall.¹⁵

Indeed, the Vichy and American constraints largely disappeared in 1942. American aircraft bombed French targets from 17 August. The *Torch* landings of 8 November won North-West Africa for the Allies and precipitated the German occupation of the *zone libre*, the scuttling of the French fleet in Toulon, and the final diplomatic break between Vichy and Washington. These developments left Vichy with no further cards to play. Henceforth the British advocated restraint more than the Americans.

This was chiefly out of concern at the reaction to bombing of the French generally, and of the Resistance and Free French in particular. A traumatised, homeless, and hostile French population might hinder the Allies' re-entry to Europe; an unfriendly post-war French government would damage Britain's position on the continent. Such concerns, argued forcefully by the Foreign Office, frequently clashed with military priorities over a four-year-long debate.

The debate developed in many fora.¹⁶ The War Cabinet, Britain's supreme policy-making body, inevitably delegated much business to committees. The most important was the Chiefs of Staff Committee, which met nearly 2,400 times between 1940 and 1945.¹⁷ The Defence Committee, which

included politicians as well as the service chiefs, met much less frequently. The Anti-U-Boat Committee played a crucial role, notably in relation to France's ports, in the winter of 1942–3 before settling to more routine business as the North Atlantic crisis subsided.¹⁸ At a lower level, the Bomb Target Committee met fortnightly.¹⁹ And within this framework, the Chief of Air Staff and the head of Bomber Command retained considerable operational freedom.

America's entry into the war complicated these processes. Major strategic priorities were now fixed at summits, paralleled by the Anglo-American Combined Chiefs of Staff. After December 1943, the formation of SHAEF triggered a reconfiguration of air command structures in anticipation of Overlord. British and American tactical air forces, under Air Marshal Sir Trafford Leigh-Mallory, were integrated into the SHAEF structure; strategic air forces, under Harris and his American counterpart, General Carl Spaatz, remained outside it but at the disposal, from 14 April 1944, of Eisenhower and his British deputy, Air Marshal Sir Arthur Tedder. From late May, a joint Bomber Operations Planning Staff managed operations over North-West Europe.²⁰

Policy emerged from these structures in the form of directives, approved (according to importance) by the Chiefs of Staff, the Defence Committee, or the War Cabinet, and outlining targets and priorities. In 1943, however, two wide-ranging directives – 'Casablanca' and 'Pointblank' – were issued by the Combined Chiefs to the two strategic air forces after conferences in January and May. Another major directive, crucial to the bombing of France, was issued on 17 April 1944 directly by SHAEF. Concurrently, however, the Air Ministry or the Air Staff also issued more limited directives to Bomber Command.²¹

Directives were not the totality of bombing policy. They were drawn up, in principle, within the framework of general rules on bombing policy issued in June 1940 and October 1942. Major directives were always compromises, allowing 'unlimited scope for our differences of interpretation'.²² Operational conditions – the weather and the enemy – could prevent implementation; French targets were often detailed as to be attacked when bad weather prevented raids on Germany.²³ Finally, raids on France, because of their political sensitivity, were often preceded by lengthy exchanges between Bomber Command, Portal, Sinclair, and even Churchill. The 1942 attack on the Schneider works at Le Creusot, for example, was suggested on 8 April, ordered in a directive dated 20 July, but only executed on 17 October.²⁴

Bombing policy towards France, therefore, was made by a broad range of participants, whose relative influence varied with the course of the war, and was subject, in principle, to tighter constraints than those applied to Germany.

Bombing policy: general statements

Unlike directives, the bombing policy statements of 31 May 1940 and 29 October 1942 defined rules of engagement rather than targets. That of 1940 was much the more restrictive. For all potential targets in enemy and enemy-occupied territory, it not only declared the 'intentional bombardment of civil populations' to be illegal, but also required that targets must be clearly identifiable, that care should be taken to avoid civilian casualties, and that Red Cross conventions be observed. A list of acceptable military targets followed, though the directive also specified as legitimate 'other objectives, the destruction of which is an immediate military necessity'.²⁵

The Armistice of June 1940 raised the question of applying these rules to France, and arguments within the Air Ministry that summer reflected Britain's ambiguous attitude to Vichy.²⁶ Sinclair's initial memorandum on France, as accepted by the War Cabinet, was more restrictive than the statement of 31 May: the list of legitimate targets was shorter and the *zone libre* off limits. Though accepting that military objectives in unoccupied France 'should be destroyed', the Cabinet refused British bombardment as a means to do so, optimistically preferring the idea of Gaullist sabotage.²⁷

The second general statement, dated 29 October 1942, formalised what had become a radical difference in policy towards enemy and enemy-occupied territories. In relation to Germany, the directives of 9 July 1941 and 14 February 1942 identified destroying civilian morale as an essential goal:²⁸ the statement of 29 October 1942 argued that the enemy's resort to 'unrestricted air warfare' justified the area bombing of Germany, Italy, and Japan. For occupied territory, on the other hand, the 29 October statement reproduced much of the June/July 1940 policy. It reinforced provisions against civilian casualties, stating that 'if any doubt exists as to the possibility of accurate bombing and if a large error would involve the risk of serious damage to a populated area, no attack is to be made'. Yet daytime raids on French railway locomotives and nocturnal attacks on all French trains were authorised: only Germans and 'collaborationists', it was assumed, could travel by night.²⁹ The statement still applied only to Occupied France. In 1941, General Hastings Ismay, Military Secretary to

the War Cabinet, had countered Portal's proposal to attack the *zone libre* by stating that unoccupied France was 'in certain senses a neutral country'.³⁰ A year later, Foreign Secretary Anthony Eden's recommendation of no change until Pétain was 'behaving much worse than he is at present' was still the consensus.³¹ However, the Germans' move into the southern zone on 11 November led, within weeks, to raids here too. And as we shall see, operational requirements could override the general policy statements.

The Evolution of Policy, 1940–45

Thirty-two major directives issued between 4 July 1940 and 14 September 1944 – the approximate period of the Occupation – are reprinted in the Official History. Of these, 21 concern France directly. Their main objectives can be considered under nine headings (Table 1).³²

Preventing a German invasion of the UK was a primary objective of bombing policy from June 1940, and a secondary one into 1941. Main targets were German shipping and barges in ports from Calais to Le Havre, and Luftwaffe airfields in France. The Channel ports were heavily attacked on 7 September 1940, when invasion was considered imminent.³³ Coastal barges were easy targets and these raids succeeded. But Bomber Command could still muster only limited forces: some attacks on airfields were undertaken by single unescorted Blenheims.³⁴ The French General Staff's post-war survey indicated 292 French dead in Allied raids in 1940.³⁵

Offering operational experience to new aircrews was an explicit aim of the directive of 30 October 1940.³⁶ Trenchard referred to the Channel Ports as 'a bombing range', offering 'good practice for our pilots before they bombed Germany'.³⁷ 'Freshman' crews were used against Dutch, Belgian, and French Channel ports in 1942; Harris sent training units to non-German targets in 1943.³⁸ The US 8th Air Force – all freshmen at the start – chose France, a relatively undefended target, for 52 per cent of its first year's sorties.³⁹

Drawing Luftwaffe fighters from other fronts was a primary bombing aim in the Directive of 5 May 1942. These 'circus' operations, typically involving between 20 and 40 (usually medium) bombers with fighter escort, had been run over northern France since January 1941. Portal presented them as one of the Allies' rare means to 'help the Russians'. Halted in Winter 1941–2, scaled back after heavy RAF

losses from June 1942, these operations still exposed targets from Rotterdam to Caen to repeated low-intensity bombardment.⁴⁰

German warships in French ports appeared in directives at the beginning and end of 1941. Between December 1940 and June 1941, two heavy cruisers (*Hipper* and *Prinz Eugen*) and the battlecruisers *Scharnhorst* and *Gneisenau*, docked at Brest; and between January 1941 and February 1942 Brest received 25 major raids (of over 50 bombers) and numerous smaller ones.⁴¹ In Winter 1941–2, indeed, an unwilling Bomber Command devoted a third of its sorties to Brest.⁴² In one sense the raids worked: none of the vessels emerged to attack an Atlantic convoy, and their escape up the Channel, on 12 February 1942, removed them as a threat. But all damage to them was done, unknown to the British, before August 1941; subsequent raids merely destroyed lives and property in Brest. No big German surface warships ever returned to France. But the presence of smaller vessels, Axis merchant shipping, and submarines, attracted continued raids on French ports.

The destruction of French factories working for Germany was a major aim in three directives of 1942, and a lesser priority (at least relatively) thereafter. In part, such attacks aimed simply to disrupt German war production in France. But they were also seen as benefiting the Allies' political standing in Europe. When Eden wrote to Sinclair, in April 1942, of the 'bracing effect on French morale' of raids on factories in France, adding that 'our allies in every occupied territory are crying out for similar raids', he reflected a consensus among Britain's military and political leaders.⁴³ Later that year, Sinclair viewed the Gien tank park as a second-rate target because it was preferable, for psychological reasons, 'to attack objectives near large towns'.⁴⁴ The directive of 25 May 1942 specifically sought to 'give substance to the policy of the Political Warfare Executive which aims at discouraging the nationals of enemy occupied countries from working in German-controlled factories'.⁴⁵ Discouragement was also aimed at factory owners or managers working or considering working with the Germans: some, indeed, were persuaded by the Resistance to help sabotage their own plants to avoid raids.⁴⁶ Air raids as propaganda largely disappeared from the agenda after 1942, however. *Torch*, El Alamein, and Stalingrad offered clearer proof of Allied credibility; and bombing could readily have a negative as well as a positive propaganda value.

The political risks were readily understood. These were not self-evidently military targets and some civilian casualties were inevitable. Attacks were planned with corresponding circumspection.

When Sinclair sought approval for the night bombing of four key factories in November 1941, the War Cabinet deferred the decision for a month.⁴⁷ It did so again in December, citing ‘the recent PETAIN-GOERING conversations’ as a reason: ‘if fuller collaboration is in fact hanging in the balance these attacks might weigh it against us.’⁴⁸ Approval was given after Christmas, when the Pétain-Goering talks had proved inconclusive.⁴⁹ Then American efforts to limit Axis use of Vichy’s colonial territories stalled bombing plans again. In the Foreign Office, Cavendish-Bentinck minuted the potential dangers to relations with the State Department. Raids should neither push France further towards Germany nor provoke a quarrel with Britain’s new and powerful ally.⁵⁰

Ideal industrial targets were big, visible and clearly linked to Germany. They included Renault’s Boulogne-Billancourt plant, Matford-Ford at Poissy, the Gnôme-Rhône aero-engine works at Gennevilliers, and the Villacoublay aircraft works.⁵¹ Other targets, such as Citroën’s Quai de Javel plant in Paris, the Schneider works at Le Creusot and Gnôme-Rhône at Le Mans, followed. Operational instructions also aimed to minimise civilian casualties: the directive of 25 May 1942 stressed good weather, clear visibility, and experienced crews. Night operations were normally restricted to military targets distant from civilian dwellings.⁵² Moreover, individual raids were discussed, sometimes at length, by the Chiefs of Staff Committee, the Defence Committee, and the War Cabinet, and could still be put off for political reasons.⁵³ Finally, attacks were preceded, in principle, by warnings, and followed by propaganda leaflets, stressing that the factories concerned had worked for Germany.⁵⁴

In these respects, the first big raid, against Renault on 3/4 March 1942, appeared perfect. Harris calls it ‘the first attack in which the principle of concentration in time and space was effectively employed’; the brand-new *Gee* navigational aid, plus clear moonlight, enabled 235 aircraft to bomb accurately at low level. He added that daylight attacks in France were also possible against the weak German defences, though ‘we were often able to attack by night with equal precision’.⁵⁵ But the Renault raid still killed over 370 civilians – more than in any raid hitherto on *Germany*. The French service of the BBC deplored the lack of adequate warning.⁵⁶ The raid did less damage than initially thought; Renault was revisited by the US 8th Air Force three times in 1943.⁵⁷ Attacks on Gennevilliers, Poissy, and Le Creusot later in 1942 established that Bomber Command’s inaccuracy could leave industrial targets barely damaged while demolishing nearby workers’ housing.⁵⁸ Periodic raids on French industry nevertheless continued, and were reinforced under the *Pointblank* directive of June

1943. Accuracy improved in 1944, and that was marked by a number of daring precision raids on French industrial targets.⁵⁹

U-boat bases in France were a regular target from 1941 to 1943. They appear in nine directives, in four as a major objective. The attacks of early 1943, moreover, provide a striking contrast with the previous year's political caution towards industrial targets. U-boats, after all, had the potential to defeat Britain. By the end of 1940, they occupied bases at Brest, Lorient, La Pallice (near La Rochelle), Bordeaux and St-Nazaire.⁶⁰ The Admiralty requested heavy raids on these bases in October 1941. Bomber Command, however, absorbed with surface warships in Brest, missed the opportunity to bomb the concrete U-boat pens then under construction, The pens proved indestructible by existing bombs after their completion in Spring 1942.⁶¹

Nevertheless, the Biscay bases returned to the agenda late that year, when the U-boats appeared to be winning at a time when America's entry into the war was multiplying both transatlantic traffic and American concerns at shipping losses.⁶² Losses of British, Allied and neutral merchant shipping, roughly stable at 3.9 million tons in 1940 and 4.2 million in 1941, nearly doubled to 7.7 million tons in 1942.⁶³ The new anti-U-boat Committee met for the first time to address the threat on 13 November; it discussed the Biscay ports four times before the year's end.

These meetings, and the War Cabinet decision that followed them in January, marked an extraordinary departure from the policy statement of 29 October 1942. Churchill blocked raids on the ports on 13 November on political grounds, but cautiously authorised moonlight raids on the ports after the 18 November meeting. 'Need for accuracy', said Bomber Command's orders the next day, 'is stressed not only to ensure effective attack but also because of desirability on political grounds to avoid undue civilian casualties'. But on 9 December, the Committee considered *area* bombing raids against the ports. Eden's reaction was hostile: although 'the French react well to precision bombing of military objectives', he argued, 'any apparently unnecessary slaughter of French civilians would almost certainly have a bad effect among the Fighting French and in North Africa, apart from the harm it would do us with public opinion in France both during and after the war'. Sinclair and the Air Staff, sceptical about the effectiveness of the enterprise, backed Eden, and the Committee's meeting of 23 December was deadlocked. But when the First Sea Lord, Sir Dudley Pound, put his proposal to the War Cabinet with Churchill's authorisation on 11 January 1943, his assessment of the U-boat threat, and his

proposed remedy – American ‘precision’ bombing by day and British area bombing by night – he convinced even Eden. General warnings to civilians to leave coastal areas were agreed, but anything more specific was refused for the aircrews’ safety.

Instructions for area bombing of the Biscay ports, with a pause to assess results after Lorient, were issued to Bomber Command on 14 January; an Air Ministry telegram of the same day specified that ‘the CinC is at liberty to choose any aiming point even if the resultant bombing causes complete devastation of the inhabited areas of the town’.⁶⁴ This was the only explicit instruction of the war to undertake area bombing against France. The general policy statement of 29 October 1942, then, was discarded when Britain faced an immediate danger which it was believed unrestricted bombing could overcome. The removal, with the *Torch* landings, of diplomatic constraints linked to Vichy may also explain the willingness to embrace area bombing. Between them, Bomber Command and the US 8th Air Force dropped 9,133 tons of bombs on the Biscay ports from January to May 1943.⁶⁵ One Bomber Command attack on Lorient delivered over 1,000 tons on a single target for the first time in any one raid of the war.⁶⁶

Subsequent reconnaissance over Lorient showed a wrecked town and intact submarine pens. By 10 March, Pound’s best claim for the bombing was that it had prevented three U-boat cruises; over 240 U-boats were operational at the time. Invited by Churchill to comment on the Biscay offensive, Harris wrote that the Admiralty’s requirements would absorb Bomber Command’s entire efforts for at least two months and entail the complete destruction of Bordeaux and La Rochelle; moreover, ‘The futility of the policy suggested is demonstrated by the fact that Lorient, on which 4,000 tons of bombs have been dropped, still heads the list of precision targets for day bombing’. These views, expounded to the Committee on 31 March, led to the discontinuation of major raids on Biscay ports, but did not prevent the US 8th Air Force from flying over 900 sorties against the Biscay ports in the next six months.⁶⁷ The last attacks on the Biscay bases, in August 1944, penetrated some shelters with the new 12,000lb ‘Tallboy’ bombs. By that time, the Battle of the Atlantic had been largely won, not by bombing submarine bases, but by coastal mining and airborne attacks on U-boats at sea, the fruit of improved technology and a modest diversion of aircraft from Bomber to Coastal Command.⁶⁸

German V-weapons based in France also threatened Britain directly, though less severely than U-boats. V-1 sites, codenamed ‘Crossbow’, appeared in three directives in 1944, twice as a major

objective, and attracted heavy attacks on northern France from December 1943 until its liberation late in August 1944. With sites located in the countryside, the risk of civilian casualties and consequent political fallout raised few concerns.⁶⁹ But Crossbow sites were small, quickly installed, widely dispersed, and easily simulated as dummies. In the cloudy summer of 1944, they taxed even the skills of 617 squadron.⁷⁰ Less virtuoso formations typically churned up fields and orchards around the sites, damaging access to the targets. V-weapon sites, chiefly in France, took 117,256 tons of bombs from 5 December 1943 to 3 September 1944, roughly one fifth of the total Allied tonnage dropped on French targets; for Tedder, the policy amounted to using a 'sledgehammer for a tintack'. But attacks, in particular, on the larger supply sites significantly curbed the V-1 offensive on Britain.⁷¹

The rail system of northern France was the central objective of Allied bombing in the spring of 1944, appearing in a British directive of 4 March and, above all, in the SHAEF directive of 17 April. Opposed by an unholy alliance between airmen wanting to continue bombing Germany and politicians worried about civilian casualties, it generated fierce debate, both in the Defence Committee on 5, 13, 19, and 26 April, and 3 May, and at War Cabinet meetings, on 3 and 27 April and 2 May.⁷² The outcome was not only the bombing of French towns on an unprecedented scale but also the transfer of bombing policy from the political authorities to SHAEF.

Rail targets had been attacked since early in the war, with 419 raids in the four months to 31 January 1943; the question of legitimate targets had been warmly debated.⁷³ The policy of 1944, however, was altogether more systematic. It aimed to wreck rail centres – above all repair facilities – ensuring that tactical raids could then durably disrupt enemy communications and stall German reinforcements in the crucial days after the Normandy landings. The Overlord command team that assembled in London in December 1943 – Eisenhower as Commander-in-Chief, Tedder as his deputy, and Solly Zuckerman as scientific adviser – chose for France the strategy they had pursued together, with some success, in the Mediterranean⁷⁴; by late January 1944 Zuckerman had prepared proposals involving some 79 'nodal points' on French and Belgian railways.

There followed two successive policy debates, the first wholly military, the second largely political. In the military debate Tedder, the leading advocate of what became the 'Transportation Plan', faced objections from both bomber chiefs. Harris claimed that Bomber Command would not achieve sufficient accuracy, and that the plan was a pointless diversion from the strategic offensive against

Germany; Spaatz sought a concentration on German oil targets. Harris's predictions about accuracy were confounded by experimental raids, authorised by Portal, on marshalling yards at Trappes and Le Mans early in March.⁷⁵ Both Portal and Leigh-Mallory now backed Tedder. At the crucial military meeting of 25 March, Spaatz conceded that oil raids would have little immediate effect, while advocates of smaller, later, tactical raids on French targets were reassured that the Transportation Plan included their priorities. Two days later, the Combined Chiefs agreed to place tactical and strategic air forces under Eisenhower's overall control; and Tedder was briefed to write the SHAEF directive of 17 April.⁷⁶

The political debate opened with memos to Churchill, from Portal and Ismay, warning of 'between 80,000 and 160,000 [civilian] casualties ... of which a quarter would be killed'.⁷⁷ At the Defence Committee and War Cabinet discussions, the plan's supporters (Tedder, Portal, and on one occasion Zuckerman) faced opposition from an aggressively sceptical Churchill, who doubted the military benefits of 'slaughtering' French civilians and feared a consequent 'unhealable breach' between France and its Atlantic allies; from *all* the politicians on the Defence Committee bar Sinclair; and from military members including the Chief of the Imperial General Staff, Sir Alan Brooke, and Sidney Bufton, Director of Bombing Operations. Eden, in particular, cited the RAF's reputation on the continent, the need to retain the co-operation of rail workers in sabotage operations, and above all the potential damage of difficult post-war Anglo-French relations 'in a Europe that was already looking more to Russia than we would wish'. He also argued that the French might accept civilian casualties 'in the heat of battle', but not as part of a calculated plan, inviting 'propaganda which suggested that while Russian armies defeated the enemy armies in the east, the British and Americans confined their efforts to killing French women and children'.⁷⁸

Six factors overcame the objections. The first was inertia. The raids started anyway in March, and by the Defence Committee meeting of 26 April, the plan was two-fifths complete, with 32 out of the 79 targets hit and 26,000 tons of bombs dropped. A week earlier, Brooke had switched to supporting it rather than change plan barely six weeks before D-Day. Secondly, the casualty estimates were lowered, chiefly on the basis that the bomb weight needed for the programme had been exaggerated. These lower estimates were then, broadly, confirmed on the ground. At the Defence Committee of 3 May Tedder claimed, with 3,000–4,000 deaths so far, that the total could come within the ceiling of

10,000 proposed by Churchill. Third, intelligence summaries did not suggest that the French were turning decisively against their future liberators. Fourth, Tedder agreed to limit the programme to localities where 100 deaths or fewer could be expected. Fifth, an appeal from the War Cabinet to Eisenhower produced a letter on 2 May, drafted by Tedder, stating unambiguously that the success of D-Day depended on the Plan. Finally, when Churchill turned to Roosevelt as final arbiter, the President gave Eisenhower his full backing.⁷⁹

Between 3 March and 5 June 1944, the Allied air forces dropped 63,635 tons of bombs on Transportation targets. Bomber Command's 40,930 tons represented 40 per cent of its effort over the period.⁸⁰ The demands both of deception over the invasion area and of 'interdiction in depth' meant that targets extended beyond Normandy to the Loire, the Paris region, and northwards into Belgium.⁸¹ By late May, with rail capacity virtually halved, almost nothing but German military supplies moved by train across northern France. Troops had to detrain in the Paris region, or even at Metz; Allied air superiority in Normandy then prevented any daytime troop movements by road.⁸² The post-D-day follow-up to the Transportation Plan by medium bombers and fighter-bombers, though hampered by bad weather, was often more economical than the heavy attacks, and helped ensure a steady deterioration in the Germans' supply position through July and August.⁸³

Despite the successes achieved in the experimental raids of March,⁸⁴ inaccurate bombing persisted, and casualties certainly exceeded the 100 on any single target hoped for by the War Cabinet. On 18 April, according to Florentin, Bomber Command killed 1,500 civilians in three raids, on Juvisy, Noisy-le-Sec, and Rouen.⁸⁵ But Churchill's figure of 10,000 was probably not exceeded by much: Florentin's accounts of separate raids, including Lyon and St-Étienne but excluding targets further south, come to just below 11,000.⁸⁶ Churchill followed developments closely, sending Tedder one-line memoranda with questions such as 'How does your score stand now?' On 23 May, Tedder declared 6,062 deaths on Axis estimates (which he presumed were high, for propaganda reasons), adding that his 'credit balance' now stood at 3,938. A week later, after an intense Whitsun weekend of bombing, the Axis figures stood at 10,776. Churchill's last memorandum of the kind, asking 'How many Frenchmen did you kill?' is dated 10 July, by which time Tedder's estimate had fallen below 10,000.⁸⁷

The Transportation Plan discussions were the climax of the debate over bombing policy towards France because they concentrated concerns raised earlier but less systematically: the difficulty of

accurate bombing, the respective merits of bombing German and other targets, and the humanitarian and political objections to killing French civilians. After May 1944, the debate was closed, and control over bombing policy passed to SHAEF. The Defence Committee, scene of the fiercest arguments, met just twice more during the European war, on 20 July 1944 and 26 January 1945. But both the V-weapon threat and the need to support ground operations ensured that raids on France were far from over.

Support for ground forces, prepared by the Transportation Plan, took many forms: attacks on airfields, ammunition or fuel dumps, coastal batteries, radar stations, or transport targets, but also direct attacks on enemy positions in Normandy and, in August, in southern France.⁸⁸ Indeed, Allied bombing on French territory peaked in the three months after D-Day.⁸⁹ Conscious of the risks, Eisenhower signed a formal instruction to the bomber chiefs on 2 June stressing the need to minimise civilian casualties.⁹⁰

Three types of attack deserve particular attention. First, villages and small towns situated at cross-roads, so-called 'choke points', were bombed just before and after D-Day. Opposed by Tedder, but demanded by the army commanders and agreed by Leigh-Mallory, these raids did little to slow German reinforcements.⁹¹ They also wrecked towns such as Lisieux, Vire, or Évrecy, with high civilian casualties.⁹² Secondly, six major Allied ground attacks in Normandy used heavy bomber support. At Saint-Lô, bombing materially assisted the American break-out, though at the price of some casualties among US soldiers.⁹³ By contrast, the bombing of Caen and its suburbs in operations *Charnwood* and *Goodwood*, on 7–9 and 18–21 July, killed some 2,000 of Caen's residents and actually hindered the British advance by destroying and cratering large urban areas.⁹⁴ Thirdly, heavy bombers attacked German 'fortresses' (*Festungen*) established in ports, to prevent long sieges and delays to the Allied advance. Their effectiveness in this role was mostly limited.⁹⁵ Bomber Command's September raids on Le Havre, for example, wrecked most of the city centre, killed over 1,500 civilians, but made little impact – less than the concurrent artillery bombardment – on German ground defences or coastal batteries.⁹⁶

The battle for France also saw sustained and effective ground support by the tactical air forces. The three types of attack above are highlighted, however, partly because they illustrate how bombing policy had escaped *political* control by June 1944. Between commanders, it remained controversial:

Leigh-Mallory favoured unrestricted use of heavy bombers in ground support, Tedder was sceptical, and the bomber chiefs wanted to return to Germany.⁹⁷ Political intervention however, had vanished from the debate. Raids of the scope of those on Caen or Le Havre, which would formerly have required Cabinet approval, were now decided within SHAEF. Tedder's reply to Churchill's note of 10 July expressed the fear that casualties in Caen and elsewhere would 'dwarf' the death toll of 10,000 from the Transportation Plan.⁹⁸ But Churchill did not follow it up. The destruction of Le Havre was reported, to SHAEF and to Cabinet, as a routine operation alongside attacks on German targets.⁹⁹ Only the most obvious mistakes, such as raids undertaken in error on Royan and Calais in 1945, prompted open expressions of concern.¹⁰⁰

This withdrawal of political control can be explained in two ways. First, civilian casualties were viewed as more acceptable in the 'heat of battle': as Churchill observed to Roosevelt, after D-Day, 'when British and United States troops will probably be losing at a much higher rate, a new proportion establishes itself in men's minds'.¹⁰¹ Secondly, Allied political agents in France discerned sullenness among civilians but little of the 'hatred' for the Western Allies, or of a surge in support for Russia at the West's expense, feared by Churchill and Eden.¹⁰² The strictly political objections to unrestricted bombing had disappeared. Nor were the concerns of the Free French expressed forcefully enough to have any significant effect on the policy.

Dealing with the French

The only available French responses to their ordeal were verbal. Complaints reached London from both Vichy and the Free French. This section compares the treatment of complaints from the two sources.

Vichy responded to air raids both via anti-Allied propaganda and through protests, addressed through a variety of channels. Equally, British reactions to Vichy included positive welcome, concern, indifference, irritation, riposte, and (very occasionally) concessions.

The British welcomed Vichy propaganda that linked Allied raids with the Resistance. In June 1942, for example, Paul Marion, Vichy's Secretary of State for Information, compared the 'cowardly blows' of recent raids on the Paris suburbs to attacks on German soldiers and collaborators by Communist *résistants* or 'professional terrorists'.¹⁰³ Marion echoed Pétain, and the Vichy press, in condemning the

'criminal aggression of a former ally'. But Harold Balfour, Sinclair's Under-Secretary, argued that his speech 'plays into our hands' by emphasising a community of aim between British raids and French *résistants*, whether Communist or not.¹⁰⁴

The British were more worried by German propaganda in France. One film, distributed widely after the Renault raid, showed 'death and destruction; nauseating to a degree', provoked 'anti British cries' from audiences, and according to Alvary Gascoigne, the British Consul in Tangier, did 'more harm to Anglo-French relations than any other propaganda as yet conceived by the Germans'.¹⁰⁵ German propaganda, however, would stop neither bombing nor civilian deaths: Sir Alexander Cadogan, Permanent Under-Secretary at the Foreign Office, stated that the 'environs of Paris are no more sacrosanct than Brest, Boulogne and other places'.¹⁰⁶ But counter-propaganda was needed, and supplied, to show damage to plant instead of people.¹⁰⁷

Vichy's complaints, as opposed to propaganda, could lead to genuine uncertainty in the British camp. In Spring 1941 Fernand de Brinon, Vichy's representative in Paris, protested against the bombing of Lorient and of Brest, where a hospital was hit. William Mack, of the French desk at the Foreign Office, instructed the Ministry of Information to blame the Germans for using the Brest hospital as a human shield for a military objective. The MOI demurred, arguing that *any* answer involves some admission of error or guilt. The French desk insisted, nevertheless, on deflecting blame onto the Germans to 'score a propaganda point'; and a statement was issued over the MOI's objections.¹⁰⁸

Complaints believed to originate with Germany were dismissed by the Foreign Office. Both the mayor of Dieppe and the municipal council of Le Havre protested (the former via Madrid diplomatic channels) in 1941 at bombs falling on residential areas. Mack thought it 'preferable to ignore this protest' in both cases. The Vichy government's backing for the complaints was uncertain, and the Foreign Office suspected 'a German or German-inspired plan to get the local authorities in occupied France' to protest.¹⁰⁹

By contrast, top-level complaints from Vichy were taken more seriously. Thus a formal Vichy government protest (via Madrid) at damage to life and property through high-altitude attacks on Lille and Brest was discussed at the War Cabinet on 25 August. Churchill remarked that Vichy had made no complaint of principle against the RAF bombing objectives in occupied France, only against inaccurate bombing that hit civilians; other ministers observed that Vichy seemed not to object to attacks on the

German war machine. The Cabinet decided that pilots attacking occupied territory should be instructed not to bomb if accuracy was in doubt; these instructions would reappear in the bombing policy statement of October 1942.¹¹⁰ Piétri, Vichy's ambassador in Madrid, received a telegram expressing regret for the loss of life, and emphasising the care which pilots took.¹¹¹ This complaint, therefore, reached Cabinet, elicited a sympathetic response and even prompted an adjustment – on paper at least – in policy.

Vichy complaints channelled through Washington, on the other hand, could irritate the British, especially in the eleven months between Pearl Harbor and *Torch*. Vichy's Ambassador in Washington, Gaston Henry-Haye, complemented his complaints to US Under-Secretary of State Sumner Welles about the Renault bombing with a press conference. This combination worried Eden, who feared that neutral opinion would believe that '[Henry-Haye's] statements find a certain sympathy in United States official circles'. He therefore instructed Britain's ambassador to Washington, Lord Halifax, to inform Welles of his view that Henry-Haye's 'statements to the Press are harmful and only to the benefit of the Axis'.¹¹² Welles listened: when Henry-Haye protested at Allied overflights of unoccupied French airspace in October 1942, he remarked that it was 'utterly preposterous for France to hide behind the terms of the Armistice and at the same time claim the privileges of a neutral'. The British nevertheless investigated even this complaint, concerned about violations of Vichy neutrality, though they found no evidence of RAF involvement.¹¹³

Given its poor relations with Vichy, it was unremarkable that the British government should brush most of its complaints aside. Yet such consideration as was given suggests that Vichy maintained some bargaining power before November 1942. *Torch* changed that. By the spring of 1944, leaked Vichy prefects' reports claiming that bombing was alienating French opinion from the Allies were discounted as biased by the British.¹¹⁴

How did the British government treat representations on bombing policy from forces opposed to Vichy? To one type of message they proved highly receptive. In July 1941 the British legation in Berne forwarded a memorandum from 'a friend in the French Embassy' claiming that British bombing of industry would deter French business from collaborating with Germany. Citing this among other messages, Sinclair argued to the War Cabinet in November that 'Frenchmen have repeatedly asked us

to bomb French factories working for Germany'.¹¹⁵ More frequently, however, the internal Resistance and the Free French complained, less about the principle than about the inaccuracy of bombing.

On 16 April 1943, for example, René Massigli, foreign affairs spokesman for the Comité Français de Libération Nationale, protested to Eden about US high-altitude raids on France, expressing fear of growing anti-American feeling. He suggested limiting these attacks to unpopulated areas, and 'teaching our American friends some British methods'.¹¹⁶ Eden brought the issue to Cabinet on 19 April and, when informed that the USAAF would henceforth attack only submarine bases, pressed Sinclair for still tighter constraints on US operations.¹¹⁷ However, before Massigli was informed of the decision, policy had again changed. To restrict USAAF activities even this far would mean abandoning a campaign against railways in France. Accordingly, a list of French targets would be compiled for War Cabinet approval and – a minor concession – the USAAF would 'attempt to reduce the danger to the population through suitable choice of target'.¹¹⁸

This policy was itself overtaken by the 'Pointblank' directive of May 1943, apparently without Eden's full realisation. He complained twice to Sinclair, on 30 September and 7 October 1943, about casualties during recent US raids on Paris, which he believed breached agreed restrictions on USAAF operations and could provoke Vichy or German propaganda to rouse 'mass indignation against the Americans and ourselves or against the Americans in contrast to ourselves'. Making Massigli's complaint effectively his own, he demanded an impact assessment of US 8th Air Force attacks and 'high level representations to Washington'.¹¹⁹ Sinclair, however, reminded him that agreed Pointblank targets, overriding earlier restrictions, included Luftwaffe and aircraft industry centres in occupied territories.¹²⁰ Meanwhile, Sinclair's secretary, the young Reginald Maudling, produced a detailed, upbeat, survey of recent American raids on occupied territories in order to 'repel any further attacks'.¹²¹ Eden backed down; his support for a restrictive policy, inspired by Massigli, came second to military necessity defined by the Combined Chiefs.

A letter that October to Eisenhower from General Giraud, still officially the military head of the CFLN, had no more practical effect than Massigli. Giraud wrote that the French people applauded Allied destruction of industrial plants on French soil, and praised the air crews' bravery, but warned that 'on French territory some [raids] cost more than the results they yield are worth', in terms of damage to lives and property.¹²² Suggesting a response from the Air Ministry, William Mackenzie

argued that Giraud had 'approached a very difficult problem in a helpful and realistic spirit, and that he is entitled to a fairly full reply'.¹²³ Mackenzie's draft in this vein, respectful of Giraud's military expertise, was not sent. Instead, the Chiefs of Staff composed a 'soothing reply' in late November expressing regret and acknowledging 'the fortitude of the French nation', but no more.¹²⁴ No practical measures ensued.

Free French protests reached a climax as the Allies debated the Transportation Plan. Three separate Free French documents reached London from Algiers in April/May 1944: a memorandum from Massigli handed to Alfred Duff Cooper (British representative with the CFLN in Algiers) on 5 April; a brochure on Allied bombing and its effects on French morale, dated 25 April; and a detailed survey of the same issue dated 17 May.¹²⁵ Their messages were consistent with one another and (broadly) with the Foreign Office view: the French supported precision attacks on legitimate targets but deplored apparently indiscriminate high-altitude bombing; the association of the latter with the USAAF damaged the Americans' standing with the French; the use of delayed-action bombs was universally condemned; Vichy propaganda was being handed golden opportunities; and sabotage could produce better results with fewer casualties. Massigli also requested Free French involvement in the choice of targets, prompting a favourable response from the Foreign Office, which pointed out the 'advantage to us if the French Committee could be induced to share the responsibility' for target selection.¹²⁶

Although French civilian casualties were central to political debates on the Transportation Plan these French interventions had little, if any, effect on policy. Four reasons can be suggested. The first was timing: the two long analyses of bombing and public opinion (though not Massigli's earlier memorandum) reached London after the essential issues had been decided. Secondly, the CFLN's military representatives in London appeared not to share the Algiers perspective. General Koenig, the CFLN's representative to SHAEF since March, told Eisenhower's Chief of Staff Walter Bedell Smith that 'we would take twice the losses to be rid of the Germans'; two days later, Air Marshal Vallin, Commander of Free French air forces in Britain (which had participated in some raids on France), broadcast a vigorous message of support for the raids in opposition to a recent appeal against them from French Cardinals.¹²⁷ That the CFLN spoke with more than one voice allowed the Allies to choose. Thirdly, as M.R.D. Foot has observed, although sabotage used fewer explosives and killed fewer people than bombing, it could not be organised systematically from London, whereas a bombing raid could be

ordered, executed, and assessed by SHAEF within hours. Sabotage might complement bombing; it could not replace it.¹²⁸ French involvement in targeting, finally, was raised by Churchill with Roosevelt on 7 May, but referred by the President, with the Transportation Plan itself, to the military commanders.¹²⁹ The Chiefs of Staff considered that it was too late and (unlike the Foreign Office) had no wish to associate a Frenchman with plans entailing high French casualties. Churchill backed them, for a different reason: 'a suggestion to de Gaulle of this kind would only give him another opportunity of obtruding himself.'¹³⁰

Whether de Gaulle himself could have made a difference is uncertain, because there is no evidence of his trying: neither speeches nor messages contain any but the most oblique allusions to bombing.¹³¹ To do more would have placed the General in one of two politically damaging positions: either unsuccessful supplicant or co-organiser of bombing. But Allied resistance to French involvement persisted even after the recognition of France's Provisional Government in October. A protest from General Bouscat, Chief of the French Air Staff, against the bombing of rail targets in Strasbourg and Colmar and requesting that the Allies took specialist French advice, met a dismissive response: Tedder's personal staff officer, Leslie Scarman, observed that 'I do not like the proposal that we should inform the French that when necessary we should consult French Railway technicians, when in fact, we have no intention of doing so at all.'¹³²

Conclusion and postscript

Like the wider bombing offensive, bombing policy towards France sought to achieve a succession of overlapping, divergent, or even contradictory objectives, determined by the progress of the war. Several consistencies can nevertheless be observed. First, except between April and September 1944, France was a secondary target to Germany. Second, because France was enemy-controlled, but not enemy territory, the usefulness of bombing had to be balanced against the political objections attached to killing French civilians. Political control of bombing policy, sometimes extending to single raids, could therefore be much tighter than in the case of Germany. A frequently dismissive attitude to protests from Vichy and Free French alike should not obscure two facts: the unoccupied zone was off limits till November 1942, and the attacks on the Biscay ports in early 1943 were the *only* instance of area bombing against France. French victims were strictly collateral damage. Third, however, attacks

on precise objectives, often in built-up areas, had been rejected in relation to Germany by 1942 in favour of area bombing, chiefly because the bombers were not accurate enough. Inevitably, therefore, many 'precision' raids on France, even against lighter defences, would destroy French lives and property without seriously damaging their targets. Fourth, though raids were more accurate by 1944, they were also far larger. The attacks on Caen and Le Havre both hit their designated targets; to their civilian victims, they nevertheless felt like area bombing. Fifth, while political concerns could at least delay raids against some targets, such as industry in 1941–42, they were invariably trumped when vital military interests were seen as at stake. This happened over the Biscay ports and the Transportation Plan, despite the uncertainty surrounding the effective military contribution of air raids. Sixth, the political objections to bombing were strongest before November 1942 because of the real (to British minds at least) danger that France's fleet and North African empire would be handed to Germany. The removal of this threat certainly facilitated the brief switch to area bombing of the Biscay ports weeks after the *Torch* landings. The implicit danger of Vichy action before *Torch* was more effective than any number of Free French protests after. Nor, in the end, did fears of poor post-war relations with France weigh against the perceived military imperative of the Transportation Plan. A final point is that the policy problems presented by the bombing of France are more likely to recur in the contemporary world than those relating to Germany. An all-out *conventional* air war against a major military power has been all but unthinkable since 1945. On the other hand, bombing territory in order to liberate it, while attempting to limit collateral damage to civilians, is a continuing challenge to today's strategists.

The first acknowledgement of the sufferings of the French came from what might appear an unlikely source. On 23 September 1944 Sir Arthur Harris wrote to all commanders of bomber groups to open a subscription, capped at 1 shilling per donor, to assist French children whose parents had been shot for helping downed Allied bomber crews, or whose families had suffered from Allied bombing. The subscription raised £12,765, or FF2.553 million, in barely a month. This was, it is true, rather less than the cost of a single Lancaster. It was nevertheless received gratefully by Massigli and by France's (Communist) Health Minister, François Billoux.¹³³

The contributors

Lindsey Dodd is a doctoral candidate at the University of Reading, working on the AHRC-funded project *Bombing, States and Peoples in Western Europe, 1940-45*.

Andrew Knapp is Professor of French Politics and Contemporary History at the University of Reading. His publications include *Le gaullisme après de Gaulle* (Seuil, 1996) and *The Uncertain Foundation: France at the Liberation, 1944-47* (Palgrave, 2007). He is currently a co-investigator on the AHRC-funded project *Bombing, States and Peoples in Western Europe, 1940-45*.

¹ The French figures should be treated as orders of magnitude. Air Chief Marshal Arthur Harris's *Despatch on War Operations* (1995), p. 44, records a total of 955,044 tons dropped by RAF Bomber Command, 30.12 per cent of it on 'occupied territories' (chiefly France, but also Belgium, the Netherlands, and Scandinavia). In addition, the US strategic air forces (the 8th operating from the UK, the 15th from Mediterranean bases) dropped 956,255 tons, and the tactical air forces some 660,000, giving a total of 2.57 million tons dropped on Europe: cf. R. Overy, 'Strategic Air Offensives', in I. Dear (ed.), *The Oxford Companion to the Second World War* (Oxford, 1995), pp. 1070–1072. The French encyclopedia *Quid* (2007) puts the tonnage dropped on France at 583,000, or 22.68 per cent of this total, and thus broadly consistent with the figures above. The death toll is harder to establish. Many bodies were unidentifiable, or the cause of death (bombing or ground fighting, in Normandy especially) uncertain. Wartime population movements plus fragmented local government meant that fatalities might be recorded in both the commune of residence and the commune of death. Such factors militate against precision. Eddy Florentin, in *Quand les alliés bombardèrent la France, 1940–45* (1997), indicates a total of 47,771 in one table drawn from French military figures (p. 426), but later gives an unsourced figure of 67,078 (p. 446). *Quid* gives a range of 60,000–69,000; Philippe Buton suggests 60,000, in *La joie douloureuse: la libération de la France* (Brussels, 2004: pp. 43, 245). The most painstaking recent research has been done in Normandy. Its conclusions – 5,370 dead in Haute-Normandie from bombing in 1944, 13,630 dead in Basse-Normandie from bombing and ground combat in 1944 and 1945 – suggest overall figures at the lower end of the range. Cf. M. Dandel, G. Duboc, A. Kitts, and E. Lapersonne, *Les victimes civiles des bombardements en Haute-Normandie, 1er janvier 1944 – 12 septembre 1944* (Caen, 1997), and M. Boivin, G. Bourdin, B. Carnier, and J. Quellien, *Les victimes civiles de Basse-Normandie dans la Bataille de Normandie* (Caen, 1996).

² C. de Gaulle, *Mémoires de guerre: le Salut, 1944–46* (Plon, 1959), pp. 7–9.

³ J. Jackson, *France: The Dark Years 1940–44* (Oxford, 2001) does not address Allied bombing directly. H. Amouroux's *La grande histoire des Français sous l'occupation* devotes 18 pages to it in vol. VII (Paris, 1985). Richard Vinen's *The Unfree French* (2007), p. 325, covers the topic very briefly.

⁴ M. Hastings, *Bomber Command* (1999), pp. 274–8; D. Richards, *RAF Bomber Command in the Second World War: the Hardest Victory* (2001), pp. 221–245. The official history, Sir C. Webster and N. Frankland, *The Strategic Air Offensive Against Germany, 1939–1945*, (4 vols., 1961: hereafter *SAOG*), devotes a comparable proportion of a much larger study to France.

⁵ Buton, *La joie*; M. Hastings, *Overlord* (1999), pp. 46–54, 262–280; O. Wiewiorka, *Histoire du débarquement en Normandie* (2007), pp. 149–158, 266–268, 280–285; C. Christienne, 'La maîtrise de l'air', in F. Bédarida (ed.), *Normandie 44: du débarquement à la libération* (2004), pp. 61–70.

⁶ Florentin, *Quand les alliés*. On unreliability, cf. fn 1 above.

⁷ The primary focus is on Britain. Few American bombers were stationed in the UK before 1943. Moreover, the British Chief of Air Staff, Sir Charles Portal, was responsible to the Joint Chiefs of Staff for the Combined Bomber Offensive from January 1943 until April 1944, although Bomber Command and the US 8th Air Force retained considerable operational autonomy (*SAOG*, vol. II, pp. 4–5; vol. IV, p. 107).

⁸ Harris, indeed, is viewed as 'a law unto himself' in S. Zuckerman, *From Apes to Warlords* (London, 1978), p. 224, and Hastings, *Bomber Command*, pp. 332–5.

-
- ⁹ T. Brooks, *British Propaganda to France, 1940–1944* (Edinburgh, 2007).
- ¹⁰ J. G. De Groot, *Liberal Crusader: the Life of Sir Archibald Sinclair* (1993), pp. 164–5, 178; Hastings, *Bomber Command*, p. 113; J. Lee, *The Churchill Coalition* (1980), p. 69; S. Wilson, *The Cabinet Office to 1975* (1975), pp. 88, 91; Zuckerman, *Apes to Warlords*, p. 140.
- ¹¹ Lee, *Churchill Coalition*, p. 25.
- ¹² Calculated from Harris, *Despatch*, p. 44; SAOG, vol. IV, pp. 454–5.
- ¹³ Lee, *The Churchill Coalition*, p. 42; K. Jefferys, *The Churchill Coalition and Wartime Politics* (Manchester, 1991), pp. 85–90; P. Goodhart, *The 1922: The Story of the Conservative Backbenchers' Parliamentary Committee* (Basingstoke, 1973), pp. 112–123.
- ¹⁴ R. Thomas, *Britain and Vichy: the Dilemma of Anglo-French Relations 1940–42* (1979), pp. 61–2, 91, 134–6; D. Johnson, 'Churchill and France', in R. Blake and W. Louis (eds.), *Churchill* (Oxford, 1993), pp. 41–55; p. 54.
- ¹⁵ Thomas, *Britain and Vichy*, pp. 106, 133.
- ¹⁶ For an official summary of the policy process, see the answer to a parliamentary question by Sinclair's deputy Harold Balfour, 5 August 1942, in N(ational) A(rchives), AIR 8/424.
- ¹⁷ Wilson, *Cabinet Office*, pp. 99–102. D. Richards, *Portal of Hungerford* (1977), p. 174.
- ¹⁸ M. Howard, *Grand Strategy*, vol. v (1972), p. 302.
- ¹⁹ D. Richards and H. St. G. Saunders, *The Royal Air Force 1939–45*, vol. III (1975), p. 4; memorandum by O. L. Lawrence, in SAOG, vol. IV (1961), pp. 214–9. On the Target Committee, cf. NA, AIR 20/8898.

-
- ²⁰ NA, AIR41/66: Air Historical Branch, *The Liberation of Northwestern Europe*, vol. I, p. 46.
- ²¹ *SAOG*, vol. IV, p. 107.
- ²² Tedder, *With Prejudice*, pp. 502–3.
- ²³ Cf. Richards and Saunders, *RAF*, vol. I, p. 236.
- ²⁴ NA, FO 954/8A: Eden to Portal, 9 April 1942; NA, AIR 19/217: Bottomley to Harris, 20 July 1942; M. Middlebrook and C. Everitt, *The Bomber Command War Diaries, 1939–1945* (Leicester, 2000), p. 317.
- ²⁵ NA, CAB 66/10: Revised Instructions by His Majesty's Government to govern the conduct of all forms of Bombardment, Annex II to WP (40) 186, 31st May 1940.
- ²⁶ NA, CAB 66/10: WP (40) 204, 22 July 1940, Sinclair, 'Bombardment Policy in France'.
- ²⁷ NA, CAB 66/10: War Cabinet: Bombardment Policy in France: Memorandum by Secretary of State for Air, WP (40), 284, 22 July 1940; NA, AIR 19/217: WM (40) 213th Conclusions, 26th July 1940.
- ²⁸ *SAOG*, vol. IV, pp. 135–6, 143–4.
- ²⁹ The bombing of trains provoked prolonged debate among British policy-makers and complaints from Vichy and the Free French. Cf. NA, AIR 19/217, AIR 20/8898, and FO 371/32000.
- ³⁰ NA, CAB 80/27/42: COS (41) 242, 16 April 1941; NA, CAB 79/10/37, COS (41) 242, 17 April 1942.

³¹ NA, FO954/8A: Eden to Portal, 9 April 1942.

³² A handful of raids do not fall neatly under directives. They include a ‘pure’ propaganda raid on Paris by a single Beaufighter on 12 June 1942 (Richards and Saunders, *RAF*, vol. II, pp. 142–3; NA, AIR 19/217 and FO984/8A); the bombing of Amiens prison to allow Resistance fighters to escape (*SAOG*, vol. II, pp. 182, 185; Richards and Saunders, *RAF*, vol. III, p. 91; Florentin, *Quand les alliés*, pp. 227–231); or the attack on the Gien tank park in July 1942 (cf. the lengthy correspondence from October 1941 to December 1942, in NA, AIR 19/217).

³³ Richards, *Portal*, p. 161; Richards, *Bomber Command*, p. 64.

³⁴ V. Orange, *Tedder: Quietly in Command* (2004), p. 116.

³⁵ Florentin, *Quand les alliés*, p. 426.

³⁶ *SAOG*, vol. IV, pp. 128–131.

³⁷ NA, AIR 8/424: Trenchard to Parliamentary Air Committee, 15 October 1941.

³⁸ Richards and Saunders, *RAF*, vol. II, p. 114; *SAOG*, vol. II, p. 149.

³⁹ Figure calculated from R. Freeman, *Mighty Eighth War Diary* (1981), pp. 9–89.

⁴⁰ NA, AIR 19/217: Portal to Churchill, 5 March 1942; Churchill to Portal, 8 March and 10 June 1942; DCAS (Bottomley) to Air Officer Commanding-in-Chief, Fighter Command, 13 March and 7 April, and 13 June 1942; Chiefs of Staff Committee, 1 July 1942; NA, AIR 19/218: DCAS (Bottomley) to Air Officers Commanding-in-Chief, Bomber and Fighter Commands, 6 May 1943; Richards and Saunders, *RAF*, vol. II, p. 114.

-
- ⁴¹ S. Roskill, *The War at Sea*, vol. I (1954), pp. 291–2, 378–9; Middlebrook and Everitt, *War Diaries*, pp. 115–122, 139–234; Florentin, *Quand les alliés*, pp. 44–45.
- ⁴² For Bomber Command’s protests, cf. *SAOG*, vol. I, pp. 167 and 320; Roskill, *War at Sea*, vol. I, pp. 486–491; NA, CAB 69/4: Sinclair to Defence Committee, 9 February 1942.
- ⁴³ NA, AIR 8/424: Eden to Sinclair, 15 April 1942. Cf. also NA, AIR 19/217: ‘Air Policy: Additional Note to War Cabinet (42) 3rd Meeting’, ACAS (I), 8 January 1942; NA, CAB 69/4: Defence Committee (42 (11th)) of 17 April 1942; NA, CAB 65/18: WM (62) 41, War Cabinet, 23 June 1941.
- ⁴⁴ NA, AIR 19/217: Sinclair to Lt.-Col. Harvie Watt, 4 October 1942.
- ⁴⁵ *SAOG*, vol. IV, pp. 149–150.
- ⁴⁶ M. Foot, *SOE in France: An Account of the Work of the British Special Operations Executive in France 1940–1944* (2004), p. 384.
- ⁴⁷ NA, CAB 65/18: WM (41) 62, 23 June 1941; NA, FO 371/28451, Sinclair, ‘Air Policy – Attack on Factories in Occupied France Known to be Manufacturing Munition Supplies for the Enemy’, for discussion at War Cabinet meeting 6 November 1941, WP (41) 260; NA, AIR 19/217: WM (41) 111, 11 November 1941.
- ⁴⁸ NA, AIR 19/217: comment on WP (41) 260, 15 December 1941.
- ⁴⁹ NA, FO 371/31999: extract from WM (42) 3, 8 January 1942; NA, CAB 79/17: Chiefs of Staff Committee 42 (11th), 10 January 1942.

⁵⁰ R. Paxton, *Vichy France: Old Guard and New Order* (New York, 1972), p. 130; NA, FO 371/31999: minute by Cavendish-Bentinck, 17 February 1942.

⁵¹ *SAOG*, vol. I, p. 462, fn4.

⁵² *SAOG*, vol. IV, pp. 149–150; NA, AIR 19/217: ACAS (Ops) to Officer Commanding-in-Chief, Bomber Command, 1 June 1942.

⁵³ NA, AIR 19/217: ACAS (Ops) to CAS, 22 May 1942; secretary to CAS to ACAS (Ops), 4 June 1942.

⁵⁴ Cf. for example, in NA, FO 898/319: ‘Les Usines Renault travaillaient pour l’Allemagne’, undated (probably March 1942) leaflet.

⁵⁵ A. Harris, *Bomber Offensive* (1990; 1947), pp. 104–5, 142.

⁵⁶ NA, FO 898/319: BBC Internal Circulating Memo, I. E. Black to Col. N. Sutton, 5 March 1942.

⁵⁷ NA, AIR 19/217: Freeman Matthews to Sinclair, 14 July 1942; Freeman, *Mighty Eighth War Diary*, p. 111.

⁵⁸ NA, AIR 19/217: Freeman Matthews to Sinclair, 19 March and 14 July 1942; Middlebrook and Everitt, *War Diaries*, pp. 268, 317, 398–9.

⁵⁹ P. Brickhill, *The Dam Busters* (Basingstoke, 1983), pp. 155, 173–6; Middlebrook and Everitt, *War Diaries*, pp. 471, 478, 480.

⁶⁰ Roskill, *War at Sea*, vol. I, pp. 349, 352.

⁶¹ Richards and Saunders, *RAF*, vol. I, pp. 348–9; Roskill, *War at Sea*, vol. II, p. 351.

-
- ⁶² NA, AIR 8/424: Admiral King, memorandum to Combined Chiefs of Staff, 19 May 1942.
- ⁶³ E. J. Grove (ed.), *The Defeat of Enemy Shipping, 1939–45*: vol. IB (Plans and Tables) (Navy Records Soc., vol. 137, Aldershot, 1957), Plan 14; Roskill, *War at Sea*, vol. II, p. 218.
- ⁶⁴ NA, AIR 19/217: Anti-U-Boat Committee, 13 and 18 November, 9 and 23 December 1942; Eden to Sinclair, 18 December, and Sinclair to Eden, 22 December 1942; First Sea Lord to War Cabinet, 10 January 1943; Sinclair to Eden, 12 January 1943; ACAS (Ops) to Officer Commanding-in-Chief, Bomber Command, 14 January 1943; Air Ministry to Bomber Command HQ, 14 January 1943; NA, CAB 65/37: WM 43(6th) conclusions, War Cabinet meeting of 11 January 1943.
- ⁶⁵ Roskill, *War at Sea*, vol. II, p. 353.
- ⁶⁶ Middlebrook and Everitt, *War Diaries*, pp. 343–355.
- ⁶⁷ D. Richards, 'Introduction', in Harris, *Bomber Offensive*, p. xii. NA, AIR 19/217: Reconnaissance interpretation report on Lorient, 21 February 1943; extract from War Cabinet minutes, 10 March 1943; Harris, Memorandum on Bombing of Biscay ports, 30 March 1943; ACAS (Ops) to Officer Commanding-in-Chief, Bomber Command, 6 April 1943; NA, CAB 86/2, Anti-U-Boat Committee, 31 March 1943.
- ⁶⁸ Brickhill, *Dam Busters*, p. 222–3; SAOG, vol. III, p. 181; Middlebrook and Everitt, *War Diaries*, pp. 555–560; NA, AIR 41/74, Air Historical Branch, 'RAF in Maritime War', vol. V.
- ⁶⁹ Cf. NA, CAB 69/6: Defence Committee, 13 January and 3 February 1944.

⁷⁰ NA, CAB 69/6: Defence Committee, note by Secretary, meeting of 10 March 1944; Brickhill, *Dam Busters*, pp. 208–218. Perhaps the major success of 617 squadron was its destruction of the Mimoyecques V-3 site with Tallboy bombs in June 1944.

⁷¹ S. Darlow, *Sledgehammers to Tintacks: Bomber Command Confronts the V-1 Menace, 1943–1944* (2002), pp. 199–201. For specific targets, see Florentin, *Quand les alliés*, pp. 210–220, 243, 401, 403.

⁷² Defence Committee minutes in NA, CAB 69/5; War Cabinet in NA, CAB 65/46. Cf. also Tedder, *With Prejudice*, pp. 521–530; Zuckerman, *Apes to Warlords*, pp. 246–252; Field Marshal Lord Alanbrooke, *War Diaries 1939–1945* (2001), pp. 537–543. These five Defence Committee meetings compare with just thirteen in the whole of 1943.

⁷³ Cf. NA, AIR 19/217: Bufton to Sinclair, 23 February 1943.

⁷⁴ Zuckerman, *Apes to Warlords*, pp. 406–7.

⁷⁵ Tedder, *With Prejudice*, p. 512.

⁷⁶ NA, AIR 19/218: Final minutes of a meeting held on Saturday March 25th to discuss the bombing policy in the period before ‘Overlord’, CAS/Misc/61.

⁷⁷ NA, AIR 19/218: CAS to Prime Minister, 29 March 1944; Ismay to Prime Minister, 30 March 1944.

⁷⁸ NA, CAB 69/06: Defence Committee, 3 May 1944.

-
- ⁷⁹ Tedder, *With Prejudice*, p. 529; NA, AIR 37/1116: Eisenhower to Churchill, 2 May 1944; NA, FO 371/41984 (and PREM 3/334/3): Churchill to Roosevelt, 7 May 1944; Roosevelt to Churchill, 11 May 1944.
- ⁸⁰ NA, AIR 20/2799: Transportation Targets Attacked from UK During Week to Sunrise 5th June 1944.
- ⁸¹ J. Man, *The Penguin Atlas of D-Day and the Normandy Campaign* (Harmondsworth, 1994), p. 22.
- ⁸² Tedder, *With Prejudice*, p. 534–5, 541, 578–9, 610; Zuckerman, *Apes to Warlords*, p. 301; Lord Zuckerman, *Six Men Out of the Ordinary* (1993), pp. 85–7; H. Ellis, *Victory in the West*, vol. I (1962), p. 111.
- ⁸³ Wieviorka, *Histoire du débarquement*, pp. 280–6; and Leigh-Mallory's Normandy diary, in NA, AIR37/784, for the cloud cover issue.
- ⁸⁴ *SOAG*, vol. III, pp. 152–4.
- ⁸⁵ Florentin, *Quand les alliés*, pp. 287–290.
- ⁸⁶ Florentin, *Quand les alliés*, pp. 267–331. See also Amouroux, *Grande Histoire*, vol. VII, pp. 415–422.
- ⁸⁷ NA, AIR 37/1012: Churchill to Portal, 21 May 1944; Portal to Tedder, 22 May 1944; Tedder to Churchill, 23 May 1944; Churchill to Tedder, 10 July 1944; Tedder to Churchill, 13 July 1944; NA, AIR 37/1031: Urmston to Tedder, 22 May 1944; NA, CAB 66/50: Churchill-Tedder exchange, 24 May 1944.

-
- ⁸⁸ Florentin, *Quand les alliés*, p. 425, supplies a table of targets attacked in August.
- ⁸⁹ On average, Bomber Command dropped 18,723 tons monthly on enemy-occupied territory between March and May 1944, but 49,390 tons between June and August (Harris, *Despatch*, p. 44).
- ⁹⁰ NA, AIR37/1012: Eisenhower, 'Air Attacks on Civilians', memorandum to Air Force commanders, 2 June 1944.
- ⁹¹ NA, AIR41/66: Air Historical Branch, *The Liberation of Northwestern Europe*, vol. I, p. 48; Orange, *Quietly in Command*, p. 262.
- ⁹² Boivin *et. al.*, *Les victimes civiles de Basse-Normandie*, p. ix.
- ⁹³ Wieviorka, *Histoire du débarquement*, pp. 318–9.
- ⁹⁴ I. Gooderson, *Air Power at the Battlefield: Allied Close Air Support in Europe, 1943–45* (1998), pp. 132–6, 143–8. Zuckerman, in his 'Report on Bombing of Caen' (NA, AIR 37/661: p. 13) derided the use of heavy bombers for *Charnwood* as 'a frill to a ground plan already made'. In his Normandy diary (NA, AIR 37/784: p. 98) Leigh-Mallory observed that some American bombing was 14,000 yards off target, and that Caen was bombed 'by mistake'.
- ⁹⁵ Gooderson, *Air Power*, pp. 137–8.
- ⁹⁶ A. Knapp, 'The Destruction and Liberation of Le Havre in Modern Memory', *War in History*, 14.4 (2007), pp. 476–499.
- ⁹⁷ Tedder, *With Prejudice*, pp. 559–565; Gooderson, *Air Power*, p. 233.
- ⁹⁸ NA, AIR 37/1012: Tedder to Churchill, 13 July 1944.

⁹⁹ NA, AIR 37/1118: SHAEF Air Staff meeting, 12 September 1944; NA, CAB 65/43 and NA, CAB 66/56: Summaries of Bomber Command operations presented to Cabinet, 11 September and 18 October 1944.

¹⁰⁰ On Royan, cf. NA, WO 219/241; on Calais, NA, AIR 19/218, memos of 14 March 1945.

¹⁰¹ NA, FO 371/41984: Churchill to Roosevelt, 7 May 1944.

¹⁰² NA, FO 371/41862: 'Report of State of Civilian Population in France', SHAEF, 13 June 1944; NA, FO 371/41863: 'Political Situation in Paris', Report by Major K. Younger, 5 September 1944; NA, FO 371/41864: 'Conditions in France and Belgium', Report by Major D. Morton, 29 September 1944.

¹⁰³ NA, FO 371/32000: 'Vichy enraged by Paris raids', *The Times*, 4 June 1942; minute by Balfour, 6 June 1942.

¹⁰⁴ NA, FO 371/31999: 'Pétain on Renault raids', *The Times*, 9 March 1942.

¹⁰⁵ NA, FO 371/31999: Gascoigne to Foreign Office, 3 April 1942.

¹⁰⁶ NA, FO 371/31999: Mack, 'R.A.F. Bombing of the Renault Factory', 6 March 1942; minute by Sir Alexander Cadogan, 6 March 1943.

¹⁰⁷ For examples, cf. FO898/319.

¹⁰⁸ NA, FO 371/28541: Law to Mack, 7 May 1941; minute by Richard Spaaight, 11 May 1941.

¹⁰⁹ NA, FO 371/28541: Mayor of Dieppe to Prefect of Seine-Inférieure, 15 March 1941; Piétri to Hoare, 20 April 1941; Hoare to Eden, 24 April 1941; minute by Mack, 13 May 1941;

Declaration of the Municipal Council of Le Havre, 26 August 1941; Piétri to Hoare, 27 September 1941; minute by Speaight, 17 October 1941.

¹¹⁰ NA, FO 371/28541: Piétri to Hoare, 18 August 1941; minute by Mack, 24 August; Sykes to Mack, 1 September 1941; minute by Ashley Clarke.

¹¹¹ NA, FO 371/28541: Hoare to Piétri, 23 September 1941.

¹¹² NA, FO 371/31999: Halifax to Foreign Office, 7 March 1942; Foreign Office to Halifax, 9 March 1942.

¹¹³ NA, FO 371/32000: Hoare to Foreign Office, 28 October 1942; Henry-Haye to Hull, 28 October 1942; British Embassy Washington to French Department of the Foreign Office, 6 November 1942; Grimes to Balfour, 10 November 1942; minute by Speaight, 12 November 1942.

¹¹⁴ NA, AIR 37/1030, p. 33A: 'Morale in France', memorandum by Charles Peake, SHAEF, n.d. (Spring 1944).

¹¹⁵ NA, FO 371/28541: Berne Legation to Foreign Office, 31 July 1941; Sinclair, Air Policy memorandum WP (41) 260 to War Cabinet, 6 November 1941. Similarly, the Comte de Bourbon, wrote from Tangier to draw British attention to three still intact gunpowder factories in France (NA, FO 371/36068: Gascoigne to Roberts (Foreign Office), 20 August 1943).

¹¹⁶ NA, FO 371/36038: Massigli to Eden, 16 April 1943.

¹¹⁷ NA, FO 371/36038: Minute by Strang, 16 April 1943; minute by Eden, 19 April 1943; Eden to Sinclair, 25 April 1943.

¹¹⁸ AIR 19/218: Andrews to Marshall, 23 April 1943.

¹¹⁹ NA, FO 371/36038: Eden to Sinclair, 30 September 1943; Eden to Sinclair, 7 October 1943.

¹²⁰ NA, FO 371/36038: Sinclair to Eden, 9 October 1943; AIR 19/218: Sinclair to Eden 5 June 1943; NA, AIR 19/218: Eden to Sinclair, 11 June 1943.

¹²¹ NA, FO 371/36038: Maudling to Millard, 20 October 1943.

¹²² NA, FO 371/36038: Giraud to Eisenhower, 11 October 1943.

¹²³ NA, FO 371/36038: Mackenzie to Speaight, 17 November 1943.

¹²⁴ NA, FO 371/36038: Chiefs of Staff to Giraud, 27 November 1943; NA, FO 371/41984: Note on a further complaint, minute by Mack, 7 May 1944.

¹²⁵ NA, FO 371/41984: Duff Cooper to Foreign Office, 5 April 1944; CFLN, Commissariat aux Affaires Étrangères, Memorandum, 5 May 1944; CFLN, Direction Technique des Services Spéciaux, 'Les bombardements alliés et leurs répercussions sur le moral des Français', 25 April 1944; République Française, Présidence du Comité Français de Libération Nationale, Direction Générale des Services Spéciaux, Note sur les répercussions des bombardements anglo-américains sur le moral des populations en France, by Direction du Centre de Documentation de la Direction Générale des Services Spéciaux, signed col. Jousse. 17 May 1944.

¹²⁶ NA, FO 371/41984, Duff Cooper to Foreign Office, 5 April 1944; minute by Mack, 7 May 1944.

¹²⁷ Koenig's comment, on 16 May 1944, is quoted in R. S. Davis, *Carl A. Spaatz and the Air War in Europe* (Washington D.C., 1993), p. 408, quoted in Orange, *Quietly in Command*, p. 261); Vallin's broadcast is in NA, FO 371/41984: 'French Air Marshal Replies to French Clergy

on Bombings', 18 May 1944. For Free French *participation* in raids on France, cf. Florentin, *Quand les alliés*, pp. 185–208.

¹²⁸ Foot, *SOE in France*, p. 383.

¹²⁹ NA, FO 371/41984: Churchill to Roosevelt, 7 May 1944; Roosevelt to Churchill, 11 May 1944.

¹³⁰ NA, AIR 19/218: extract from COS (44) 155, 12 May 1944; Churchill to Ismay, 16 May 1944.

¹³¹ Cf C. de Gaulle, *Discours et Messages*, vol. I (Plon, 1970), and *Lettres, Notes et Carnets* (Plon, 1983).

¹³² NA, AIR 37/1034: Bouscat to Forbes (SHAEF mission to French government), 26 October 1944; Scarman to Forbes, 1 November 1944.

¹³³ NA, AIR 37/1034: Massigli to Harris, 4 November 1944; Billoux to Harris, 14 December 1944. A Lancaster cost £15,500 in 1944 (S. Ritchie, *Industry and Air Power: The Expansion of British Aircraft Production, 1935–1941* (1997), p. 212).