

Battle of Britain

Bodyline

Catherine Cranston

Edward VII of the United Ki..

Edward VIII of the United K

Elizabeth II of the United

Francis Crick

George V of the United Kingdom

George VI of the United Kin

Henry Joseph Wood

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Khudai Khidmatgar

Supermarine Spitfire

The Blitz

Treaty of Versailles

Western Front (World War I)

Battle of Britain

2008/9 Schools Wikipedia Selection. Related subjects: British History Post 1900; World War II

Battle for Britain redirects here. There is also a David Bowie song of that title. For the Private Eye comic strip, see *Battle for Britain (Private Eye)*.

Battle of Britain is the name given to the strategic effort by the *Luftwaffe*

Battle of Britain

Part of Second World War














during the Second World War to gain air superiority over Fighter Command. The name derives from an 18 June 1940 speech in the House of Commons by Prime Minister Winston Churchill, "The Battle of France is over. I expect the Battle of Britain is about to begin..."



An aerial observer scans the skies of London.

| | |
|---------------------|--------------------------------|
| Date | 10 July 1940 – 31 October 1940 |
| Location | United Kingdom airspace |
| Result | Decisive British victory |
| Belligerents | |

Had it been successful, the planned amphibious and airborne landings in Britain of Operation Sealion would have followed. The Battle of Britain was the first major campaign to be fought entirely by air forces. It was the largest and

| | |
|--|---|
|  United Kingdom |  Germany |
| |  Italy |
| Commanders | |
|  Hugh Dowding |  Hermann Göring |
|  Keith Park |  Albert Kesselring |
|  Trafford Leigh-Mallory |  Hugo Sperrle |
|  C. J. Quintin Brand |  Hans-Jürgen Stumpff |
|  Richard Saul |  Rino Corso Fougier |
| Strength | |
| 754 single-seat fighters | 1,107 single-seat fighters |
| 149 two-seat fighters | 357 two-seat fighters |

most sustained

bombing campaign attempted up until that date. The failure of Nazi Germany to destroy Britain's air defence or to break British morale is considered their first major defeat.

| | |
|--------------------|--------------------|
| 560 bombers | 1,380 bombers |
| 500 coastal | 428 dive bombers |
| 1,963 total | 569 reconnaissance |
| | 233 coastal |
| | 4,074 total |

Neither Hitler nor the *Oberkommando der Wehrmacht* (OKW) believed it possible to carry out a successful amphibious assault on the British

Casualties and losses

Isles until the RAF had been neutralized. Secondary objectives were to destroy aircraft production and ground infrastructure, to attack areas of political significance, and to terrorize the British people into seeking an armistice or surrender. Some historians have argued no invasion could have succeeded, asserting the massive superiority of the Royal Navy over the *Kriegsmarine* would have made a Sealion a disaster. They argue the *Luftwaffe* would have been unable to prevent decisive intervention by British cruisers and destroyers, even with air superiority.

| | |
|---------------------------------|--------------------|
| Fighter Command: 5,023 fighters | 873 fighters |
| Bomber Command: 376 bombers | 1,014 bombers |
| Coastal Command: 148 | 1,887 total |
| 5,547 total | |

British historians date the battle from 10 July to 31 October 1940, which represented the most intense period of daylight bombing. German historians usually place the beginning of the battle in mid-August 1940 and end it in May 1941, on the withdrawal of the bomber units in preparation for the attack on the USSR.

Background

Luftwaffe attacks on Britain began with raids on naval targets, with bombers being shot down over the Firth of Forth on 16 October 1939 and over Scapa Flow on the following day, but there were no major attacks during the Phoney War period, a lull in fighting that Hitler ended on 10 May 1940 with his invasion of the Low Countries.

Following the evacuation of the British from Dunkirk (Operation

DYNAMO), and the French surrender on 22 June 1940, Hitler believed the war was practically over and the British, defeated on the continent and without European allies, would quickly come to terms with Germany. Although there was an element of British public and political sentiment favouring negotiated peace with a clearly ascendant Germany, among them the Foreign Secretary, Lord Halifax, the recently-installed Churchill nonetheless refused to consider an armistice with Hitler's Germany. Churchill's skillful use of rhetoric hardened public opinion against a peaceful resolution and prepared the British for a long war.

On 16 July, in an effort to finish the war in the west, Hitler ordered the rapid preparation of a plan to invade Britain. Hitler hoped to frighten Britain into peace and saw the preparations as a means to apply pressure. The plan was prepared by OKW. The operation, code-named

Seelöwe ("Sealion"), was scheduled for mid-September 1940 and called for landings on the south coast of Great Britain, backed by an airborne assault. All preparations were to be made by mid-August.

The *Kriegsmarine* was reluctant to launch an invasion, and on 11 July, Admiral Raeder told Hitler invasion could only be contemplated as a last resort, and only then with full air superiority. The *Kriegsmarine* had a limited number of ships, while the Royal Navy had over 50 destroyers and dozens of cruisers and battleships in home waters. In the event of a seaborne invasion, the British Home Fleet would sortie from their nearby bases and attack the invasion force, something the *Kriegsmarine* could do little to counter. The only way Germany would be able to prevent Royal Navy interference would be with the *Luftwaffe*, primarily using dive bombers, which would require complete air superiority, because the bombers were so vulnerable to attack. Nevertheless, Hitler

was determined the invasion go ahead and ordered all services to make preparations for an amphibious assault once air superiority had been achieved.

Opposing forces

The *Luftwaffe* was facing a more capable opponent than it had met before: a sizable, highly-coordinated, well-supplied air force, fielding aircraft able to match the German Messerschmitt Bf 109E and Bf 110C. The majority of the RAF's fighting would rest upon the workhorse Hurricane Mk I. More shocking to the German pilots was the newer Spitfire Mk I, which was quickly recognised as a world-class fighter. Most of the fighters they had encountered thus far in the war had not, despite mainly strong showings by opposing pilots, reached this standard.

Aircraft

The Bf 109E was marginally superior to the Hurricane. The Bf 109E and the Spitfire, in certain key areas, had the advantage over each other. The 109 could outclimb both. The Spitfire was slightly faster at medium heights, was more manoeuvrable, and possessed a stronger airframe as well as heavier armour than the Bf 109E-1. However, because of their carburetted engines, neither it nor the Hurricane could simply dive away from an opponent, as the 109 could. The Spitfire, initially, had a better protected cockpit with bulletproof windscreen and an armoured plate behind the pilot's seat. The Messerschmitt Bf 109 E-3 received extra armour behind the pilots head, and seat armour. The canopy was also modified for better visibility. The Bf 109 was also equipped with Self-sealing fuel tanks, although this could not prevent destruction from tracer rounds.

The Bf 109 had a slightly higher speed at high altitude, better dive speed, and a fuel injected engine (the Daimler-Benz DB 601), giving Germans the ability to perform negative-gee manoeuvres without the engine cutting out, and thus the option to disengage at will. This advantage could prove moot when pursuing a Spitfire. The superiority of the Spitfires rate of roll would ensure the Messerschmitt overshoot, should the Spitfire pilot perform a half-roll, then dive. The German fighter would gain too much speed, lessening the response of its control surfaces due to the pressure, and then would be unable to correct and counter the Spitfires defensive manoeuvre. The German fighter had a heavier armament, with its two 20 mm MG FF cannon. This gave it a greater punch than the eight .303 (7.7 mm) machineguns of the British fighters, but the low muzzle velocity of the cannon, where the shells dropped quite quickly after firing, meant the Messerschmitt pilots had to open fire from close range.

On 22 November 1939 a Bf 109E-3 (Wk-Nr 1304 of *JG 76*) landed intact in France. Evaluated at RAF Farnborough, the Bf 109 was used in mock combats with Spitfire Mk Is. The RAF test pilots found the Bf 109 "superior in all aspects bar manoeuvrability and turning circle". Level speed was reported to be even, however when the Bf 109 pulled out of a dive at speed and then proceeded to climb steeply at slow speed, the Spitfire had difficulty in keeping up. The margins were apparently reduced when the Spitfire was fitted with a constant speed airscrew.

Werner Mölders flew a captured Spitfire Mk I in June 1940 (one of three examples obtained in flyable condition by the *Luftwaffe*). Mölders reported that the Spitfire was "excellent in the turn" but a "rotten dogfighter", due to the Spitfires "Carburettor engine". Mölders also noted, "in any vertical dogfight at constantly changing altitude it's either continually over-revving or never develops full power at all." In

addition there were other smaller details in which they differed.

The Junkers Ju 87 *Stuka* was slow and possessed inadequate defences. Furthermore, it could not be effectively protected by fighters, because of its low speed and the very low altitudes at which it ended its dive bomb attacks. The *Stuka* depended on air superiority, the very thing being contested over Britain. It was therefore withdrawn from attacks on Britain early in the campaign, after prohibitive losses, leaving the *Luftwaffe* short of precision ground attack aircraft..

The Me 110 underperformed because it was deployed in a role for which it was never intended. It was an excellent fighter-bomber and interceptor, having (at least at altitudes greater than 15,000 ft (4,600 m)) a maximum speed better than the Hurricane and not much inferior to the Spitfire, and a heavy armament capable of dealing with

any enemy bomber. When used as a light bomber it proved very effective. It was still formidable as a high escort for bombers, when it could dive down upon the enemy, fire and then break contact. As a fighter, overall, its lack of manoeuvrability made it an easy target for British fighters. It was pressed into this role because the Bf 109 lacked the range necessary to escort bombers to targets beyond the south-east corner of England. To correct this the Oberkommando der Luftwaffe had ensured the introduction of the Bf 109 E-7 in August 1940, equipped with a 300 litre external fuel tank to complement its 400 litre internal tank. Earlier use of external tanks had been halted due to leakages in the plywood moulds, which eroded when exposed to the elements.

The Bf 109 was also used as a fighter-bomber. Bf 109 E-7s had the ability to carry a 250kg bomb underneath the fuselage. The E-7/U2

model had extra armour installed to protect the *Jabos*. The Bf 109, unlike the *Stuka* could then, after releasing its ordnance, fight on equal terms with RAF fighters.














For the British, the main disappointment was the performance of the Boulton-Paul Defiant two-seat turret fighters and Fairey Battle bombers. These aircraft, which before the war were expected to fill the bomber-killer and precision strike roles respectively, were found to be too vulnerable. The Battles suffered horrendous losses in France and were eventually put into reserve to take on the invasion fleet if it were ever launched. The Defiants were too cumbersome to tangle with the Bf 109s, and after suffering heavy losses in the early part of the battle they were reassigned as "cat's eye" night-fighters, where they had little more success. There has been some criticism of the decision to keep these aircraft operational instead of retiring and scrapping them, allowing their

Merlin engines to be turned over to fighters and their pilots (about three thousand in all) to be retrained on Hurricanes, thereby freeing large numbers of high-time, combat-experienced Hurricane pilots for Spitfires.

Pilots

The British had fewer experienced pilots at the start of the battle, and it was the lack of trained pilots, rather than the lack of machines, that became the greatest concern for Dowding. Drawing from regular RAF forces as well as the Auxiliary Air Force and the Volunteer Reserve, the British could muster some 1,103 fighter pilots on 1 July. The selection processes of potential RAF candidates were more concerned with social standing than actual aptitude leading up to the war. Replacement pilots, with little actual flight training and no gunnery training whatsoever,

suffered high casualty rates. RAF forces were bolstered by personnel from other countries and/or air forces) including:

-  Australia
-  Belgium
-  Canada
-  Czechoslovakia
-  Free France
-  Ireland
-  Jamaica
-  New Zealand
-  Palestine
-  Poland
-  Rhodesia
-  South Africa
-  United States

The *Luftwaffe* could muster more fighter pilots, 1,450, who were more experienced overall. Drawing from a cadre of Spanish Civil War veterans, they had comprehensive courses in aerial gunnery, as well as

instructions in tactics that were suited for fighter versus fighter combat. *Luftwaffe* training manuals also discouraged heroism, stressing the utmost importance of attacking only when the odds were in the pilot's favour. This rule could not be followed in close bomber escort duties though, since the fighter gave up tactical flexibility and the advantage of height.

Air combat tactics

In the early phases of the battle, the RAF was hindered by its reliance on obsolete formations. These restricted squadrons to tight 12 aircraft formations composed of three-aircraft "sections" in tight "Vs" ("vics"). With four sections flying together in tight formation, only the squadron leader at the front was free to actually watch for the enemy; the other pilots had to concentrate on keeping station. RAF fighter training also

emphasized by-the-book attacks by sections breaking away in sequence. Fighter Command recognised the weaknesses of this rigid structure early in the battle, but it was felt too risky to change tactics in the midst of the battle, because replacement pilots, often with only minimal actual flying time, could not be readily retrained, and inexperienced RAF pilots needed firm leadership in the air only rigid formations could provide. German pilots dubbed the RAF formations *Idiotenreihen* ("rows of idiots") because they left squadrons vulnerable to attack. Front line RAF pilots were acutely aware of the inherent deficiencies of their own tactics. A compromise was adopted whereby squadron formations used much looser formations with one or two aircraft flying independently above and behind (dubbed "weavers") to provide increased observation and rear protection; these, often the least experienced men, were also often the first to die. After the battle, RAF pilots adopted a variant on the German formations with some success.

The *Luftwaffe* employed the looser and flexible four-ship *Schwarm* (two pairs, or *Rotte*, each consisting of a leader and a wingman) in an open formation. Each *Schwarm* in a *Staffel* flew staggered and with plenty of room in between them, making the formation difficult to spot at longer ranges and allowing for a great deal of flexibility. This formation was developed during the Spanish Civil War by Günther Lützow and Werner Mölders and other *Luftwaffe* pilots, based on principles dating to Oswald Boelcke in 1916. In the *Luftwaffe* formations, the pair allowed the *Rottenführer* to concentrate on getting kills, while his wingman protected him and scanned for threats.

***Luftwaffe* strategy**

The *Luftwaffe* was designed as a tactical weapon to support the Army on the battlefield. In Poland and France, the *Luftwaffe* had operated

jointly with the *Wehrmacht* in its *blitzkrieg*. In the Battle of Britain, however, the *Luftwaffe* had to be decisive in its own right. This new role was something it was unsuited for. Its main task was to ensure air supremacy over southeast England, to pave the way for an invasion fleet.

The *Luftwaffe* regrouped after the Battle of France into three *Luftflotten* (Air Fleets) on the Britain's southern and northern flanks. *Luftflotte 2*, commanded by *Generalfeldmarschall* Albrecht Kesselring, was responsible for the bombing of southeast England and the London area. *Luftflotte 3*, under *Generalfeldmarschall* Hugo Sperrle, targeted the West Country, Midlands, and northwest England. *Luftflotte 5*, led by *Generaloberst* Hans-Jürgen Stumpff from his headquarters in Norway, targeted the north of England and Scotland. As the battle progressed, command responsibility shifted, with *Luftflotte 3* taking

more responsibility for the night-time *Blitz* attacks while the main daylight operations fell upon *Luftflotte 2*'s shoulders.

Initial *Luftwaffe* estimates allotted four days to defeat Fighter Command in southern England, followed by four weeks for the bombers and long-range fighters to mop up the rest of the country and destroy the British aircraft industry. The plan was to begin with attacks on airfields near the coast, gradually moving inland toward London and the ring of sector airfields defending it. Later reassessments gave the *Luftwaffe* five weeks to establish temporary air superiority over England within the period from 8 August to 15 September. To achieve this goal, Fighter Command had to be destroyed on the ground or in the air with the *Luftwaffe* maintaining a high enough kill ratio to avoid depleting its own forces to such a level that it could not support an invasion. The only alternative to the goal of air superiority was a terror bombing campaign

aimed at the civilian population, but this alternative was considered unfeasible and was expressly forbidden by Hitler.

The *Luftwaffe* kept broadly to this scheme, but its commanders had differences of opinion on strategy. Sperrle wanted to eradicate the air defence infrastructure by bombing it. His counterpart, Kesselring, championed attacking London directly—either to bombard the British government into submission or to draw RAF fighters into a decisive battle. Göring did nothing to resolve this disagreement between his commanders, and only vague directives were set down during the initial stages of the battle, with Göring seemingly unable to decide upon which strategy to pursue. He seemed at times obsessed with maintaining his own power base in the *Luftwaffe* and indulging his outdated beliefs on air fighting, which were later to lead to tactical and strategic errors.

Tactics

The *Luftwaffe* varied its tactics considerably to try to find a way through the RAF defences. It launched many free-roving fighter sweeps, known as *Freie Jagd* ("Free Hunts"), to draw up RAF fighters. RAF fighter controllers, however, were often able to detect these and position squadrons to avoid them, keeping to Dowding's plan to preserve fighter strength for the bomber formations. The *Luftwaffe* also tried using small formations of bombers as bait, covering them with large numbers of escorts. This was more successful, but escort duty tied the fighters to the bombers' slow



Messerschmitt Bf 109E

speed and made them more vulnerable. Casualties were greatest among the escort units.

Standard tactics for raids soon became an amalgam of techniques. A free hunt would precede a raid to try to sweep any defenders out of the raid's path. The bombers would then fly in at altitudes between 10,000 and 16,000 feet (4,900 m), sometimes closely escorted by fighters. A "detached" escort or "top cover" would fly above the bombers and maintain a distant watch.

Luftwaffe tactics were influenced by their fighters, which were divided into single-engined Bf 109s and twin-engine Bf 110s. The Bf 110 *Zerstörer* ("destroyer") proved too vulnerable to the nimble single-engined RAF fighters. Soon, they had to be given escorts of their own and were eventually restricted in their employment. This meant the bulk

of fighter duties fell on the Bf 109. Fighter tactics were then complicated by bomber crews who demanded closer protection. Due to a similar concerns over losses in the hard-fought battles of 15 August and 18 August, Göring ordered an increase in close escort duties. This decision shackled many of the Bf 109s to the bombers and, although they were more successful at protecting the bomber forces, casualties amongst the fighters mounted primarily because they were forced to fly and manoeuvre at reduced speeds.

Adolf Galland noted:

We had the impression that, whatever we did, we were bound to be wrong. Fighter protection for bombers created many problems which had to be solved in action. Bomber pilots preferred close screening in which their formation was surrounded by pairs of fighters pursuing a zigzag course. Obviously, the visible presence

of the protective fighters gave the bomber pilots a greater sense of security. However, this was a faulty conclusion, because a fighter can only carry out this purely defensive task by taking the initiative in the offensive. He must never wait until attacked because he then loses the chance of acting. We fighter pilots certainly preferred the free chase during the approach and over the target area. This, in fact, gives the greatest relief and the best protection for the bomber force.

The limited, 600 km (360 mi) total range of the Bf 109E single engined fighters was also a serious limitation on the Luftwaffe's tactics in the battle-the longer (at 800 km/500 mi) range Focke-Wulf Fw 190, then still only existent in prototype form, would have posed a much more serious threat to the Royal Air Force had it been available.

Intelligence

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The *Luftwaffe* was ill-served by its lack of intelligence about the British defences. The German intelligence services were fractured and plagued by rivalries; their overall performance was amateurish. By 1940, there were few if any German agents operating in the UK and a handful of bungled attempts to insert spies into the country were foiled. This meant the *Luftwaffe* had almost no recent knowledge of the workings of the RAF's air defences, in particular of the crucial command and control system built before the war. Even when good information existed, such as a November 1939 *Abwehr* assessment of Fighter Command strengths and capabilities by *Abteilung V*, it was ignored if it did not match conventional preconceptions.

Throughout the battle, the *Luftwaffe* had to launch numerous reconnaissance sorties to make up for the poor intelligence. Reconnaissance aircraft (at first mostly Dornier Do 17s, but increasingly

Bf 110s) proved easy prey for British fighters, as it was seldom possible for them to be escorted by Bf 109s. Thus, the *Luftwaffe* operated "blind" for much of the battle, unsure of its enemy's true strengths, capabilities, and deployments. Many times the leadership believed Fighter Command's strength had collapsed, while raids against supposed fighter airfields fell instead on bomber or coastal defence stations. The results of bombing and air fighting were consistently exaggerated, due to over-enthusiastic claims and the difficulty of effective confirmation over enemy territory. In the euphoric atmosphere of perceived victory, *Luftwaffe* leadership became increasingly disconnected from reality. This lack of leadership and solid intelligence meant the Germans did not adopt any consistent strategy, even when the RAF had its back to the wall. Moreover, there was never a systematic focus on any one type of target (such as airbases, radar stations, or aircraft factories), so the already haphazard effort was further diluted.

Navigational aids

While the British were using radar for air defence more effectively than the Germans realised, the *Luftwaffe* attempted to press its own offensive advantage with advanced radio navigation systems the British were initially not aware of. One of these was *Knickebein* ("crooked leg"), a system where carefully positioned radio transmitters in friendly territory broadcast specially targeted navigational beams which intersected over specific bombing targets in enemy territory. Bombers equipped to detect these beams could be guided towards a target and receive a signal to drop their bombs when they were (roughly) overhead. This allowed for somewhat more accurate bombing at night, when British air defence was at its weakest.

Although British intelligence had heard of proposals for this system,

they were not taken seriously until a British science advisor to MI6, Dr. Reginald Jones, gathered evidence of its existence and the threat it posed. He then convinced the high command of the menace and confirmed it with special reconnaissance flights. Jones was put in charge of developing countermeasures, which often involved interfering with the beams to make attacking aircraft go widely off course. Although the Germans resorted to other navigational systems, Jones and the Telecommunications Research Establishment (TRE) were able to neutralise each in turn. This so-called Battle of the Beams resulted in a markedly reduced German bombing accuracy. With the beams no longer accurate, however, many civilian areas that would not normally have been targeted were bombed.

RAF strategy

The Dowding system

The keystone of the British defence was the complex infrastructure of detection, command, and control that ran the battle. This was the "Dowding System," after its chief architect, Air Chief Marshal Sir H.C.T. "Stuffy" Dowding, the leader of RAF Fighter Command.

Groups

The UK's airspace was divided up into four Groups.

- 10 Group defended Wales and the West Country and was commanded by Air Vice-Marshal Sir Quintin Brand.
- 11 Group covered the southeast of England and the critical approaches to London and was commanded by Air Vice-Marshal

Keith Park.

- 12 Group defended the Midlands and East Anglia and was led by Air Vice-Marshal Trafford Leigh-Mallory.
- 13 Group covered the north of England, Scotland and Northern Ireland and was commanded by Air Vice-Marshal Richard Saul.

At the HQ of each Group (*e.g.* RAF Uxbridge, for 11 Group), information from Fighter Command headquarters would be noted on plotting tables, large maps on which counters marking the incoming raids would be moved, and RAF officers known as Fighter Controllers could then order a response.

Despite appearances, the Groups were not mutually supporting; Park, for instance, could only request, not demand, assistance from Brand (from whom he often got it), nor from Leigh-Mallory (from whom he more often did not). This was because Dowding had never issued

standing orders to assist, nor created a method to co-ordinate it.

Sectors

The Group areas were subdivided into Sectors; each commanding officer was assigned between two and four squadrons. Sector stations, comprising an aerodrome with a command post, were the heart of this organisation, though they also had satellite airfields to disperse squadrons to. When ordered by their Group HQ, the sector stations would "scramble" their squadrons into the air. Once airborne, the squadrons would be directed by radio-telephone (R/T) from their sector station. Squadrons could be ordered to patrol airfields or vital targets or be "vectored" to intercept incoming raids.

Limitations

Though it was the most sophisticated air defence system in the world at that time, the Dowding System had many limitations, including, but not often stressed, its emphatic need for qualified ground maintenance personnel, many of whom had received their training under the Aircraft Apprentice scheme instituted by Hugh Trenchard. RDF (radar) was subject to significant errors and the Observer Corps had difficulties tracking raids at night and in bad weather. R/T communications with airborne fighters were restricted because of the RAF's use of High-Frequency (HF) radio sets. HF radio was limited in range and even with a network of relay stations, the squadrons could not roam more than one or two sectors from their airfields. It was also restricted to a single frequency *per* squadron, making inter-squadron communication impossible. Finally, the system for tracking RAF fighters, known as HF/DF or "Huff-Duff", restricted sectors to a maximum of four squadrons in the air.

This is, in part, a reflection of the novelty of the type of combat, as well as the control system. It was perfectly possible for Sector Control to have been assigned one frequency for all fighters to "listen out" on (or "guard", in modern parlance), with "roving" intercept guidance, rather than the close positive control used in the event, which limited controllers' ability to handle large numbers of interceptors.

Efficiency

In spite of this, Fighter Command at times achieved interception rates greater than 80%. The R/T problems were solved late in the battle with the adoption of Very High-Frequency (VHF) radio sets, which gave clearer voice communications, had longer range, and provided multiple channels. For all of its faults, RAF's system of ground control directed its fighters to be where they were needed. The *Luftwaffe*, with no such

system, was always at a disadvantage.

Effect of signals intelligence

It is unclear how much the British intercepts of the Enigma cipher, used for high-security German radio communications, affected the battle. Ultra, the information obtained from Enigma intercepts, gave the highest echelons of the UK's command a view of German intentions but it seems little of this material filtered down to Hugh Dowding's desk. (It would have had little tactical value in any case.) However, the radio listening service (known as Y Service), monitoring the patterns of Luftwaffe radio traffic, contributed considerably to the early warning of raids.

Tactics

The weight of the battle fell upon 11 Group. Keith Park's tactics were to dispatch individual squadrons to intercept raids. The intention was to subject attackers to continual attacks by relatively small numbers of aircraft and try to break up the tight formations of bombers. Once formations had fallen apart, stragglers could be picked off one by one. Where multiple squadrons reached a raid the procedure was for the slower Hurricanes to tackle the bombers while the more agile Spitfires held up the fighter escort. This ideal was not always achieved, however, and sometimes the Spitfires and Hurricanes reversed roles.



An RAF Spitfire I shortly before World War II.

During the battle, some commanders, notably Leigh-Mallory, proposed squadrons be formed into "Big Wings," consisting of at least three squadrons, to attack the enemy *en masse*, a method pioneered by Douglas Bader. Proponents of this tactic claimed interceptions in large numbers caused greater enemy losses while reducing their own casualties. Opponents pointed out the big wings would take too long to form up, and the strategy ran a greater risk of fighters being caught on the ground refuelling. The big wing idea also caused pilots to over-claim their kills, due to the confusion of a more intense battle zone. This led to the belief



Hawker Hurricane I (R4118),
Battle of Britain veteran, still
flying (as of 2007).

big wings were far more effective than they actually were.

The issue caused intense friction between Park and Leigh-Mallory, as 12 Group were tasked with protecting 11 Group's airfields whilst Park's squadrons intercepted incoming raids. However, the delay in forming up Big Wings meant this often did not arrive until after German bombers had hit 11 Group's airfields. Dowding, in an effort to highlight the problem of the Big Wing's performance, submitted a report compiled by Park to the Air Ministry on 15 November. In the report he highlighted the fact that during the period of 11 September – 31 October the extensive use of the Big Wing had resulted in just 10 interceptions and one German aircraft destroyed, but his report was ignored.. Postwar analysis agrees Dowding's and Park's approach was best for 11 Group. Dowding's removal from his post in November 1940 has been blamed on this struggle between Park and Leigh-Mallory's daylight strategy.

However the intensive raids and destruction wrought during the Blitz also damaged Dowding and Park in particular, for the failure to produce an effective night-fighter defence system, something for which the influential Leigh-Mallory had long criticised them.

Bomber and Coastal Command contributions

Bomber Command and Coastal Command aircraft flew offensive sorties against targets in Germany and France during the battle. After the initial disasters of the war, with Vickers Wellington bombers shot down in large numbers attacking Wilhelmshafen and the slaughter of the Fairey Battle squadrons sent to France, it became clear Bomber Command would have to operate mainly at night to achieve any results without very high losses. From 15 May 1940 a night-time bomber campaign was launched against German oil industry, communication and forests/crops,

mainly in the Ruhr area.

As the threat mounted, Bomber Command changed targeting priority on 3 June 1940 to attack the German aircraft industry and to attack harbours and shipping able to support an invasion of Great Britain. From early August the assembling invasion fleet in French ports got a high priority target as well. The large barges intended by the Germans to transport troops across the Channel were targeted by bombers. In addition the Germans had few Freya radar stations set up in France, meaning air defence of the French harbours were not nearly as good as the air defences over Germany. In September 1940, Bomber Command was directing some 60% of its strength against the Channel ports. Unexplained is why German fighter and bomber bases in France, which were jammed with aircraft and well-known to RAF intelligence, were never attacked. Even a handful of Blenheims attacking a few times in

July could have inflicted more damage than all of Fighter Command for the duration of the battle.

Coastal Command directed its attention towards the protection of British shipping, and the destruction of enemy shipping. As invasion became more likely, it participated in the strikes on French harbours and airfields, laying mines, and mounting numerous reconnaissance missions over the enemy held coastline. In all, some 9,180 sorties were flown by bombers from July to October 1940. Compared to the 80,000 sorties flown by fighters it is relatively little, but bombers suffered about 50% the number of casualties as their fighter colleagues. The bomber contribution was therefore much more dangerous on a loss-*per*-sortie comparison.

Phases of the Battle

The Battle can be roughly divided into four phases:

- 10 July– 11 August: *Kanalkampf*, ("the Channel battles").
- 12 August– 23 August: *Adlerangriff* ("Eagle Attack"), the early assault against the coastal airfields.
- 24 August– 6 September: the *Luftwaffe* targets the airfields. The critical phase of the battle.
- 7 September onwards: the day attacks switch to British towns and cities.

Channel battles

The *Kanalkampf* comprised a series of running fights over convoys in the English Channel and occasional attacks on the convoys by Stuka dive-bombers. It was launched partly because Kesselring and Sperrle were not sure about what else to do, and partly because it gave German aircrews some training and a chance to probe the British defenders. In general, these battles off the coast tended to favour the Germans, whose bomber escorts massively outnumbered the convoy patrols. The need for constant patrols over the convoys put a severe strain on RAF pilots and machines, wasting fuel, engine hours and exhausting the pilots, but eventually the number of ship sinkings became so great the British



A pair of 264 Squadron Defiants. (PS-V was shot down on 28 August 1940 over Kent by Bf 109s.)

Admiralty cancelled all further convoys through the Channel. However, these early combat encounters provided both sides with experience. They also gave the first indications some of the aircraft, such as the Defiant and Bf 110, were not up to the intense dog-fighting that would characterise the battle.

Main assault

The main attack upon the RAF's defences was code-named *Adlerangriff* ("Eagle Attack").

Weather, which proved an important feature of the campaign, delayed *Adlertag*, ("Eagle Day") until 13 August 1940. On 12 August, the first attempt was made to blind the Dowding system when aircraft from the specialist fighter-bomber unit, *Erprobungsgruppe* 210 attacked four

radar stations. Three were briefly taken off the air but were back working within six hours. The raids appeared to show British radars were difficult to knock out for any length of time. The failure to mount follow-up attacks allowed the RAF to get the stations back on the air, and *Luftwaffe* neglected strikes on the supporting infrastructure, such as phone lines or power stations, which could have rendered the radars useless, even if the towers themselves (which were very difficult to destroy) remained intact.

Adlertag opened with a series of attacks on coastal airfields, used as forward landing grounds for the RAF fighters. As the week drew on, the airfield attacks moved further inland, and repeated raids were made on the radar chain. 15 August was "The Greatest Day" when the *Luftwaffe* mounted the largest number of sorties of the campaign. *Luftflotte 5* attacked the north of England. Believing Fighter Command strength to

be concentrated in the south, raiding forces from Denmark and Norway ran into unexpectedly strong resistance. Inadequately escorted by Bf 110s, bombers were shot down in large numbers. As a result of the casualties, *Luftflotte 5* did not appear in strength again in the campaign.



Junkers Ju 87 dive-bombers

18 August, which had the greatest number of casualties to both sides, has been dubbed "The Hardest Day". Following the grinding battles of 18 August, exhaustion and the weather reduced operations for most of a week, allowing the Luftwaffe to review their performance. "The Hardest Day" had sounded the end for the Ju 87 in the campaign. This veteran of *blitzkrieg*

was too vulnerable to fighters to operate over Britain, and to preserve the *Stuka* force, Göring withdrew them from the fighting. This removed the main *Luftwaffe* precision-bombing weapon and shifted the burden of pinpoint attacks on the already-stretched *Erpro* 210. Also, the Bf 110 had proven too clumsy for dog-fighting with single-engined fighters, and its participation was scaled back. It would only be used when range required it or when sufficient single-engined escort could not be provided for the bombers.

Göring made yet another fateful decision: to order more bomber escorts at the expense of free-hunting sweeps. To achieve this, the weight of the attack now fell on *Luftflotte* 2, and the bulk of the Bf 109s in *Luftflotte* 3 were transferred to Kesselring's command, reinforcing the fighter bases in the Pas de Calais. Stripped of its fighters, *Luftflotte* 3 would concentrate on the night bombing campaign. Göring, expressing

disappointment with the fighter performance thus far in the campaign, also made a large change in the command structure of the fighter units, replacing many *Geschwaderkommodoren* with younger, more aggressive pilots like Adolf Galland and Werner Mölders.

Finally, Göring stopped the attacks on the radar chain. These were seen as unsuccessful, and neither the *Reichsmarschall* nor his subordinates realised how vital the Chain Home stations were to the defence. It was known radar provided some early warning of raids, but the belief among German fighter pilots was anything bringing up the "Tommies" to fight was to be encouraged.

Luftwaffe targets RAF airfields

On 19 August 1940, Göring ordered attacks concentrating on aircraft

production, then on 23 August 1940 his directive added a focus on RAF airfields, as well as day and night attacks aimed at weakening fighter forces across the United Kingdom. That evening saw the start of a sustained campaign of bombing, starting with a raid on tyre production at Birmingham. Raids on airfields continued through 24 August, and a major attack hit Portsmouth. That night, several areas of London were bombed, with the East End set ablaze and one release hitting central London. These have been attributed to a group of Heinkel He 111s, unable to find their target, releasing their bombs and returning home, unaware they were dropping them on the city, but this account has been contested. In retaliation, the RAF bombed Berlin on the night of 25 August– 26 August, and continued bombing raids on Berlin. These hurt Göring's pride, because he had previously claimed the British would never be allowed to bomb the city, and enraged Hitler.

From 24 August onwards, the battle was essentially a fight between Kesselring's *Luftflotte 2* and Park's 11 Group. The *Luftwaffe* concentrated all their strength on knocking out Fighter Command and made repeated attacks on the airfields. Of the 33 heavy attacks in the following two weeks, 24 were against airfields. The key sector stations were hit repeatedly: Biggin Hill and Hornchurch four times each; Debden and North Weald twice each. Croydon, Gravesend, Rochford, Hawkinge and Manston were also attacked in strength. At least seven attempts were made against Eastchurch, which was not a Fighter Command aerodrome but was believed to be by the Germans. At times these raids knocked out the sector stations, threatening the integrity of the Dowding system. Emergency measures had to be taken to keep the sectors operating.

The RAF was taking many casualties in the air. Aircraft production

could replace aircraft, but replacement pilots were barely keeping pace with losses, and novice fliers were being shot down at an alarming rate. To offset losses, some 58 Fleet Air Arm fighter pilot volunteers were seconded to RAF squadrons, and a similar number of former (single-engine) Fairey Battle pilots were utilized. Most replacements from Operational Training Units (OTUs) had as little as nine hours flying time and no gunnery or air-to-air combat training. At this point the multinational nature of Fighter Command came to the fore. Many squadrons and individual personnel from the air forces of the Dominions were already attached to the RAF — Australians, Canadians, New Zealanders, Rhodesians and South Africans — they were bolstered by the arrival of fresh Czechoslovak and Polish squadrons. These squadrons had been held back by Dowding, who mistakenly thought non-English speaking aircrew would have trouble working within his control system. In addition there were other nationals, including Free

French, Belgian and even a Jewish pilot from the British mandate of Palestine.

Polish fliers proved especially effective — the pre-war Polish Air Force had lengthy and extensive training, and high standards; with Poland conquered and under German occupation, the Polish pilots of 303 Squadron were strongly motivated. Josef František, a Czech regular airman who had flown from the occupation of his own country and joined the Polish and then French air forces before arriving in Britain, proved effective but undisciplined and flew as a guest of 303 Squadron chasing Germans. He shot down 17, now accepted as the highest "RAF score".

The RAF had the advantage of fighting over home territory. Pilots who bailed out of their downed aircraft could be back at their airfields within

hours. For *Luftwaffe* aircrews, a bail out over England meant capture, while parachuting into the English Channel often meant drowning or death from exposure. Morale began to suffer, and *Kanalkrankheit* ("Channel sickness") — a form of combat fatigue — began to appear among the German pilots. Their replacement problem was even worse than the British. Though the *Luftwaffe* maintained its numerical superiority, the slow appearance of replacement aircraft and pilots put increasing strain on the resources of the remaining attackers.

Formerly, the conventional wisdom was, the *Luftwaffe* was winning even so. Recent research shows this isn't true. Throughout the battle, the Germans "greatly underestimated the size of the RAF and the scale of British aircraft production. Across the Channel, the Air Intelligence division of the Air Ministry consistently overestimated the size of the German air enemy and the productive capacity of the German aviation

industry. As the battle was fought, both sides exaggerated the losses inflicted on the other by an equally large margin. However, the intelligence picture formed before the battle encouraged the German Air Force to believe that such losses pushed Fighter Command to the very edge of defeat, while the exaggerated picture of German air strength persuaded the RAF that the threat it faced was larger and more dangerous than was actually the case." This led the British to the conclusion another fortnight of attacks on airfields might force Fighter Command to withdraw their squadrons from the south of England. The German misconception, on the other hand, "encouraged first complacency, then strategic misjudgement. The shift of targets from air bases to industry and communications was taken because it was assumed that Fighter Command was virtually eliminated." Yet this analysis ignores the fact it was pilots, not aircraft, Fighter Command continued to be desperately short of, as it had been from the start of the

Battle. Incompletely-trained recruits, and instructors cannibalized from the training program, did not augur well for the ability to sustain the defense.

Due to the failure of the *Luftwaffe* to establish air supremacy, a conference assembled on 14 September at Hitler's headquarters. Hitler concluded that air superiority had not yet been established and "promised to review the situation on 17 September for possible landings on 27 September or 8 October. Three days later, when the evidence was clear that the German Air Force had greatly exaggerated the extent of their successes against the RAF, Hitler postponed Sealion indefinitely." However, at the meeting on 14 September, the leadership of the *Luftwaffe* had persuaded him to give them a last chance to cow the RAF. "The air force chief of staff, General Hans Jeschonnek ... asked Hitler to allow him to attack residential areas to create 'mass panic'.

Hitler refused, perhaps unaware of just how much damage had already been done to civilian targets. 'Mass panic' was to be used only as a last resort. Hitler reserved for himself the right to unleash the terror weapon. The political will was to be broken by the collapse of the material infrastructure, the weapons industry, and stocks of fuel and food. On 16 September Goering ordered the air fleets to begin the new phase of the battle. Like the campaign in Kosovo in the spring of 1999, air power was expected to deliver the political solution by undermining military capability and the conditions of daily existence."

Raids on British cities

The *Luftwaffe* offensive against Britain had included numerous raids on cities since August, but Hitler had issued a directive London was not to be bombed save on his sole instruction. However, on the night of

23 August, bombs were accidentally dropped on Harrow on the outskirts of London as well as raids on Aberdeen, Bristol and South Wales. The focus on attacking airfields had also been accompanied by a sustained bombing campaign which begun on 24 August with the largest raid so far killing 100 in Portsmouth, and that evening the first night raid on London as described above. Continuing RAF raids on Berlin in retaliation led to Hitler withdrawing his directive, and on 3 September Göring planned to bomb London daily, with Kesselring's enthusiastic support, having received reports the RAF was down to under 100 fighters and their airfields in the area were out of action. Hitler issued a directive on 5 September to attack cities including London.

On 7 September 1940 a massive series of raids involving nearly four hundred bombers and more than six hundred fighters targeted docks in the East End of London, day and night. Though suffering from

shortages, the RAF anticipated attacks on airfields and 11 Group rose to meet them, in greater numbers than the *Luftwaffe* expected. The first official deployment of 12 Group's Big Wing took twenty minutes to gain formation, missing its intended target, but encountering another formation of bombers while still climbing. They returned, apologetic about their limited success, and blamed the delay on being requested too late. Next morning, Keith Park flew his Hurricane over the city: "It was burning all down the river. It was a horrid sight. But I looked down and said 'Thank God for that', because I knew that the Nazis had switched their attack from the fighter stations thinking that they were knocked out. They weren't, but they were pretty groggy". *Luftwaffe* raids across Britain continued, with large attacks on London targeting the docks or bombing indiscriminately. Fighter Command had been at its lowest ebb, short of men and machines, and the break from airfield attacks allowed them to recover. 11 Group had considerable success in breaking up

daytime raids. 12 Group repeatedly disobeyed orders and failed to meet requests to protect 11 Group airfields, but their experiments with increasingly large Big Wings had some successes. The *Luftwaffe* began to abandon their morning raids, with attacks on London starting late in the afternoon for 57 consecutive nights of attacks.

The most damaging aspect to the *Luftwaffe* of the change in targets (to London) was the increase in range. The Bf 109 escorts had a limited fuel capacity, and by the time they arrived over the city, had only 10 minutes of flying time before they had to turn for home. This left many raids undefended by fighter escorts. On 11 September, Hitler postponed Operation Sealion until 24 September. RAF Bomber Command contributed to the problems facing the German naval forces by sinking eighty barges in the Port of Ostend alone.



Members of the London
Auxiliary Firefighting Service.

On 15 September, two massive waves of German attacks were

decisively repulsed by the RAF, with every single aircraft of the 11 Group being used on that day. The total casualties on this critical day were 60 German aircraft shot down versus only 26 RAF. The German defeat caused Hitler to order, two days later, the *postponement* of preparations for the invasion of Britain. Henceforth, in the face of mounting losses in men, aircraft and the lack of adequate replacements, the *Luftwaffe* switched from daylight to night-time bombing.

On 13 October, Hitler again postponed the invasion until the spring of 1941; however, the invasion never happened, and October is regarded as the month in which regular bombing of Britain ended. It was not until Hitler's Directive 21 was ordered on 18 December 1940, that the threat of invasion finally dissipated.

Aftermath

The Battle of Britain marked the first defeat of Hitler's military forces, with air superiority seen as the key to victory. Pre-war theories led to exaggerated fears of strategic bombing, and British public opinion was invigorated by having come through the ordeal. To Hitler it did not seem a serious setback, as Britain was still not in a position to cause real damage to his plans, and the last minute invasion plan had been an unimportant addition to German strategy. However, for the British, Fighter Command had achieved a great victory in successfully carrying out Sir Thomas Inskip's 1937 air policy of preventing the Germans from knocking Britain out of the war. (Fighter Command was so successful, the conclusion to Churchill's famous 'Battle of Britain' speech has come to refer solely to them: "...if the British Empire and its Commonwealth lasts for a thousand years, men will still say, 'This was their finest hour.'")

The Battle also signalled a significant shift in U.S. opinion. During the battle, many people from the U.S. accepted the view promoted by Joseph Kennedy, the U.S. ambassador in London, and believed the UK could not survive. However, Roosevelt wanted a second opinion, and sent "Wild Bill" Donovan on a brief visit to Britain, who became convinced Britain would survive and should be supported in every possible way.

Both sides in the battle made exaggerated claims of numbers of enemy aircraft shot down. In general, claims were two to three times the actual numbers, because of the confusion of fighting in dynamic three-dimensional air battles. Postwar analysis of records has shown between July and September, the RAF claimed over 2,698 kills for 1,023 fighter aircraft lost to all causes, where 147 Polish pilots claimed 201 out of that number, while the *Luftwaffe* fighters claimed 3,198 RAF aircraft

downed for losses of 1,887, of which 873 were fighters. To the RAF figure should be added an additional 376 Bomber Command and 148 Coastal Command aircraft conducting bombing, mining, and reconnaissance operations in defence of the country.

Some modern military historians have suggested the battle was unwinnable for the *Luftwaffe* because their numerical majority was not sufficient to achieve air superiority. Dowding's and Park's strategy of choosing when to engage the enemy whilst maintaining a coherent force was vindicated. Three historians, who teach at Joint Services Command and Staff College, have suggested the existence of the Royal Navy was enough of a deterrent to the Germans; even had the *Luftwaffe* won, the Germans had limited means with which to combat the Royal Navy, certain to have intervened to prevent a landing. Some veterans of the battle point out the Royal Navy would have been vulnerable to air

attack by the *Luftwaffe* if Germany had achieved air superiority, quoting the fate of *Prince of Wales* and *Repulse* in December 1941, overwhelmed only by air power. They neglect to mention Germany at that time had no armour piercing bomb capable of penetrating the armor of a British battleship.

Though the claims about the Royal Navy's ability to repulse an invasion may be contested, there is a consensus among historians that the *Luftwaffe* simply could not crush the RAF, without which a successful invasion of Britain was impossible. "Irrespective of whether Hitler was really set on this course, he simply lacked the resources to establish the air superiority that was the sine qua non of a successful crossing of the English Channel. A third of the initial strength of the German air force, the *Luftwaffe*, had been lost in the western campaign in the spring. The Germans lacked the trained pilots, the effective fighter planes, and the

heavy bombers that would have been needed."

The theories of strategic bombing, which hinged on the collapse of public morale, were undone by British defiance in the face of the day and night blitzes. The switch to terror bombing allowed the RAF to recuperate and to defend against the attacks. Even if the attacks on the 11 Group airfields had continued, the British could have withdrawn to the Midlands, out of the range of German fighters, and continued the battle from there. Postwar records show British aircraft were being replaced faster than those of the Germans; the RAF maintained its strength even as the *Luftwaffe's* declined. In losses of aircraft and experienced aircrew, the battle was a blow from which the *Luftwaffe* never fully recovered.

The Germans launched some spectacular attacks against important

British industries, but they could not destroy the British industrial potential, and made little systematic effort to do so. Hindsight does not disguise the fact the threat to Fighter Command was very real and for the participants, it seemed as if there was a narrow margin between victory and defeat. The victory was as much psychological as physical.

The British triumph in the Battle of Britain was not without heavy cost. Total British civilian losses from July to December 1940 were 23,002 dead and 32,138 wounded, with one of the largest single raids occurring on 19 December 1940, in which almost 3,000 civilians died.

Winston Churchill summed up the effect of the battle and the contribution of Fighter Command with the words, "Never in the field of human conflict was so much owed by so many to so few". However, the brilliant leadership of Dowding and Keith Park in successfully proving

their theories of air defence had created enemies amongst RAF senior commanders, and in a shabby episode, both were sacked from their posts in the immediate aftermath of the battle. Pilots who fought in the Battle have been known as *The Few* ever since. 15 September is celebrated in the United Kingdom as "Battle of Britain Day", marking the battle.

The end of the battle allowed the UK to rebuild its military forces and establish itself as an Allied stronghold. Britain later served as a base from which the Liberation of Western Europe was launched.

International participation

The RAF roll of honour for the Battle of Britain recognises 510 non-British pilots as flying at least one authorised operational sortie with

an eligible unit of the Royal Air Force or Fleet Air Arm between 10 July and 31 October 1940. This included pilots from Poland, New Zealand, Canada, Czechoslovakia, Belgium, Australia, South Africa, France, Ireland, United States of America, Jamaica, Palestine, and Southern Rhodesia. The highest-scoring unit during the Battle of Britain was the No. 303 Polish Fighter Squadron.

Italian dictator Benito Mussolini insisted on providing an element of the Italian Royal Air Force (*Regia Aeronautica*) to assist his German ally during the Battle of Britain. This expeditionary force was called the Italian Air Corps (*Corpo Aereo Italiano* or CAI) and first saw action in late October 1940. It took part in the latter stages of the battle but achieved limited success and was redeployed in early 1941.

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Bodyline

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Bodyline, also known as **fast leg theory**, was a cricketing tactic devised by the English cricket team for their 1932–33 Ashes tour of Australia, specifically to combat the extraordinary batting skill of Australia's Don Bradman. A Bodyline bowler deliberately aimed the cricket ball at the body of the opposing batsman, in the hope of creating legside deflections that could be caught by one



Bill Woodfull evades a Bodyline ball.

of several fielders in the quadrant of the field behind square leg.

Although several batsmen were hit during the series, as would be expected, no one was hit while a leg-theory field was set, but still it led to ill feeling between the two national teams, with the controversy eventually spilling into the diplomatic arena. Over the next two decades, several of the Laws of Cricket were changed to prevent this tactic being repeated. It should be noted, however, that the *occasional* short-pitched ball aimed at the batsman (a bouncer) is not and has never been illegal and is in widespread use today as a tactic. Law 42 includes: *The bowling of fast short pitched balls is dangerous and unfair if the umpire at the bowler's end considers that by their repetition and taking into account their length, height and direction they are likely to inflict physical injury on the striker...'*

Genesis

The Australian cricket team toured England in 1930. Australia won the five- Test series 2–1, with Don Bradman scoring an astounding 974 runs at a batting average of 139.14, an aggregate record that stands to this day.

After the series, Douglas Jardine—who was later appointed England's captain for the 1932–33 English tour of Australia—devised a plan with Nottinghamshire captain Arthur Carr and his two fast bowlers Harold Larwood and Bill Voce to combat Bradman's extraordinary skills. At a meeting in London's Piccadilly Hotel, Jardine asked Larwood and Voce if they could bowl on leg stump and make the ball come up into the body of the batsman. The bowlers agreed they could, and that it might prove effective.

The inspiration for the idea probably came from the former England and Surrey captain Percy Fender who when seeing Newsreel film of Bradman batting against the MCC on the 1930 tour noticed that Bradman tended to jolt to the leg side when faced with short-pitched deliveries. Bradman was known rarely if ever to play the hook shot and Fender therefore felt Bradman might be vulnerable to fast, short-pitched deliveries on the line of leg stump.

Accompanying this bowling line would be a cordon of close fielders set on the leg side. The result was that the batsman had to choose to either take evasive action from balls aimed at his body and head, or attempt to fend the ball away with the bat, possibly giving catching chances to the close-set leg side field. A similar tactic, known as leg theory, had been employed previously, by slow bowlers such as Fred Root and Armstrong, but with more conventionally pitched and much slower

deliveries. It was occasionally an effective tactic, but sometimes made for boring watching, like the modern tactic of leg-spin or left-arm bowlers bowling into the rough area of the pitch outside leg stump to restrict a batsman's scoring opportunities.

Larwood and Voce practised the plan over the next two seasons of English county cricket, terrorising their opponents as Nottinghamshire finished near the top of the competition each year. By the time the English team left for Australia on September 17, 1932, Larwood and Voce, along with Bill Bowes from Yorkshire, had perfected their attack.

English tour 1932–33



Australian captain Bill Woodfull (left) with Monty Noble (centre) and Tim Wall (right)

The English players first tried their tactic in a first-class tour match against an Australian XI in Melbourne on 18–22 November, a game in which Jardine rested and gave the captaincy duties to his deputy Bob Wyatt. Seeing the bruising balls hit the Australian batsmen on several occasions in this game and the next angered the spectators.

The English players and management were consistent in referring to their tactic as *fast leg theory* because most of them considered it to be a variant of the

established — and relatively harmless — leg theory tactic. The Australian press came up with the far more evocative and inflammatory term, *Bodyline* (see below). The reporting of the series in England described the tactic as *fast leg theory*. This caused serious misunderstandings, as neither the English public nor the Board of the Marylebone Cricket Club (MCC) — the governing body of English cricket — could understand why the Australians were complaining about a commonly used tactic. They came to the conclusion that the Australian cricket authorities and public were sore losers and "squealers". Of the four fast bowlers in the tour party, Gubby Allen was a voice of dissent in the English camp, refusing to bowl short on the leg side, and writing several letters home to England critical of Jardine, although he did not express this in public in Australia. A number of other players, while maintaining a united front in public, also deplored Bodyline in private. The amateurs Bob Wyatt (the vice-captain),

Freddie Brown and the Nawab of Pataudi opposed it, as did Walter Hammond and Les Ames among the professionals.

In the Test matches, Bradman countered Bodyline by moving toward the leg side, away from the line of the ball, and cutting it into the vacant off side field. Whilst this was dubious in terms of batting technique, it seemed the best way to cope with the barrage, and Bradman averaged 56.57 in the series (an excellent average for most, but well short of his career average of 99.94), while being struck above the waist by the ball only once. His team-mates fared worse, with only Stan McCabe scoring a century.

Whilst successful as a tactic (England regained the Ashes with a 4-1 margin), the Australian crowds abhorred Bodyline as vicious and unsporting. Matters came to a head in the Third Test at Adelaide, when Larwood struck Australian captain Bill Woodfull above the heart, and fractured wicket-keeper Bert Oldfield's skull (although this was from a top edge off a traditional non-Bodyline ball and Oldfield



Bert Oldfield is hit in the head after Harold Larwood's delivery deflected off his bat.

admitted it was his fault). Tension and feelings ran so high that a riot was narrowly averted as police stationed themselves between the players and enraged spectators. However, at the time England were not using the Bodyline tactics. Woodfull was struck when he was bent over his bat and wicket – and not when upright as often imagined. The crowd was incensed, and popular imagination blurred, when Jardine said "Well bowled, Harold", and ordered his team to move to Bodyline positions immediately after Woodfull's injury.

In a famous quotation, Bill Woodfull said to the England tour manager Pelham Warner, when the latter came to express his sympathy for Woodfull's injury:

I don't want to see you, Mr Warner. There are two teams out there, one is playing cricket. The other is making no

attempt to do so.

At the end of the fourth day's play the Australian Board of Control for Cricket sent the following cable to the MCC in London:

Bodyline bowling has assumed such proportions as to menace the best interests of the game, making protection of the body by the batsman the main consideration. This is causing intensely bitter feeling between the players, as well as injury. In our opinion it is unsportsmanlike. Unless stopped at once it is likely to upset the friendly relations existing between Australia and England.



Bert Oldfield staggers away with his skull fractured.

Jardine however insisted his tactic was not designed to cause injury and that he was leading his team in a sportsmanlike and gentlemanly manner, arguing that it was up to the Australian batsmen to play their way out of trouble. He also secretly sent a telegram of sympathy to Bert Oldfield's wife and arranged for presents to be given to his young

daughters, a gesture open to a variety of interpretations.

The situation escalated into a diplomatic incident between the countries as the MCC — supported by the British public and still of the opinion that their *fast leg theory* tactic was harmless — took serious offence at

being branded "unsportsmanlike" and demanded a retraction. With World War I still fresh in people's memories and the first rumblings of World War II beginning, many people saw Bodyline as fracturing an international relationship that needed to remain strong.

Jardine, and by extension the entire English team, threatened to withdraw from the fourth and fifth Tests unless the Australian Board withdrew the accusation of unsporting behaviour. Public reaction in both England and Australia was outrage directed at the other nation. The Governor of South Australia, Alexander Hore-Ruthven, who was in England at the time, expressed his concern to British Secretary of State for Dominion Affairs James Henry Thomas that this would cause a significant impact on trade between the nations.

The standoff was settled only when Australian Prime Minister Joseph

Lyons met with members of the Australian Board and outlined to them the severe economic hardships that could be caused in Australia if the British public boycotted Australian trade. Given this understanding, the Board withdrew the allegation of unsportsmanlike behaviour two days before the fourth Test, thus saving the tour.

The English team continued to bowl Bodyline in the remaining two Tests, but slower pitches meant the Australians, although frequently bruised, sustained no further serious injuries.

In England

Bodyline continued to be bowled occasionally in the 1933 English season — most notably by Nottinghamshire, who had Carr, Voce and Larwood in their team. This gave the English crowds their first chance

to see what all the fuss was about. Ken Farnes, the Cambridge University fast bowler also bowled it in the University Match, hitting a few Oxford batsmen.

Jardine himself had to face Bodyline bowling in a Test match. The West Indian cricket team toured England in 1933, and, in the second Test at Old Trafford, Jackie Grant, their captain, decided to try Bodyline. He had a couple of fast bowlers, Manny Martindale and Learie Constantine. Facing Bodyline tactics for the first time, England first suffered, falling to 134 for 4, with Wally Hammond being hit on the chin, though he recovered to continue his innings. Then Jardine himself faced Martindale and Constantine. Jardine never flinched. He played right back to the bouncers, standing on tiptoe, and, no doubt partly because he didn't care for the hook shot, played them with a dead bat. Whilst the Old Trafford pitch was not as suited to Bodyline as the hard

Australian wickets, Martindale did take 5 for 73, but Constantine only took 1 for 55. Jardine himself made 127, his only Test century.

In the second West Indian innings, Clark bowled Bodyline back to the West Indians, taking 2 for 64. The match in the end was drawn; it was also the highest-profile game in which Bodyline was bowled in England.

Origin of the term

Although Jack Worrall claimed that he had invented the term "Bodyline", it is more likely that it was coined by Sydney journalist Hugh Buggy who worked for *The Sun* in 1932, and who happened to be a colleague of Jack Fingleton. Buggy sent a telegram to his newspaper from the Test after a day's play. As a substitute for "in the line of the body" he used the term "bodyline", to keep the cost down, and the new

term quickly became established.

Changes to the Laws of Cricket

As a direct consequence of the 1932–33 tour, the MCC introduced a new rule to the Laws of Cricket in 1935. Specifically, umpires were now given the power — and the responsibility — to intervene if they considered a bowler was deliberately aiming at a batsman with intent to injure.

Some 25 years later, another rule was introduced banning the placement of more than two fielders in the quadrant of the field behind square leg. Although this rule was not principally intended to prevent leg theory, it diluted the potency of short-pitched leg theory, as it allowed for fewer catching positions on the leg side.

Later law changes, under the heading of "Intimidatory Short Pitched Bowling", also restricted the number of " bouncers" which may be bowled in an over. Nevertheless, the tactic of intimidating the batsman is still used to an extent that would have been shocking in 1933, although it is less dangerous now because today's players wear helmets and generally far more protective gear. The West Indies teams of the 1980s, which regularly fielded a bowling attack comprising some of the best fast bowlers in cricket history, were perhaps the most feared exponents.

Cultural impact

Following the 1932–33 series, several authors — including many of the players involved — released books expressing various points of view about Bodyline. Many argued that it was a scourge on cricket and must

be stamped out, while some did not see what all the fuss was about.

The MCC asked Harold Larwood to sign an apology to them for his bowling in Australia, making his selection for England again conditional upon it. Larwood was furious at the notion, pointing out that he had been following orders from his upper-class captain, and that was where any blame should lie. Larwood never played for England again, and became vilified in his own country. In retrospect, this event is seen by many as the first step in breaking down the class distinction in English cricket. Douglas Jardine always defended his tactics and in the book he wrote about the tour, *In Quest of the Ashes*, described allegations that the England bowlers directed their attack with the intention of causing physical harm as stupid and patently untruthful.

Outside the sport, there were significant consequences for Anglo-

Australian relations, which remained strained, until the outbreak of World War II made cooperation paramount. Business between the two countries was adversely affected as citizens of each country displayed a preference for not buying goods manufactured in the other. Australian commerce also suffered in British colonies in Asia: the *North China Daily News* published a pro-Bodyline editorial, denouncing Australians as sore losers. An Australian journalist reported that several business deals in Hong Kong and Shanghai were lost by Australians because of local reactions.

English immigrants in Australia found themselves shunned and persecuted by locals, and Australian visitors to England were treated similarly. Some years later a statue of Prince Albert in Sydney was vandalised, with an ear being knocked off and the word "BODYLINE" painted on it.

Both before and after World War II, numerous satirical cartoons and comedy skits were written, mostly in Australia, based on events of the Bodyline tour. Generally, they poked fun at the English.

In 1984, Australia's Network Ten produced a television miniseries titled *Bodyline*, dramatising the events of the 1932–33 English tour of Australia. It starred Gary Sweet as Don Bradman, Hugo Weaving as Douglas Jardine, Jim Holt as Harold Larwood, Rhys McConnochie as Pelham Warner and Frank Thring as Jardine's mentor Lord Harris. The series took some liberties with historical accuracy for the sake of drama, including a depiction of angry Australian fans burning a British flag at the Sydney Cricket Ground, an event which was never documented. Larwood, having emigrated to Australia in 1950 to escape ongoing vilification in England, received several threatening and obscene phone calls after the series aired. The series was widely and strongly attacked

by the surviving players for its inaccuracy and sensationalism.

Currently, Australian film director and producer Peter Clifton is co-producing *The Bloody Ashes*, a film which will focus on the Bodyline series. An Australian casting agency has been commissioned for the search, while UK casting scouts are hunting for cricketing actors to play Jardine and Larwood. Clifton, who wrote the film with his long-time writing partner Michael Thomas, said the decision to search cricket clubs for the young Bradman role came after lengthy discussions with former Australian cricket captain Ian Chappell. Shooting of *The Bloody Ashes* is expected to commence in 2007.

To this day, the Bodyline tour remains one of the most significant events in the history of cricket, and strong in the consciousness of many cricket followers. In a poll of cricket journalists, commentators, and players in

2004, the Bodyline tour was ranked the most important event in cricket history.

As of 2008, the Bodyline controversy is a topic in the New South Wales Higher School Certificate as part of the preliminary (Year 11) Modern History syllabus.

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Catherine Cranston

2008/9 Schools Wikipedia Selection. Related subjects: British History Post

1900



The resolute Kate Cranston around 1903, dressed in the style

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Catherine Cranston (27 May 1849 – 18 April 1934), widely known as **Kate Cranston** or **Miss Cranston**, was a leading figure in the development of the social phenomenon of tea rooms. She is nowadays chiefly remembered as a major patron of Charles Rennie Mackintosh and Margaret MacDonald in Glasgow, Scotland, but the name of *Miss Cranston's Tea Rooms* lives on in reminiscences of Glasgow in its heyday.

Background

Her father George Cranston was a baker and pastry maker and in 1849, the year of her birth, he became proprietor of the *Edinburgh and Glasgow Railway Chop House and Commercial Lodgings* at No. 39 George Square in Glasgow city centre. The hotel was renamed the Royal Horse, then by May 1852 was *Cranston's Hotel and Dining*

Rooms, offering:

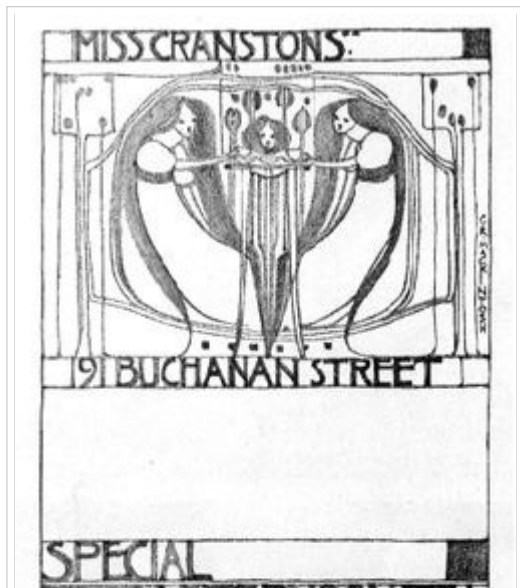
"Convenient Coffee room and detached Smoking Rooms on Ground Floor, commodious Commercial Room and Parlour, comfortable Bed-rooms and Baths, &c. Coffee always ready. Cigars, wines, spirits, ales, Newspapers, Time-Tables, Writing Materials. *Superior and varied Bill of Fare at the usual moderate charges.*

Her slightly older brother Stuart (1848-1921) became a tea dealer and, according to *Glasgow in 1901*, was "a pioneer of the business" there of "tea shops pure and simple" who by 1901 had three such tearooms offering nothing more substantial to eat than a sandwich. Kate went on to create much more of a social facility.

Like other cities in the United Kingdom, Glasgow was then a centre of

the temperance movement which sought an alternative to male-centred pubs. Tea had previously been a luxury for the rich, but from the 1830s it was promoted as an alternative to alcoholic drinks, and many new cafés and coffee houses were opened, catering more for ordinary people. However it was not until the 1880s that tea rooms and tea shops became popular and fashionable.

Miss Cranston's Tea Rooms



In 1878 Miss Kate Cranston opened her first tearoom, the Crown Luncheon Room, on Argyle Street, Glasgow. She set high standards of service, food quality and cleanliness, and her innovation lay in seeing the social need for something more than a restaurant or a simple "tea shop", and in putting equal attention into providing amenities designed in the latest style. Her first

tearoom was decorated in a contemporary baronial style. On 16 September 1886 she opened her Ingram Street tearoom and in 1888 commissioned George Walton to decorate a new smoking room in the Arts and Crafts style in one of her tea rooms.

In 1892 she became happily married to John Cochrane, but continued to trade under the name of *Miss Cranston's Tearooms*. She opened new tearooms in Buchanan Street in 1897, expanded to take over the whole building in Argyle Street by 1898, then completed her chain of four establishments with the Willow Tearooms in Sauchiehall Street, opened in 1903.

While other cities offered very expensive and very basic tea rooms by 1901, Kate Cranston set the standard in Glasgow for more welcoming establishments. Rooms were provided for ladies only and for gentlemen

only, as well as luncheon rooms where they could dine together and smoking rooms and billiards rooms for the gentlemen. *Miss Cranston's Tea Rooms* became social centres for all, for business men and apprentices, for ladies and ladies' maids. The *Ladies Rooms* were a particular success, newly allowing respectable women to get out and meet together without male company. Unlike cafes or tearooms in other cities, there was no intrusive supervision and those having tea had an assortment of Scones and cakes to hand, with a discreet notice reminding newcomers to remember the amount consumed. At "the accounting", *Glasgow in 1901* reported, "One states the amount of ones indebtedness, and receives a check therefor from the attendant maiden. This, with the corresponding coin or coins, one hands in at the pay-desk, and so home. Nothing could be simpler or less irritating."

The city was a centre of artistic innovation at the time, and the tearooms

served as art galleries for paintings by the " Glasgow Boys". The architect Sir Edwin Lutyens visited the Buchanan Street tearoom in 1898, finding it "just a little outré", and wrote from there to his wife that "Miss Cranston is now Mrs. Cochrane, a dark, fat wee body with black sparkling luminous eyes, wears a bonnet garnished with roses, and has made a fortune by supplying cheap clean goods in surroundings prompted by the New Art Glasgow School."

Tea rooms opened around the city, and in the late 1880s fine hotels elsewhere in Britain and in America began to offer tea service in tea rooms and tea courts. *Glasgow in 1901* reported that "Glasgow, in truth, is a very Tokio for tea-rooms. Nowhere can one have so much for so little, and nowhere are such places more popular and frequented." and that "It is not the accent of the people, nor the painted houses, nor yet the absence of Highland policemen that makes the Glasgow man in

London feel that he is in a foreign town and far from home. It is a simpler matter. It is the lack of tea-shops."

Walton and Mackintosh

George Walton set up *George Walton & Co, Ecclesiastical and House Decorators* on the basis of his 1888 commission from Kate Cranston, and in 1896 was commissioned by her to design the interiors of new tearooms, designed and built by George Washington Brown of Edinburgh, at 91-93 Buchanan Street, which opened the following year. He was assisted in this by Charles Rennie Mackintosh who designed wall murals in the form of stencilled friezes depicting opposing pairs of elongated female figures surrounded by roses for the ladies' tearoom, the luncheon room and the smokers' gallery.



Mackintosh's design for

"It is believed (and averred) that in no other town can you see in a place of refreshment such ingenious and beautiful decorations in the style of the new art as in Miss Cranston's shop in Buchanan Street. Indeed, so general in the city is this belief that it has caused the Glasgow man of the better sort to coin a new adjective denoting the height of beauty... 'It's quite Kate Cranston-ish !' "

Kate Cranston expanded her first tearoom to take over the whole building at 114 Argyle Street and commissioned Walton to design a new more modern interior, which opened in 1898. Walton's work included fireplaces, stencilled wall murals and stained glass panels for the doors. In the luncheon room the murals and door panels had a rose pattern theme. The furniture was designed by Mackintosh, introducing for the first time his characteristic high-backed chairs.

In 1900 Kate Cranston gave Mackintosh the opportunity to redesign an

entire room, at the Ingram Street tearoom. He had just recently married the artist Margaret Macdonald, and together they created the White Dining Room, including a hallway opening onto the street and divided off by a wooden screen with leaded glass panels, giving those entering glimpses into the room itself. His fame was spreading, and in 1902 *The Studio* wrote of "Miss Cranston, whose tea-rooms, designed by Mr. Mackintosh, are reckoned by some of the pilgrims to Glasgow as one of the sights of the city."

The Willow Tearooms



Miss Cranston's waitresses,
seen in the Room de Luxe of
the Willow Tea Rooms.

Next Kate Cranston gave Mackintosh the major commission for an entire building in Sauchiehall Street, again in collaboration with his wife Margaret MacDonald on designs for the interiors. Behind a strikingly simple new façade this building provided three interlinked main tearooms at the ground floor and on a first floor gallery, with steps from that leading up a further half storey to the famous "Room de Luxe" stretching the width of the building above the main entrance and front tearoom.

In a humorous review of the new tearoom for the *Glasgow Evening News* titled *Erchie in an Art Tea Room*, Neil Munro described the "Room de Looks":

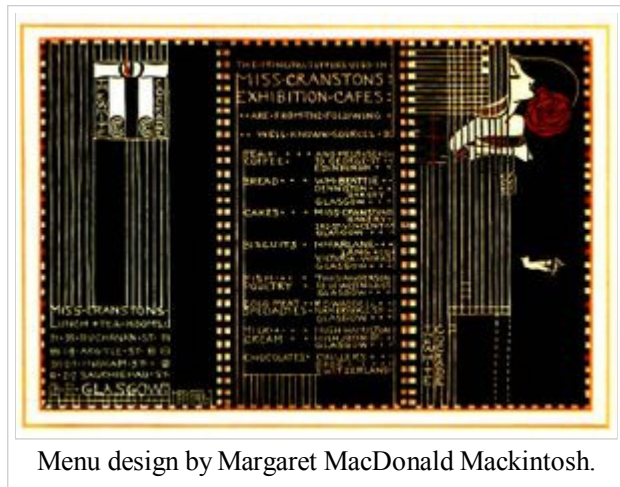
"The chairs is no like ony ither chairs ever I clapped eyes on, but ye could easy guess they were chairs, and a' roond the place there's a lump o' looking-gless wi' purple leeks pented on it every noo and then."

In 1905 *Dekorative Kunst* featured a special issue about the Willow Tea Rooms written by Hermann Muthesius who advised that "Today any visitor to Glasgow can rest body and soul in Miss Cranston's Tea Rooms and for a few pence drink tea, have breakfast and dream that he is in

fairy land."

Further projects

Although the Willow Tearooms completed her chain, and remains the most famous of her tea rooms, Kate Cranston carried out several more projects, and Mackintosh provided increasingly innovative designs. In 1904 she commissioned him to carry out the redecoration and design of new

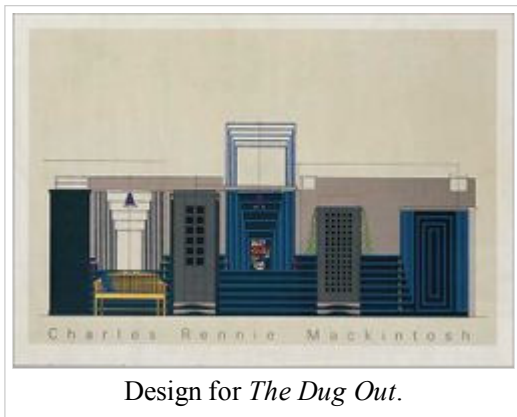


furniture for the mansion of *Hous'hill* in Nitshill which was home to herself and her husband John Cochrane.

Mackintosh carried out further work on the Argyle Street tearoom in 1906 to design a basement conversion to form *The Dutch kitchen*. He did further redesigns for rooms in the Ingram Street tearooms, creating the *Cloister Room* and the *Chinese Room* in 1911. The latter provides an exotic fantasy, with bright blue finished timber screens incorporating a cashier's kiosk, elaborate door lintels and dark blue finished furniture, all in Mackintosh's version of an oriental style.

In the same year Kate Cranston provided temporary "Exhibition Cafes" at the *Scottish International Exhibition*, apparently set up and designed by Charles Rennie Mackintosh, though nothing is now known of his scheme for this. The menu card designed by Margaret MacDonald

Mackintosh shows the name for the tearooms, *The White Cockade*, but makes no visual connection with this reference to Jacobitism. It gives credit for supply of cakes to Miss Cranstons Bakery, 292 St Vincent St., Glasgow.



Design for *The Dug Out*.

In 1916 Kate opened *Cranston's Cinema De Luxe* in an entertainment complex designed for her by the architect James Miller, occupying the third floor of a six storey building in Renfield Street, Glasgow.

In 1917 Mackintosh carried out his last commission for Kate Cranston, and indeed one of his last architectural

works to be constructed, with the design of an extension of the Willow Tea Rooms into the basement of the building next door to create *The*

Dug Out in a style that anticipated Art Deco.

Kate Cranston was greatly distressed when her husband died in 1917. She sold off her tea rooms and other businesses, and withdrew from public life. She had no children, and when she died in 1934 her will left two thirds of her estate to the poor of Glasgow.

Legacy

Even though Kate Cranston had sold her tea rooms off, the name *Miss Cranston's Tea Rooms* long remained a byword for quality and for memories of Glasgow's heyday at the turn of the century. By 1938 tea rooms at 43 Argyll Arcade, 28 Buchanan Street, Renfield Street and Queen Street were being run by *Cranston's Tea Rooms Ltd.* They went into liquidation in 1954 and their premises were sold on for other uses.

The Willow Tearooms were renamed, then in 1928 they were sold on to Daly's department store who incorporated the

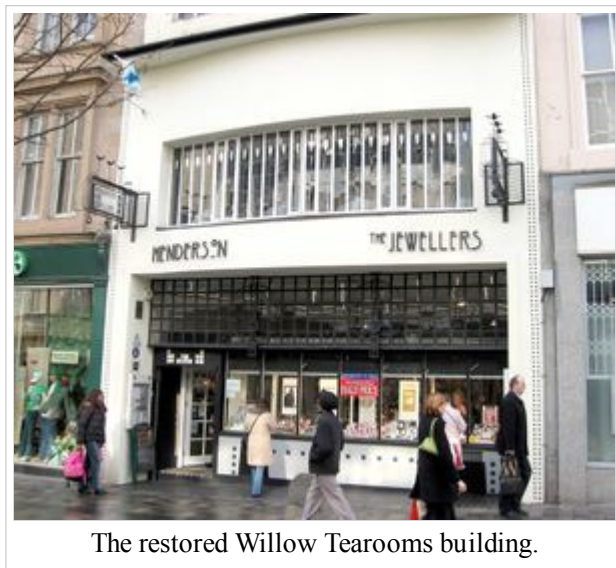


The Room de Luxe of the Willow Tearooms today.

premises into their shop, keeping the Room de Luxe in operation as the department store tea room.

Miss Cranston's Tearooms on Ingram Street continued in use as catering facilities from 1930 for *Cooper's & Co.*, then in 1950 the rooms came into the ownership of Glasgow City Council and were used for storage and a souvenir shop. In 1971 the furnishings were removed into storage when the building was demolished, and they are now the only original set of Mackintosh tearoom interiors to survive. Ownership was transferred to Glasgow Museums in 1978, and after a further period of storage restoration work began in 1993. The *Ladies' Luncheon Room* was exhibited three years later, and the *Chinese Room* and *Cloister Room* have since been restored. The Glasgow Museums website reports that they are "currently assessing what will be needed to research and preserve the Charles Rennie Mackintosh interiors of the Ingram Street

Tearooms for future public display."



The restored Willow Tearooms building.

While Mackintosh's reputation was eclipsed by the 1920s, he was later recognised as a pioneer of modern architecture, particularly in terms of the exterior of the Willow Tea Rooms. In the 1960s a resurgence of interest in Art Nouveau brought him international

fame, and the furniture and designs he and his wife created for Kate Cranston are now extremely valuable.

When Daly's closed, the Willow Tea Rooms were restored to an approximation of their original appearance. Catering reopened in the Room de Luxe, later extending to the recreated Tea Gallery, and was so successful that the business opened a new tearoom on the first floor of a building in Buchanan Street, near the original Buchanan Street and Ingram Street tearooms, fitted out with replicas of the White Dining Room and the Chinese Room from the Ingram Street tearoom. Confusingly, it trades under the name of *The Willow Tea Rooms*, as this now appears to be more familiar to visitors than Miss Cranston's name.

However, these new tearooms draw renewed attention to the contribution Kate's patronage made to Mackintosh's work, and the

impact she had on the social life of Glasgow is still remembered in popular books such as *Tea at Miss Cranston's*.

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Edward VII of the United Kingdom

2008/9 Schools Wikipedia Selection. Related subjects: British History Post 1900; Monarchs of Great Britain

Edward VII (Albert Edward; 9 November 1841 – 6 May 1910) was King of the United Kingdom of Great Britain and Ireland, King of the Commonwealth Realms, and the Emperor of India. He was the son of Queen Victoria and was the first British monarch of the House of Saxe-Coburg-Gotha. He reigned from 22 January 1901 until his death on 6 May 1910.

Before his accession to the throne, Edward held the title of Prince of Wales, and has the distinction of having been heir apparent to the throne longer than anyone in English or British history, a record being quickly approached by Prince Charles, the current heir apparent. Edward's reign, now called the Edwardian period, saw the first official recognition of the office of the Prime Minister in 1905. He became the first British monarch to visit Russia in 1908,

Edward VII

King of the United Kingdom, Emperor of India
(more...)

despite refusing to visit in 1906 (as he favoured the Duma over the Tsar). Edward also played a role in the modernization of the British Home Fleet and the reform of the Army Medical Services, after the Second Boer War. His fostering of good relations between Great Britain and other European countries, especially France, for which he was popularly called "Peacemaker", were sadly belied by the outbreak of World War I in 1914.

Early life

Edward was born at 10:48am on 9 November 1841 at Buckingham Palace. His mother was Queen Victoria, the only daughter of Prince Edward Augustus, Duke of Kent and granddaughter of King George III. His father was Prince Albert of Saxe-Coburg-Gotha, first cousin and consort of Victoria. Christened **Albert Edward** (after his father and maternal grandfather) at St. George's Chapel, Windsor on 25 January 1842, his godparents were the King of Prussia, the Duke of Cambridge, Prince Ferdinand of Saxe-Coburg and



*King Edward VII after his coronation in 1902
painted by Sir Luke Fildes*

| | |
|--------------------|------------------------------|
| Reign | 22 January 1901 - 6 May 1910 |
| Coronation | 9 August 1902 |
| Predecessor | Victoria |
| Successor | George V |
| Consort | Alexandra of Denmark |

Gotha, King Consort of Portugal, the Duchess of Saxe-Coburg and Gotha, the Dowager Duchess of Saxe-Coburg-Altenburg and Princess Sophia. He was known as **Bertie** throughout his life.



Prince Albert Edward in a sailor suit, by Winterhalter, 1846

As the eldest son of a British sovereign, he was automatically Duke of Cornwall, Duke of Rothesay, Earl of Carrick, Baron Renfrew, Lord of the Isles and Prince and Great Steward of Scotland at birth. As a son of Prince Albert, he also held the titles of Prince of Saxe-Coburg-Gotha and Duke of Saxony. Queen Victoria created her son Prince of Wales and Earl of

Chester on 8 December 1841. He was created Earl of Dublin on 17 January 1850, and a Knight of the Garter on 9 November 1858 and a Knight of the Thistle on 24 May 1867. In 1863, he renounced his

Issue

Albert Victor, Duke of Clarence
George V
Louise, Princess Royal
Princess Victoria Alexandra
Maud of Wales
Prince Alexander John

Full name

Albert Edward

Titles and styles

HM The King
HRH The Prince of Wales
HRH The Duke of Cornwall and Rothesay

Royal house House of Saxe-Coburg-Gotha

Royal anthem God Save the King

Father Albert, Prince Consort

Mother Victoria

Born 9 November 1841
Buckingham Palace, London

Baptised 25 January 1842
St George's Chapel, Windsor

Detail

succession rights to the Duchy of Saxe-Coburg-Gotha in favour of his younger brother, Prince Alfred.

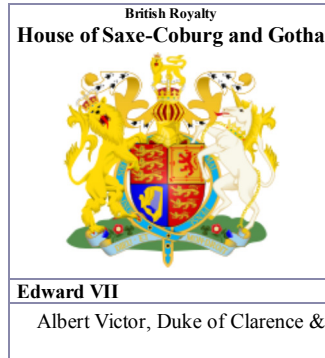
In 1846, the four-year-old Prince of Wales was given a scaled-down version of the uniform worn by ratings on the Royal Yacht. He wore his miniature sailor suit during a cruise off the Channel Islands that

September, delighting his mother and the public alike. Popular engravings, including the famous portrait done by Winterhalter, spread the idea, and by the 1870s, the sailor suit had become normal dress for both boys and girls all over the world.

Queen Victoria and Prince Albert determined that their eldest son should have an education that would prepare him to be a model constitutional monarch. At age seven, Bertie embarked upon a rigorous educational program devised by the Prince Consort, and under the supervision of several tutors. However, unlike his elder sister, the Prince of Wales did not excel in his studies. He tried to meet the expectations of his parents, but to no avail. He was not a diligent student and his true talents were those of charm, sociability, and tact. Other observers in his youth found him to be spoiled, lazy, and occasionally cruel.

In October 1859, he matriculated as an undergraduate at Christ

| | |
|-------------------|---|
| Died | Template:Euro death date and age Buckingham Palace, London |
| Burial | 20 May 1910 St George's Chapel, Windsor |
| Occupation | Military |



Church, Oxford (where he met Lewis Carroll and signed his autograph book but refused to pose for a photograph). Now released from the educational strictures imposed by his parents, he enjoyed studying for the first time and performed satisfactorily in examinations.

The following year he undertook the first tour of North America by a British heir to the throne. His genial good humour and confident *bonhomie* made the tour a success.

In 1861, his studies were transferred to Trinity College, Cambridge, but he never graduated. The Prince of Wales hoped to pursue a career in the British Army, but this was denied him because he was heir to the throne. He did serve briefly in the Grenadier Guards in 1861; however, this was largely a sinecure. He was advanced from the rank of lieutenant to colonel in a matter of months.

From this time, he gained a reputation as a playboy. In December 1861, his father died from typhoid fever two weeks after visiting Bertie at Cambridge; Prince Albert had reprimanded his son after an actress, Nellie Clifden, had been hidden in his tent by his fellow officers during army manoeuvres in Ireland. The Queen, who was inconsolable and wore mourning for the rest of her life, blamed Bertie for his father's death. She regarded her son as frivolous, indiscreet, and irresponsible. As a joke of the period went, "How is the Queen like the weather? Because she reigns [rains], and reigns, and reigns... and never gives the poor son [Sun] a chance."

Avondale

George V

Louise, Princess Royal

Princess Victoria

Maud, Queen of Norway

Prince Alexander John

Maternal grandchildren

Alexandra, Duchess of Fife

Maud of Fife

Marriage

Once widowed, Queen Victoria effectively withdrew from public life, but shortly after the Prince Consort's death, she arranged for her son to marry Princess Alexandra of Denmark, the beautiful eldest daughter of King Christian IX of Denmark. The couple wed at St. George's Chapel, Windsor on 10 March 1863.



Prince Albert Edward and Princess Alexandra at their wedding. St. George's Chapel, Windsor, 1863

Edward and his wife established Marlborough House as their London residence and Sandringham House in Norfolk as their country retreat. They entertained on a lavish scale. Their marriage was met with disapproval in certain circles because most of Victoria's relations were German, and Denmark was at loggerheads with Germany over the territories of Schleswig and Holstein. Victoria herself was of two minds as to whether it was a suitable match. After the couple's marriage, she expressed anxiety about their lifestyle and attempted to dictate to them on various matters, including the names of their children.

Edward treated his marriage with indifference, keeping mistresses throughout his married life, including actress Lillie Langtry, and socialite Jennie Jerome (mother of Winston Churchill and wife at the time to Lord Randolph Churchill), Daisy Greville, Countess of Warwick, actress Sarah Bernhardt, dancer La Belle Otero, and wealthy humanitarian Agnes Keyser. Lord Charles Beresford began an affair with Daisy Greville, Countess of Warwick, at the same time as Edward VII's, which would cause a strain on the friendship between the two men that would last for the remainder of their lives.

In 1870 Sir Charles Mordaunt threatened to name the Prince as co-respondent in the Mordaunts's divorce, ultimately he did not do so but the Prince was called as a witness. Charles Mordaunt was a

Member of Parliament and, during the case, it was shown that the Prince had visited the Mordaunts's house whilst Sir Charles was away sitting in the House of Commons. Although nothing further was proved, and the Prince denied he had committed adultery, the suggestion of impropriety was still damaging.

Agnes Keyser, as recorded by author Raymond Lamont-Brown in his book *Edward VII's Last Loves: Alice Keppel and Agnes Keyser*, held an emotional bond with Edward VII that others did not, due to her being unmarried herself, and preferring a more private affair to a public one. This trait also made her the favoured in royal circles of his last two loves. He also helped her and her sister fund a hospital for military officers.

His wife, Alexandra, is believed to have been aware of most of his affairs, and to have accepted them. The diary of one of her Ladies-in-Waiting records her looking out of a window overcome with giggles at the sight of Edward and his almost equally large mistress riding side-by-side in an open carriage. He and Lord Randolph Churchill did quarrel for a time during Edward VII's involvement with Churchill's wife (Jennie Jerome), but eventually mended their friendship, which would then last until Lord Randolph's death. Alexandra was said to have been quite admiring of Jennie Jerome, enjoying her company despite the affair.

His last "official" mistress (although simultaneous to his involvement with Keyser), society beauty Alice Keppel, was even allowed by Alexandra to be present at his deathbed in 1910 at his express written instruction, although Alexandra reportedly did not like her. Keppel also is rumored to have been one of the few people who could help quell Edward VII's unpredictable mood swings. One of Keppel's great granddaughters, Camilla Parker Bowles, was later to become the mistress and then wife of Charles, Prince of Wales, one of Edward's great-great grandsons. It has been suggested that Camilla's grandmother, Sonia

Keppel (born in May 1900), was the illegitimate daughter of Edward. However, the King never acknowledged any illegitimate children.

Heir apparent

During Victoria's widowhood, he represented her at public ceremonies and gatherings – opening the Thames Embankment, Mersey Tunnel and Tower Bridge. But even as a husband and father, Bertie was not allowed by his mother to have an active role in the running of the country until 1898. He annoyed his mother by siding with Denmark on the Schleswig-Holstein Question (she was pro-German), and later in the same year annoyed her again by making a special effort to meet Garibaldi.

He enthusiastically indulged in pursuits such as gambling and country sports. Edward was also a patron of the arts and sciences and helped found the Royal College of Music. He laid out a golf course at Windsor, and was an enthusiastic hunter. He ordained that all the clocks at Sandringham be put forward by half an hour in order to create more time for shooting. This so-called tradition of Sandringham Time continued until 1936, when it was abolished by Edward VIII.

Image:Rthsrthrfdg.JPG
(left to right) Prince Albert Victor, Princesses Maud, the future Queen Alexandra, the future King Edward VII, Princess Louise, Prince George, and Princess Victoria. Norfolk, circa 1892

In the winter of 1871 he contracted typhoid, the disease that had killed his father, whilst staying at Londesborough Lodge. There was great national concern. One of his fellow guests (Lord Chesterfield) died, but the Prince managed to pull through. His near brush with death led to

an improvement both in his relationship with his mother, as well as in his popularity with the public.

An active Freemason throughout his adult life, Edward VII was installed as Grand Master in 1875, giving great impetus and publicity to the fraternity. He regularly appeared in public, both at home and on his tours abroad, as Grand Master, laying the foundation stones of public buildings, bridges, dockyards, and churches with Masonic ceremony. His presence ensured publicity, and reports of Masonic meetings at all levels appeared regularly in the national and local press. Freemasonry was constantly in the public eye, and Freemasons were known in their local communities. Edward VII was one of the biggest contributors to the fraternity.

In 1890, he was embroiled in the Royal Baccarat Scandal, when it was revealed he had played an illegal card game for money. The Prince was forced to appear as a witness in court for a second time when one of the players sued for slander after being accused of cheating.

On his way to Denmark through Belgium on 4 April 1900 he was the victim of an attempted assassination, when Jean-Baptiste Sipido shot at him in protest at the Boer War.

King

When Queen Victoria died on 22 January 1901, the Prince of Wales became king. Then 59, he was the second oldest man to ascend to the throne in British history (the oldest having been William IV, who ascended at age 64). To the surprise of many, he chose to reign under the name Edward VII instead of Albert Edward, the name his mother had intended for him to use. (No English or British sovereign has ever

reigned under a double name.) The new King declared that he chose the name Edward as an honoured name borne by six of his predecessors, and that he did not wish to diminish the status of his father with whom alone among royalty the name Albert should be associated. Some observers, noting also such acts of the new king as lighting cigars in places where Queen Victoria had always prohibited smoking, thought that his rejection of Albert as a reigning name was his acknowledgment that he was finally out from under his parents' shadows. The number VII was occasionally omitted in Scotland, in protest at his use of a name carried by English kings who had "been excluded from Scotland by battle".



Four Kings: King Edward VII (right) with his successors — (from left to right) his son, the future King George V —, and his grandsons — the future King Edward VIII and King George VI.

He donated his parents' house, Osborne on the Isle of Wight, to the state and continued to live at Sandringham. He could afford to be magnanimous; it was claimed that he was the first heir to succeed to the throne in credit. 9 (This was due to the tireless efforts of Sir Dighton Probyn, VC Comptroller of the Household, and who stayed with Queen Alexandra's Household after the King's death in the same capacity) Edward VII and Queen Alexandra were crowned at Westminster Abbey on 9 August 1902 by the 80-year-old Archbishop of Canterbury Frederick Temple who died only 4 months later. His coronation had originally been scheduled for 26 June but two days before on 24 June, Edward developed appendicitis. Thanks to the discovery of anaesthesia in the preceding 50 years he was able to undergo a life-saving operation, performed by Sir Frederick Treves. This was at a time when appendicitis was not treated operatively and thus carried with it a mortality rate of greater than 50%. When the Prince objected to missing the coronation to have the surgery, the famous surgeon Sir Joseph Lister told him, "Then, Your Highness, you will be attending it as a corpse". Treves, with Lister's support, performed a then radical operation of draining the infected appendix through a small incision. The next day he was sitting up in bed smoking a cigar. Two weeks later it was announced that the King was out of danger. Treves was subsequently given the baronetcy and

appendix surgery entered the medical mainstream for the first time in history.

The Shah of Persia, Mozzafar-al-Din, visited England around 1902 on the promise of receiving the Order of the Garter. King Edward VII refused to give this high honour to the Shah. A quick thinking Secretary had a special medal made that resembled the Order, but was missing the Cross of St. George. He had it sent to the royal yacht just in time for the Shah's arrival. The King was so enraged by the sight of the medal, though, that he threw it out of his yacht's porthole. As a consolation, the Shah was introduced to the King's tailor, Henry Poole and Co. on Savile Row. A few years later, Britain sent the Shah a full Order of the Garter.

As king, Edward's main interests lay in the fields of foreign affairs and naval and military matters. Fluent in French and German, he made a number of visits abroad, and took annual holidays at Biarritz and Marienbad. One of his most important foreign trips was an official visit to France in spring 1903 as the guest of President Émile Loubet. Following on from the first visit of a British or English king to the Pope in Rome, this trip helped create the atmosphere for the Anglo-French Entente Cordiale, an informal agreement delineating British and French colonies in North Africa, and making virtually unthinkable the wars that had so often divided the countries in the past. Negotiated between the French foreign minister, Théophile Delcassé, and the British foreign secretary, the Marquess of Lansdowne, and signed on 8 April 1904 by Lord Lansdowne and the French ambassador Paul Cambon, the Entente marked the end of centuries of Anglo-French rivalry and Britain's splendid isolation from Continental affairs. It also was an attempt to counterbalance the growing dominance of the German Empire and its ally, Austria-Hungary.

"Uncle of Europe"

Edward VII, mainly through his mother and his father-in-law, was related to nearly every other European monarch and came to be known as the "uncle of Europe". The German Emperor Wilhelm II, Tsar Nicholas II of Russia, Grand Duke Ernst Ludwig of Hesse and by the Rhine and Grand Duke Carl Eduard of Saxe-Coburg-Gotha were Edward's nephews; Queen Victoria Eugenia of Spain, Crown Princess Margaret of Sweden, Crown Princess Marie of Romania and Empress Alexandra Feodorovna of Russia were his nieces; King Haakon VII of Norway was his son-in-law and nephew by marriage; King George I of the Hellenes and King Frederick VIII of Denmark were his brothers-in-law; and King Albert I of Belgium, Kings Charles I of Portugal and Manuel II of Portugal, King Ferdinand of Bulgaria, Queen Wilhelmina of the Netherlands, and Prince Ernst August, Duke of Brunswick-Lüneburg, were his cousins. Edward doted on his grandchildren, and indulged them, to the consternation of their governesses. However, there was one relation whom Edward did not like - his volatile relationship with his nephew, Wilhelm II, exacerbated the tensions between Germany and Britain in the decade before World War I.

In the last year of his life, Edward became embroiled in a constitutional crisis when the Conservative



Edward VII relaxing at Balmoral, taken by his wife Alexandra

majority in the House of Lords refused to pass the " People's Budget" proposed by the Liberal government of Prime Minister Herbert Henry Asquith. The King let Asquith know that he would only be willing to appoint additional peers, if necessary, to enable the budget's passage in the House of Lords, if Asquith won two successive general elections.

Edward was rarely interested in politics, although his views on some issues were notably liberal for the time, e.g. during his reign he said use of the word " nigger" was "disgraceful" despite it then being in common parlance, and he had to be dissuaded from breaking with constitutional precedent by openly voting for Gladstone's Representation of the People Bill in the House of Lords. On other matters he was less progressive – he did not favour giving votes to women or Irish Home Rule (initially preferring a form of Dual Monarchy), however, his personal charm with people at all levels of society and his strong condemnation of prejudice went some way to assuage republican and racial tensions building during his lifetime.

Death

In March 1910 the King was staying at Biarritz when he collapsed. He remained there to convalesce whilst Asquith remained in London trying to get the Finance Bill passed. The King's continued ill-health was unreported and he came in for some criticism for staying in France whilst political tensions were so high. On 27 April he returned to Buckingham Palace, still suffering from severe bronchitis. The Queen returned from visiting her brother, King George I of Greece, in Corfu a week later on 5 May.



The funeral procession of King Edward VII. London, 1910

The following day, the King died at 11:45pm. On his deathbed, the Prince of Wales (shortly to be King George V) told him that his horse 'Witch of the Air' had won at Kempton Park to which he replied, "I am very glad", his final words.

As king, Edward VII proved a greater success than anyone had expected, but he was already an old man and had little time left to learn the role. He ensured that his second son and heir, who would become King George V, was better prepared to take the throne. Edward VII is buried at St George's Chapel, Windsor Castle. As Barbara Tuchman noted in *The Guns of August*, his funeral marked "the greatest assemblage of royalty and rank ever gathered in one place and, of its kind, the last."

Titles, styles, honours and arms

Titles

- **1841:** *His Royal Highness* The Duke of Cornwall
- **1841-1901:** *His Royal Highness* The Prince of Wales
 - *in Scotland:* **1841-1901:** *His Royal Highness* The Prince Albert, Duke of Rothesay
- **1901-1910:** *His Majesty* The King

and, occasionally, outside of the United Kingdom, and with regard to India

- **1901-1910:** *His Imperial Majesty* The King-Emperor

Issue

| Name | Birth | Death | Notes |
|---|----------------|-----------------|--------------------------------|
| HRH Prince Albert Victor, Duke of Clarence and Avondale | 8 January 1864 | 14 January 1892 | |
| HM King George V | 3 June 1865 | 20 January | married 1893, Princess Mary of |

| | | | |
|--|---------------------|---------------------|--|
| | | 1936 | Teck; had issue |
| HRH The Princess Louise, Princess Royal | 20 February 1867 | 4 January 1931 | married 1889, Alexander Duff, 1st Duke of Fife; had issue |
| HRH The Princess Victoria | 6 July 1868 | 3 December 1935 | |
| HRH Princess Maud | 26 November 1869 | 20 November 1938 | married 1896, Haakon VII, King of Norway; had issue |
| HRH Prince Alexander John | 6 April 1871 | 7 April 1871 | |

Ancestors

Edward VII of the United Kingdom ancestors in three generations

| | | | |
|--|--|--|---|
| <p>Edward VII of the United Kingdom (09.11.1841–06.05.1910)</p> | <p>Father: Albert, Prince Consort (26.08.1819–14.12.1861)</p> | <p>Paternal grandfather: Ernst I, Duke of Saxe-Coburg and Gotha (01.02.1784–29.01.1844)</p> | <p>Paternal great-grandfather: Francis Frederick of Saxe-Coburg-Saalfeld (15.07.1750–10.12.1806)</p> |
| | | | <p>Paternal great-grandmother: Augusta of Reuss-Ebersdorf (19.01.1757–16.11.1831)</p> |
| | | <p>Paternal grandmother: Louise of Saxe-Gotha-Altenburg (21.12.1800–30.08.1831)</p> | <p>Paternal great-grandfather: Emil, Duke of Saxe-Gotha-Altenburg (23.11.1772–27.05.1822)</p> |
| | | | <p>Paternal great-grandmother: Louise Charlotte of Mecklenburg-Schwerin (19.11.1779–04.01.1801)</p> |

| | | | |
|--|--|--|---|
| | <p>Mother: Victoria of the United Kingdom (24.05.1819–22.01.1901)</p> | <p>Maternal grandfather: Edward Augustus, Duke of Kent and Strathearn (20.11.1767–23.01.1820)</p> | <p>Maternal great-grandfather: George III of the United Kingdom (04.06.1738–29.01.1820)</p> |
| | | | <p>Maternal great-grandmother: Charlotte of Mecklenburg-Strelitz (19.05.1844–17.11.1818)</p> |
| | | <p>Maternal grandmother: Victoria of Saxe-Coburg-Saalfeld (17.08.1786–16.03.1861)</p> | <p>Maternal great-grandfather: Francis Frederick of Saxe-Coburg-Saalfeld (15.07.1750–10.12.1806)</p> |
| | | | <p>Maternal great-grandmother: Augusta of Reuss-Ebersdorf (19.01.1757–16.11.1831)</p> |

Legacy

Gave his name to the Edwardian Age, 1901-1910.

The lead ship of a new class of battleships, launched in 1903, was named in his honour, as were four line regiments of the British Army — The Prince of Wales's (North Staffordshire Regiment), The Prince of Wales's Leinster Regiment (Royal Canadians), The Prince of Wales's Own (West Yorkshire Regiment), and The Duke of Cornwall's Light Infantry — and three yeomanry regiments — King Edward's Horse, The Prince of Wales's Own Royal Regiment of Wiltshire Yeomanry Cavalry and the Ayrshire Yeomanry Cavalry (Earl of Carrick's Own). Only one of these titles is currently retained in the Army, by The Staffordshire Regiment (The Prince of Wales's).

King Edward VII seems to be a popular name for schools in England. Two of the largest are King Edward VII Upper School, Melton Mowbray, Leicestershire, founded in 1908, and King Edward VII School in Sheffield, founded in 1905 (formerly Wesley College).

A statue of King Edward VII and supporters constructed from local granite stands at the junction of Union Gardens and Union Street, in the city centre of Aberdeen.

An equestrian statue of him, originally from Delhi, now stands in Queen's Park, Toronto.

King Edward Memorial (KEM) Hospital is amongst the foremost teaching and medical care providing institutions in India. The hospital was founded in Bombay in 1926 as a memorial to the King, who had visited India as Prince of Wales in 1876.

King Edward Memorial Hospital for Women in Subiaco, Western Australia, is the largest maternity hospital in the Perth metropolitan area. Two other Perth landmarks are named in his honour, Kings Park and His Majesty's Theatre, the latter a rare example of an Edwardian Theatre.



The public park in Lisbon, named after Edward VII.

The only medical school in the former British colony of Singapore was renamed the King Edward VII College of Medicine in 1921. Originally named the Straits and Federated Malay States Government Medical School, its new name remained until the University of Malaya was founded in the city-state in 1949, whereupon the College became its Faculty of Medicine. The students' hostel adjoining the College of Medicine building retained King Edward's name. The hostel has kept the name since moving to the new Kent Ridge campus of the now- Yong Loo Lin School of Medicine, and is affectionately referred to as the "K.E.7 Hall" by students.

The Parque Eduardo VII in Lisbon is named after him.

King Edward Avenue, a major thoroughfare in Vancouver, is named for him.

The King Edward Cigars are named after him.

The tradition of men not buttoning the bottom button of suit-coats is said to be linked to King Edward VII, who left his undone due to his large girth.

Portrayals

Edward's life was dramatised in the 1975 British television series *Edward the Seventh*, also known as *Edward the King* or *The Royal Victorians*, and starring Charles Sturridge as the adolescent Edward, Timothy West as the adult Edward and Annette Crosbie as Queen Victoria.

Edward was also portrayed in *The Duchess of Duke Street*, where he had a love affair with Louisa Trotter that only ended when Edward became King. The series was actually based on the story of Rosa Lewis, an Edwardian society cook who had risen from the ranks of a scullery maid to own the famous Cavendish Hotel. However, there is no evidence that Edward VII had an affair with Rosa.

He is also portrayed in the 2003 BBC miniseries, *The Lost Prince*.

Trivia

- King Edward VII made wearing tweed, Homburg hats and Norfolk jackets fashionable.
- He popularised the wearing of black ties with dinner jackets, instead of white tie and tails.
- He pioneered the pressing of trouser legs from side to side in preference to the now normal front and back creases.
- A friend who, when drunk, addressed him with his common nick-name of "Tum-tum" never appeared in Royal circles again.
- A member of his circle who appeared at Royal Ascot races in a Norfolk jacket was asked by Edward if he was "goin' ratting".
- In Howard Spring's novel *I met a lady*, the true paternity of a famous actress is questioned, and a newspaper article raises the speculation that Edward VII was her father. The journalist later apologises: "The late King had so many affairs, it was natural to connect him to any unexplained bastard".
- While seeing a performance of the George Bernard Shaw play *John Bull's Other Island* he laughed so hard he broke his chair.

- When he succeeded to the Throne he went round the palaces smashing busts of the hated John Brown, ghillie and confidant of his Late Mother, Queen Victoria

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Edward VIII of the United Kingdom

2008/9 Schools Wikipedia Selection. Related subjects: British History Post 1900; Monarchs of Great Britain

Edward VIII

(Edward Albert
Christian George
Andrew Patrick
David; later **The
Duke of Windsor**;

Edward VIII

*King of Great Britain, Ireland and the British
Dominions beyond the Seas, Emperor of India
(more...)*

23 June 1894 – 28 May 1972) was King of Great Britain, Ireland, the British Dominions beyond the Seas, and Emperor of India from the death of his father, George V (1910–36), on 20 January 1936, until his abdication on 11 December 1936. He was the



second monarch of the House of Windsor, his father having changed the name of the Royal house from

Edward as Prince of Wales, 1919

| | |
|--------------------|--|
| Reign | 20 January – 11 December 1936 |
| Predecessor | George V |
| Successor | George VI |
| Spouse | Wallis Warfield (<i>post-abdication</i>) |

Full name

Edward Albert Christian George Andrew Patrick David

Titles and styles

Detail

HRH The Duke of Windsor
HM The King
HRH The Prince of Wales
HRH The Duke of Cornwall

HRH Prince Edward of Wales

HRH Prince Edward of Cornwall and York

HRH Prince Edward of York

HH Prince Edward of York

Royal house House of Windsor

Royal anthem God Save the King

Father George V

Mother Mary of Teck

Born 23 June 1894
White Lodge, Richmond, London,
England

Baptised 16 July, 1894
White Lodge, Richmond, London,

| | |
|---------------|--|
| | England |
| Died | 28 May 1972 (aged 77) Paris, France |
| Burial | 5 June, 1972 Frogmore, Berkshire, England |

Saxe-Coburg-Gotha in 1917.

Before his accession to the throne, Edward VIII held the titles of Prince Edward of York, Prince Edward of Cornwall and York, Duke of Cornwall, Duke of Rothesay, and Prince of Wales (all with the style *Royal Highness*). As a young man he served in World War I, undertook several foreign tours on behalf of his father, and was associated with a succession of older married women.

Only months into his reign, Edward forced a constitutional crisis by proposing marriage to the American divorcée Wallis Simpson. Although legally Edward could have married Mrs. Simpson and remained king, his various prime ministers opposed the marriage, arguing that the people would never accept her as queen. Edward knew that the ministry of British Prime Minister Stanley Baldwin would resign if the marriage went ahead; this could have dragged the King into a general election thus ruining irreparably his status as a politically neutral constitutional monarch. Rather than give up Mrs. Simpson, Edward chose to abdicate, making him the only monarch of Britain, and indeed any Commonwealth Realm, to have voluntarily relinquished the throne. He is one of the shortest-reigning monarchs in British history, and was never crowned.

After his abdication he reverted to the style of a son of the sovereign,

The Prince Edward, and was created Duke of Windsor on 8 March 1937. During World War II he was at first stationed with the British Military Mission to France, but after private accusations that he held pro-Nazi sympathies, was moved to the Bahamas as Governor and Commander-in-Chief. After the war he was never given another official appointment and spent the remainder of his life in retirement.

Early life

Edward VIII was born on 23 June 1894, at White Lodge in Richmond, England. He was the eldest son of The Duke of York (later King George V), and The Duchess of York (formerly Princess Victoria Mary of Teck). His father was the second son of The Prince of Wales (later King Edward VII) and The Princess of Wales (formerly Princess Alexandra of Denmark). His mother was the eldest daughter of The Duke of Teck

and The Duchess of Teck (formerly Princess Mary Adelaide of Cambridge). As a great grandson of Queen Victoria in the male line, Edward was styled *His Highness Prince Edward of York* at his birth.



He was baptised in the Green Drawing Room of White Lodge on 16 July 1894, by Edward White Benson, Archbishop of Canterbury. Edward VIII was named after his late uncle, who was known to his family as "Eddy" or Edward, and his great-grandfather King Christian IX of Denmark. The name Albert was included at the behest of Queen Victoria. His last four names – George, Andrew, Patrick and David – came from the Patron Saints of England, Scotland, Ireland and Wales. The Prince was nevertheless, for the rest of

his life, known to his family and close friends by his last given name, David.

Edward's parents, The Duke and Duchess of York, were often removed from their children's upbringing, like other upper-class English parents of the day. Edward and his younger brother Albert were abused by one of the royal nannies. The nanny would pinch Edward before he was due to be presented to his parents. His subsequent crying and wailing would lead the Duke and Duchess to send Edward and the nanny away. His father, though a harsh disciplinarian, was demonstrably affectionate and his mother displayed a frolicsome side when dealing with her children that belies her austere public image. She was amused by the children making tadpoles on toast for their French master, and encouraged them to confide matters in her which it would have provoked their father to know.

Prince of Wales

Edward automatically became Duke of Cornwall and Duke of Rothesay when his father, George V, ascended the throne on 6 May 1910. The new King created him Prince of Wales and Earl of Chester on 23 June 1910, and officially invested him as such in a

special ceremony at Caernarfon Castle on 13 July 1911. For the first time since 1616, and the evidence for that ceremony is thin, the investiture took place in Wales at the instigation of the Welsh politician



David Lloyd George, Constable of the Castle, who at that time held the position of Chancellor of the Exchequer in the Liberal government. Lloyd George invented a rather fanciful ceremony which took the form of a Welsh pageant, and coached Edward to utter some sentences in Welsh.

Military career



Edward during World War I

When the First World War (1914–18) broke out, Edward had reached the minimum age for active service and was keen to participate. He had joined the army, serving with the Grenadier Guards, in June 1914, and although Edward was willing to serve on the front lines, the Secretary of State for War, Lord Kitchener, refused to allow it, citing the immense harm that would occur if the heir to the throne was captured.

Despite this, Edward witnessed trench warfare firsthand and attempted to

visit the front line as often as he could, for which he was awarded the Military Cross in 1916. His role in the war, although limited, led to his great popularity among veterans of the conflict. As of 1911 he was also a Midshipman in the Royal Navy, making Lieutenant in 1913. Edward undertook his first military flight in 1918 and later gained his pilot's licence. On his succession he became Admiral of the Fleet in the Navy, Field Marshal in the Army, and Marshal of the Royal Air Force.

Royal duties

Throughout the 1920s Edward, as Prince of Wales, represented his father, King George V, at home and abroad on many occasions. He took a particular interest in visiting the poverty stricken areas of the country, and undertook 16 tours to various parts of the Empire between 1919 and 1935, in the process acquiring the Bedingfield ranch, near Pekisko, Canada. In 1924, he donated the Prince of Wales Trophy to the National Hockey League. The trophy is currently presented to the Eastern Conference playoff champion, and from 1974 to 1993 the conference was known as the "Prince of Wales Conference".



HRH The Prince of Wales
canoeing in Canada, 1919

His attitudes to many of the Empire's subjects and various foreign peoples, both during his career as Prince of Wales and later as Duke of Windsor, were little commented upon in their time but have soured his reputation since. He said of Indigenous Australians: "they are the most revolting form of living creatures I've ever seen!! They are the lowest known form of human beings & are the nearest thing to monkeys."

He soon became the 1920s version of a latter-day movie star. At the height of his popularity, he became the most photographed celebrity of his time and he set men's fashion.

Romances

In 1930, King George V gave Edward a home, Fort Belvedere, near Sunningdale, England. There, Edward had relationships with a series of

married women including half-British half-American textile heiress Freda Dudley Ward, American film actress Mildred Harris, and Lady Furness (born Thelma Morgan), an American woman of part-Chilean ancestry, who introduced the Prince to fellow American Wallis Simpson. Mrs. Simpson had divorced her first husband in 1927 and had subsequently married Ernest Simpson, a half-British half-American businessman. Mrs. Simpson and the Prince of Wales, it is generally accepted, became lovers while Lady Furness travelled abroad, though Edward adamantly insisted to his father, the King, that he was not intimate with her and that it was not appropriate to describe her as his mistress.

British Royalty
House of Windsor

King George V was disappointed in Edward's failure to settle down in life and disgusted by his many

affairs with married women. The King was reluctant to see Edward inherit the Crown, and was quoted as saying of Edward: "After I am dead, the boy will ruin himself in 12 months". He later said of his second son, Albert ("Bertie"), and granddaughter, Elizabeth, ("Lilibet"): "I pray to God that my eldest son Edward will never marry and have children, and that nothing will come between Bertie and Lilibet and the throne." Edward's relationship



George V

Edward VIII

George VI

Mary, Princess Royal

Henry, Duke of Gloucester

George, Duke of Kent

Prince John

Edward VIII

with Mrs. Simpson further weakened his poor relationship with his father. Although the King and Queen met Mrs. Simpson at Buckingham Palace in 1935, they later refused to receive her. But Edward had now fallen in love with Wallis and the couple grew ever closer.

Edward's affair with the American divorcée led to such grave concern that the couple were followed by members of the Metropolitan police Special Branch, to examine in secret the nature of their relationship. An undated report detailed a visit by the couple to an antique shop, where the proprietor later noted that: "the lady seemed to have POW [Prince of Wales] completely under her thumb." The prospect of having an American divorcée with a questionable past having such sway over the heir apparent caused some anxiety to government and establishment figures at the time.

Reign

King George V died on 20 January 1936, and Edward ascended the throne as King Edward VIII. The next day, he broke royal protocol by watching the proclamation of his own accession to the throne from a window of St. James's Palace in the company of the then still-married Mrs. Simpson. It was also at this time that Edward VIII became the first monarch of the Commonwealth Realms to fly in an aeroplane, when he flew from Sandringham to London for his



Royal Cypher of Edward VIII

Accession Council.

Edward caused unease in government circles with actions that were interpreted as interference in political matters. On visiting the depressed coal mining villages in South Wales the King's observation that "something must be done" for the unemployed coal miners was seen as directly critical of the Government, though it has never been clear whether Edward had anything in particular in mind. Government ministers were also reluctant to send confidential documents and state papers to Fort Belvedere because it was clear that Edward was paying little attention to them and because of the perceived danger that Mrs. Simpson and other house guests might see them.

Edward's unorthodox approach to his role also extended to the currency which bore his image. He broke with the tradition that on

coinage each successive monarch faced in the opposite direction to his or her predecessor. Edward insisted his left side was superior to his right, and that he face left (as his father had done). Only a handful of coins were actually struck before the abdication, and when George VI succeeded he also faced left, to maintain the tradition by suggesting that had any coins been minted featuring Edward's portrait, they would have shown him facing right.

On 16 July 1936 an attempt was made on Edward's life. An Irish malcontent, Jerome Brannigan (otherwise known as George Andrew McMahon) produced a loaded revolver as the King rode on horseback at Constitution Hill, near Buckingham Palace. Police spotted the gun and pounced on him; he was quickly arrested. At Brannigan's trial, he alleged that "a foreign power" had approached him to kill Edward, that he had informed MI5 of the plan, and that he was merely seeing the

plan through to help MI5 catch the real culprits. The court rejected the claims and sent him to jail for a year. It is now thought that Brannigan had indeed been in contact with MI5 but the veracity of the remainder of his claims remains open.

By October it was becoming clear that the new King planned to marry Mrs. Simpson, especially when divorce proceedings between Mr. and Mrs. Simpson were brought at Ipswich Crown Court. Preparations for all contingencies were made, including the prospect of the coronation of King Edward and Queen Wallis. Because of the religious implications of any marriage, plans were made to hold a secular coronation ceremony not in the traditional religious location, Westminster Abbey, but in the Banqueting House in Whitehall.

Abdication

On 16 November 1936, Edward invited Prime Minister Stanley Baldwin to Buckingham Palace and expressed his desire to marry Wallis Simpson when she became free to re-marry. Baldwin informed the King that his subjects would deem the marriage morally unacceptable, largely because remarriage after divorce was opposed by the Church of England, and the people would not tolerate Wallis as Queen. As King, Edward held the role of Supreme Governor of the Church of England, and was expected by the clergy to support the Church's teachings.


Edward proposed an alternative solution of a morganatic marriage, in which Edward would remain King but Wallis would not become Queen. She would enjoy some lesser title instead, and any children they might have would not inherit the throne. This too was rejected by the British Cabinet as well as other Dominion governments, whose views were sought pursuant to the Statute of Westminster 1931, which provided in

part that "any alteration in the law touching the Succession to the Throne or the Royal Style and Titles shall hereafter require the assent as well of the Parliaments of all the Dominions as of the Parliament of the United Kingdom." The Prime Ministers of Australia, Canada and South Africa made clear their opposition to the King marrying a divorcée; the Irish Free State expressed indifference and detachment and New Zealand, having never even heard of Mrs. Simpson before, vacillated in disbelief. Faced with this opposition, Edward at first responded that there were "not many people in Australia" and their opinion didn't matter.

The King informed Baldwin that he would abdicate if he could not marry her. Baldwin then presented Edward with three choices: give up the idea of marriage; marry Mrs. Simpson against his ministers' wishes; or abdicate. It was clear that Edward was not prepared to give up Mrs.

Simpson. By marrying against the advice of his ministers, he would cause the government to resign, prompting a constitutional crisis. He chose to abdicate.

Edward duly signed the instruments of abdication at Fort Belvedere on 10 December 1936, in the presence of his three brothers, The Duke of York, The Duke of Gloucester and The Duke of Kent. The next day, he performed his last act as King when he gave royal assent to His Majesty's Declaration of Abdication Act 1936. As required by the Statute of Westminster, all the Dominions consented to the King's abdication, though the Irish Free

A handwritten signature in black ink, reading "Edward VIII". The letters are cursive and somewhat stylized. The "E" is large and loops back. The "I" at the end has a small hook.

**Signature of King Edward
VIII**

The 'R' and 'I' after his name indicate 'king' and 'emperor' in Latin ('Rex' and 'Imperator').

State did not pass the External Relations Act, which included the abdication in its schedule, until 12 December. As a curiosity, legally, for one day Edward was King of the Irish Free State but not the rest of the British Empire.

On the night of 11 December 1936, Edward, now reverted to the title of Prince Edward, made a broadcast to the nation and the Empire, explaining his decision to abdicate. He famously said, "I have found it impossible to carry the heavy burden of responsibility and to discharge my duties as king as I would wish to do without the help and support of the woman I love."

After the broadcast, Edward departed the United Kingdom for Austria, though he was unable to join Mrs. Simpson until her divorce became absolute, several months later. His brother, Prince Albert, Duke of York

succeeded to the throne as George VI, whose elder daughter, The Princess Elizabeth, became first in the line of succession, as the heiress presumptive.

Duke of Windsor

On 12 December 1936, at his Accession Privy Council, George VI announced he was to make his brother Duke of Windsor, and also re-admit him to the highest degrees of the various British Orders of Knighthood. He wanted this to be the first act of his reign, although the formal documents were not signed until 8 March of the following year. But during the interim, Edward was universally known as the Duke of Windsor. The King's decision to create Edward a royal duke ensured that he could neither stand for election to the House of Commons nor speak



The Windsors on their wedding day

on political subjects in the House of Lords.

However, letters patent dated 27 May 1937, which re-conferred upon the Duke of Windsor the "title, style, or attribute of Royal Highness", specifically stated that "his wife and descendants, if any, shall not hold said title or attribute". Some British ministers advised that Edward had no need of it being conferred because he had not lost it, and further that Mrs. Simpson would automatically obtain the rank of wife of a prince with the style HRH; others maintained that he had lost all royal rank and should no longer carry any royal title or style as an abdicated King. On 14 April 1937, Attorney General Sir Donald Somervell submitted to Home Secretary Sir John Simon a memorandum summarising the views of Lord Advocate T. M. Cooper, Parliamentary Counsel Sir Granville Ram and himself, to the effect that:

1. We incline to the view that on his abdication the Duke of

Windsor could not have claimed the right to be described as a Royal Highness. In other words, no reasonable objection could have been taken if the King had decided that his exclusion from the lineal succession excluded him from the right to this title as conferred by the existing Letters Patent

2. The question however has to be considered on the basis of the fact that, for reasons which are readily understandable, he with the express approval of His Majesty enjoys this title and has been referred to as a Royal Highness on a formal occasion and in formal documents. In the light of precedent it seems clear that the wife of a Royal Highness enjoys the same title unless some appropriate express step can be and is taken to deprive her of it.
3. We came to the conclusion that the wife could not claim this right on any legal basis. The right to use this style or title, in our view, is within the prerogative of His Majesty and he

has the power to regulate it by Letters Patent generally or in particular circumstances.

The Duke of Windsor married Mrs. Simpson, who had changed her name by deed poll to Wallis Warfield, in a private ceremony on 3 June 1937, at Chateau de Candé, near Tours, France. When the Church of England refused to sanction the union, a County Durham clergyman, the Reverend Robert Anderson Jardine (Vicar of St Paul's, Darlington), offered to perform the ceremony, and the Duke accepted. The new king, George VI, forbade members of the Royal Family to attend—Edward had particularly wanted Princes Henry and George (the Dukes of Gloucester and Kent) and Lord Louis Mountbatten (Earl Mountbatten of Burma after 1947) to be there—and this continued for many years to rankle with the Duke and Duchess of Windsor.

The denial of the style "HRH" to the Duchess of Windsor caused

conflict, as did the financial settlement—the government declined to include the Duke or the Duchess on the Civil List and the Duke's allowance was paid personally by the King. But the Duke had compromised his position with the King by concealing the extent of his financial worth when they informally agreed on the amount of the sinecure the King would pay. Edward's worth had accumulated from the revenues of the Duchy of Cornwall paid to him as Prince of Wales and ordinarily at the disposal of an incoming king. This led to strained relations between the Duke of Windsor and the rest of the Royal Family for decades. Edward became embittered against his own mother, writing to her in 1939: "[your last letter] destroy[ed] the last vestige of feeling I had left for you...[and has] made further normal correspondence between us impossible." In the early days of George VI's reign the Duke telephoned daily, importuning for money and urging that the Duchess be granted the style of HRH, until the harassed King ordered that the calls

not be put through.

The Duke had assumed that he would settle in Britain after a year or two of exile in France. However, King George VI (with the support of his mother Queen Mary and his wife Queen Elizabeth) threatened to cut off Edward's allowance if he returned to Britain without an invitation. The new King and Queen were also forced to pay Edward for Sandringham House and Balmoral Castle. These properties were Edward's personal property, inherited from his father, King George V, on his death, and thus did not automatically pass to George VI on abdication.

World War II

In 1937, the Duke and Duchess visited Germany, against the advice

of the British government, and met Nazi leader Adolf Hitler at Berchtesgaden. The visit was much publicised by the German media. During the visit the Duke gave full Nazi salutes. The Austrian ambassador, who was also a cousin and friend of George V, believed that Edward favoured German fascism as a bulwark against communism, and even that he initially favoured an alliance with Germany. Edward's experience of "the unending scenes of horror" during World War I led him to support appeasement. Hitler considered Edward to be friendly towards Nazi Germany, saying "His abdication was a severe loss for us."

The couple settled in France. On the outbreak of World War II in September 1939, they were brought back to Britain by Lord Mountbatten in HMS *Kelly*, and the Duke, already an honorary Field Marshal, was gazetted a Major-General attached to the British Military

Mission in France. In February 1940, the German Minister in The Hague, Count Julius von Zech-Burkersroda, claimed that the Duke had leaked the Allied war plans for the defence of Belgium. When Germany invaded the north of France in May 1940, the Windsors fled south, first to Biarritz, then in June to Spain. In July the pair moved to Lisbon, Portugal, where they lived at first in the home of a banker with German contacts. During the occupation of France, the Duke asked the German forces to place guards at his Paris and Riviera homes: they did so. A "defeatist" interview with the Duke that was widely distributed may have served as the last straw for the British government: the Prime Minister Winston Churchill threatened the Duke with a court-martial if he did not return to British soil. In August, a British warship dispatched the pair to the Bahamas, where in the view of Winston Churchill the Duke could do least damage to the British war effort.

The Duke of Windsor was installed as Governor. He did not enjoy the position, and referred to the islands as "a third-class British colony". The British Foreign Office strenuously objected when the pair planned to tour aboard a yacht belonging to a Swedish magnate, Axel Wenner-Gren, whom American intelligence wrongly believed to be a close friend of Nazi leader Hermann Göring. However, the Duke was praised for his efforts to combat poverty on the island nation, although he was as contemptuous of the Bahamians as he was of most non-white peoples of the Empire. He said of Étienne Dupuch, the editor of the *Nassau Daily Tribune*: "It must be remembered that Dupuch is more than half Negro, and due to the peculiar mentality of this Race, they seem unable to rise to prominence without losing their equilibrium." He was praised, even by Dupuch, for his resolution of civil unrest over low wages in Nassau in 1942, even though he blamed the trouble on communist agitators and draft-dodging Jews. He held the post until the

end of World War II in 1945.



The Duke in 1945

Many historians have suggested that Hitler was prepared to reinstate Edward as King in the hope of establishing a fascist Britain. It is widely believed that the Duke (and especially the Duchess) sympathised with fascism before and during World War II, and had to remain in the Bahamas to minimise their opportunities to act on those feelings. In 1940 he said: "In the past 10 years Germany has totally reorganized the order of its society...Countries which

were unwilling to accept such a reorganization of society and its concomitant sacrifices should direct their policies accordingly." Lord Caldecote wrote to Winston Churchill just before the couple were sent to the Bahamas, "[the Duke] is well-known to be pro-Nazi and he may become a centre of intrigue." The latter, but not the former, part of this assessment is corroborated by German operations designed to use the Duke. The Allies became sufficiently disturbed by the German plots that President Roosevelt ordered covert surveillance of the Duke and Duchess when they visited Palm Beach, Florida, in April 1941. The former Duke of Württemberg (then a monk in an American monastery) had convinced the Federal Bureau of Investigation that the Duchess had been sleeping with the German ambassador in London, Joachim von Ribbentrop, had remained in constant contact with him, and had continued to leak secrets.

Some authors have claimed that Anthony Blunt, an MI5 agent, acting on orders from the British Royal Family, made a successful secret trip to defeated Germany as the war was ending in order to retrieve sensitive letters between the Duke of Windsor and Adolf Hitler and other leading Nazis from *Schloss Friedrichshof*, Kronberg im Taunus. What is certain is that George VI sent the Royal Librarian, Owen Morshead, accompanied by Blunt, then working part-time in the Royal library as well as for British intelligence, to Kronberg in March 1945 to secure papers relating to Victoria, Princess Royal. Part of the castle's archive, including surviving letters between Victoria, Princess Royal, and her mother, Queen Victoria, as well as other valuables were stolen by looters, some of which were only later recovered in Chicago after the war. The papers rescued by Morshead and Blunt, and those returned by the American authorities from Chicago, were deposited in the Royal Archives.

After the war, the Duke admitted in his memoirs that he admired the Germans, but he denied being pro-Nazi. Of Hitler he wrote: "[the] Führer struck me as a somewhat ridiculous figure, with his theatrical posturings and his bombastic pretensions."

Later life

The couple returned to France and spent the remainder of their lives essentially in retirement as the Duke never occupied another official role after his wartime governorship of the Bahamas. The Duke's allowance was supplemented by government favours and illegal currency trading. The City of Paris provided the Duke with a house at 4 rue du Champ d'Entraînement, on the Neuilly-sur-Seine side of the Bois de Boulogne, for a nominal rent. The French government exempted him from paying income tax, and the couple were able to buy goods

duty-free through the British embassy and the military commissary. In 1951, the Duke produced a ghost-written memoir, *A King's Story*, in which he makes no secret of his disagreement with liberal politics. The royalties from the book added to their income. Nine years later, he penned a relatively unknown book, *A Family Album*, chiefly about the fashion and habits of the Royal Family throughout his life, from the time of Queen Victoria through his grandfather and father, and his own tastes.

The Duke and Duchess effectively took on the role of minor celebrities and were regarded as part of café society for a time in the 1950s and 1960s. They hosted parties and shuttled between Paris and New York; many of those who met the Windsors socially, including Gore Vidal, reported on the vacuity of the Duke's conversation. In 1955, they visited President Dwight D. Eisenhower at the White House. The couple appeared on Edward R. Murrow's television interview show *Person to Person* in 1956, and a 50-minute BBC television interview in 1970. That year,



U.S. President Richard Nixon and the Duke and Duchess of Windsor in 1970

they were invited as guests of honour to a dinner at the White House by President Richard Nixon in repayment for their having entertained Nixon in Paris during the mid-1960s when his political fortunes were low.

The Royal Family never fully accepted the Duchess; Queen Mary refused to receive her formally. However, the Duke sometimes met with his mother and brother, King George, and attended George's funeral. Queen Mary maintained her anger with Edward and her indignation over his marriage to Wallis: "To give up all this for that," she said. In 1965, the Duke and Duchess returned to London, England. They were visited by the Queen, Princess Marina, Duchess of Kent and the Princess Royal. A week later, the Princess Royal died, and they attended her memorial service. In 1967, they joined the Royal Family for the centenary of Queen Mary's birth. The last royal ceremony the

Duke attended was the funeral of Princess Marina in 1968.

In the late 1960s, the Duke's health deteriorated. Queen Elizabeth visited the Windsors in 1972 while on a state visit to France; however, only the Duchess appeared with the royal party for a photocall. On 28 May of that year the Duke, who was a smoker from an early age, died at his home in Paris from throat cancer. His body was returned to Britain, lying in state at St George's Chapel at Windsor Castle; an unexpectedly large number of people filed by the coffin. The funeral service was held in the chapel on 5 June in the presence of the Queen, the Royal Family, and the Duchess of Windsor, and the coffin was buried in the Royal Burial Grounds behind the Royal Mausoleum of Queen Victoria and Prince Albert at Frogmore. The Duchess stayed at Buckingham Palace during her visit. Increasingly senile and frail, the Duchess died 14 years later, and was buried alongside her husband simply as "Wallis, Duchess

of Windsor".

Titles, styles, honours and arms

Titles and styles

- **16 July 1894 – 28 May 1898:**
His Highness Prince Edward of York
- **28 May 1898 – 22 January 1901:** *His Royal Highness* Prince Edward of York
- **22 January 1901 – 9 November 1901:** *His Royal Highness* Prince Edward of

*Monarchical Styles of
King Edward VIII of the United
Kingdom*



| | |
|--------------------------|--------------|
| Reference style | His Majesty |
| Spoken style | Your Majesty |
| Alternative style | Sir |

Cornwall and York

- **9 November 1901 – 6 May 1910:** *His Royal Highness* Prince Edward of Wales
- **6 May 1910 – 23 June 1910:** *His Royal Highness* The Duke of Cornwall
- **23 June 1910 – 20 January 1936:** *His Royal Highness* The Prince of Wales
 - *in Scotland: 1910–1936:* *His Royal Highness* The Prince Edward, Duke of Rothesay
- **20 January 1936 – 11 December 1936:** *His Majesty* The King
 - *and, occasionally, outside of the United Kingdom, and with regard to India:* *His Imperial Majesty* The King-Emperor
- **11 December 1936 – 8 March 1937:** *His Royal Highness* The Prince Edward
- **8 March 1937 – 28 May 1972:** *His Royal Highness* The Duke of

Windsor

- *Edward began use of the title immediately upon abdication, in accordance with George VI's declaration to his Accession Council that his first act as King would be to grant to his brother the said title. However, several months passed before the concession was formalised by Letters Patent.*

From his father's ascension to the throne on 6 May 1910 until his own accession on 20 January 1936, Prince Edward held the style *His Royal Highness* **The Prince Edward Albert Christian George Andrew Patrick David, Prince of Wales and Earl of Chester, Duke of Cornwall, Duke of Rothesay, Earl of Carrick, Baron Renfrew, Lord of the Isles, Prince and Great Steward of Scotland.**

His full style as king was *His Majesty, Edward the Eighth, by the Grace*

of God, of Great Britain, Ireland, and of the British Dominions beyond the Seas, King, Defender of the Faith, Emperor of India.

After his abdication, his full style was *His Royal Highness* **The Prince Edward** Albert Christian George Andrew Patrick David, **Duke of Windsor**.

Honours


British Honours

- **KG**: Knight of the Garter, *1910*
- **KT**: Knight of the Thistle, *1922*
- **KP**: Knight of St Patrick, *1927*
- **GCB**: Knight Grand Cross of the Bath, *1936*

- **GCSI**: Knight Grand Commander of the Star of India, *1921*
- **GCIE**: Knight Grand Commander of the Indian Empire, *1921*
- **GCVO**: Knight Grand Cross of the Royal Victorian Order, *1920*
- **KStJ**: Knight of Justice of St John, *1917*
- **RVC**: Royal Victorian Chain, *1921*
- **MC**: Military Cross, *1916*
- **FRS**: Royal Fellow of the Royal Society
- **PC**: Privy Counsellor, *1920*

Edward lost almost all of his British honours upon accession, because he became sovereign of most of them. When he was no longer sovereign, his brother reinstated his pre-accession honours.

Foreign Honours

-  Knight of the Golden Fleece

-  Knight Grand Cross of the Royal Norwegian Order of St Olav
-  Order of the Most Holy Annunciation

Military

- **Mid**, *1911–1913*: Midshipman, Royal Navy
- **Lt**, *1913–1919*: Lieutenant, Royal Navy
- **Lt**, *1914–1916*: Lieutenant, 1st Battalion, Grenadier Guards, British Army. (World War I, Flanders and Italy)
- **Capt**, *10 March 1916*: Captain, British Army
- **Capt**, *1919*: Captain, Royal Navy
- **Major-Gen**, *1939*: Major-General, British Army

Honorary military appointments

- *20 January 1936 – 28 May 1972*: Admiral of the Fleet, Royal Navy
- *20 January 1936 – 28 May 1972*: Field Marshal, British Army
- *20 January 1936 – 28 May 1972*: Marshal of the Royal Air Force

Arms

As Prince of Wales, Edward's arms were the Royal coat of arms of the United Kingdom, differenced with a blank three-point label, with an inescutcheon of the Royal arms of Wales, surmounted by a coronet (identical to those of the current Prince of Wales, Charles, Prince of Wales). As Sovereign, he bore the arms undifferenced, and upon his abdication, he used the arms, again differenced, but this time with the centre point bearing a crown.

Ancestors

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Elizabeth II of the United Kingdom

2008/9 Schools Wikipedia Selection. Related subjects: British History Post 1900; Monarchs of Great Britain; Political People

Elizabeth II
(Elizabeth
Alexandra Mary;
born 21 April
1926) is the Queen
regnant of sixteen

Queen Elizabeth II

*Queen of the United Kingdom and the other
Commonwealth realms (more...)*

independent states and their overseas territories and dependencies. Though she holds each crown and title separately and equally, she is resident in and most directly involved with the United Kingdom, her oldest realm, over parts of whose territories



her ancestors have reigned for more than a thousand years. She ascended the thrones of seven countries in February 1952 (see Context below).

In addition to the United Kingdom, Elizabeth II is also Queen of Canada, Australia, New

Elizabeth II in 2007

| | |
|----------------------|--|
| Reign | 6 February 1952 to present (56 years) |
| Coronation | 2 June 1953 |
| Predecessor | George VI |
| Heir Apparent | Charles, Prince of Wales |
| Consort | Prince Philip, Duke of Edinburgh |
| Issue | Charles, Prince of Wales Anne, Princess Royal Prince Andrew, Duke of York Prince Edward, Earl of Wessex |
| Full name | |

Zealand, Jamaica, Barbados, the Bahamas, Grenada, Papua New Guinea, the Solomon Islands, Tuvalu, Saint Lucia, Saint Vincent and the Grenadines, Antigua and Barbuda, Belize, and Saint Kitts and Nevis, in each of which she is

Elizabeth Alexandra Mary

Titles and styles

Detail

HM The Queen

HRH The Princess Elizabeth, Duchess of Edinburgh

HRH The Princess Elizabeth

HRH Princess Elizabeth of York

Royal house House of Windsor

Royal anthem " God Save the Queen"

Father George VI

Mother Elizabeth Bowes-Lyon

Born 21 April 1926

Mayfair, London , UK

Baptised 29 May 1926

represented by a
Governor-General.

Buckingham Palace, London

The 16 countries of which she is Queen are known as Commonwealth Realms, and their combined population, including dependencies is over 129 million. In theory her powers are vast; in practice (and in accordance with convention) she herself never intervenes in political matters. In the United Kingdom at least, however, she is known to take an active behind-the-scenes interest in the affairs of state, meeting regularly to establish a working relationship with her government ministers.

Elizabeth II holds a variety of other positions, among them Head of the Commonwealth, Supreme Governor of the Church of England, Duke of Normandy, Lord of Mann, and Paramount Chief of Fiji. Her long reign has seen sweeping changes in her realms and the world at large, perhaps

most notably the final dissolution of the former British Empire (a process that began in the last years of her father's reign) and the consequent evolution of the modern Commonwealth of Nations.

Since 1947, the Queen has been married to Prince Philip, Duke of Edinburgh, born a prince of Greece and Denmark but after naturalisation known as Philip Mountbatten and subsequently created Duke of Edinburgh. To date the couple have four children and eight grandchildren; the eighth (Viscount Severn) was born on 17 December 2007 to Prince Edward and Sophie, Countess of Wessex.

Context

Elizabeth became Queen of the United Kingdom, Canada, Australia, New Zealand, South Africa, Pakistan and Ceylon (now Sri Lanka) upon

the death of her father, George VI, on 6 February 1952. As other colonies of the British Empire attained independence from the UK during her reign, she acceded to the newly created thrones as Queen of each respective realm so that throughout her 55 years on the throne she has been the sovereign of 32 nations, half of which subsequently became republics.

Elizabeth II is currently one of the longest-reigning monarchs of the UK or any of its predecessor states, ranking behind Victoria (who reigned over the UK for sixty-three years), George III (who reigned over Great Britain and subsequently the UK for fifty-nine), James VI (who reigned over Scotland for fifty-seven years), and Henry III (who reigned over England for fifty-six).

She is one of only two people who are simultaneously head of state of

more than one independent nation. (The other is the President of France, who is *ex officio* Co-Prince of Andorra.)

Following tradition, she is also styled Duke of Lancaster and Duke of Normandy. She is also Commander-in-Chief of the armed forces of many of her realms (and Lord Admiral of the United Kingdom), and is styled Defender of the Faith in various realms for differing reasons.

Early life

Elizabeth was born at 17 Bruton Street, in Mayfair, London, on 21 April 1926. Her father was Prince Albert, Duke of York (the future King George VI) and her mother was

British Royal Family

the Duchess of York (born the Hon. Elizabeth Bowes-Lyon, later Queen Elizabeth, and, after her daughter's accession to the throne, the Queen Mother).

She was baptised in the Private Chapel on the grounds of Buckingham Palace (it no longer exists, as it was destroyed during World War II) by Cosmo Gordon Lang, the Archbishop of York. Her godparents were her paternal grandparents, King George V and Queen Mary; the Princess Royal; the



HM The Queen

HRH The Duke of Edinburgh

- HRH The Prince of Wales
HRH The Duchess of Cornwall
 - HRH Prince William

Duke of Connaught; her maternal grandfather, the Earl of Strathmore; and Lady Elphinstone.

Elizabeth was named after her mother, while her two middle names are those of her paternal great-grandmother, Queen Alexandra, and grandmother, Queen Mary, respectively. As a child, her close family knew her as "Lilibet". She had a close relationship with her grandfather, George V, and was credited for aiding his recovery from illness in 1929. On 29 April 1929,

- of Wales
 - HRH Prince Henry of Wales
- HRH The Duke of York
 - HRH Princess Beatrice of York
 - HRH Princess Eugenie of York
- HRH The Earl of Wessex
 - HRH The Countess of Wessex
 - Viscount Severn
 - Lady Louise Windsor
- HRH The Princess Royal

the young "P'incess Lilybet" appeared on the cover of TIME magazine, in an article that described her third birthday. At 10 years old, she was introduced to a preacher at Glamis Castle. As he left, he promised to send her a book. Elizabeth replied, "Not about God. I already know all about Him."

Princess Elizabeth's only sibling was the late Princess Margaret, who was born in 1930. The two young princesses were educated at home, under the supervision of their mother. Their governess was Marion Crawford, better known as

- HRH The Duke of Gloucester
HRH The Duchess of Gloucester
- HRH The Duke of Kent
HRH The Duchess of Kent
- HRH Prince Michael of Kent
HRH Princess Michael of Kent
- HRH Princess Alexandra

"Crawfie". She studied history with C. H. K. Marten, Provost of Eton, and also learned modern languages; she speaks French fluently. She was instructed in religion by the Archbishop of Canterbury and has remained a devout member of the Church of England.

As a granddaughter of the British sovereign in the male line, she held the title of a British princess, with the style " Her Royal Highness," her full style being "Her Royal Highness Princess Elizabeth of York". At the time of her birth, she was third in the line of succession to the throne, behind her uncle, the Prince of Wales (later King Edward VIII), and her father. Although her birth generated public interest, there was no reason at the time to believe that she would ever become queen, as it was widely assumed that the Prince of Wales would marry and have children in due course. However, Edward did not produce any legitimate heirs, and Elizabeth's parents had no sons (who would have taken precedence

over her). Therefore, she would eventually have become queen whether Edward had abdicated or not.

Heiress presumptive

When her father became King in 1936 upon the abdication of her uncle, King Edward VIII, she became heiress presumptive and was thenceforth known as "Her Royal Highness The Princess Elizabeth". There was some demand in Wales for her to be created The Princess of Wales, but the King was advised that this was the title of the wife of the Prince of Wales, not a title in its own right. Some feel the King missed the opportunity to make an innovation in royal practice by re-adopting King Henry VIII's idea; in 1525 Henry had proclaimed his eldest daughter, Lady Mary, Princess of Wales in her own right. But the possibility, however remote, remained that Elizabeth's father could have a son, who

would have been heir apparent, supplanting Elizabeth in the line of succession to the throne.

Elizabeth was thirteen years old when the second World War broke out, and she and her younger sister, Princess Margaret, were evacuated to Windsor Castle, Berkshire. There was some suggestion that the two princesses be evacuated to Canada, where they were to live at Hatley Castle in British Columbia. To this proposal their mother made the famous reply: "The children won't go without me. I won't leave the King. And the King will never leave." While at Windsor, Princess Elizabeth and her sister staged pantomimes at Christmas when family and friends were invited with the children of members of staff of the Royal Household. In 1940, Princess Elizabeth made her first radio broadcast during the BBC's Children's Hour, addressing other children who had been evacuated. When she was 13 years old, she first met her

future husband Prince Philip. She fell in love with him and began writing to him when he was in the Royal Navy.

Elizabeth made her first official overseas visit in 1947, when she accompanied her parents to South Africa. During her visit to Cape Town, she and her father were accompanied by Prime Minister Jan Smuts when they went to the top of Table Mountain by cable car. On her 21st birthday, she made a broadcast to the British Commonwealth and Empire, pledging:

“ I declare before you all that my whole life, whether it be long or short, shall be devoted to your service and the service of our great imperial family to which we all belong. ”

During the Second World War, plans were developed to counter the

growing Welsh Nationalist influence of *Plaid Cymru* in Wales, which included "rolling out" a member of the British Royal Family to "smooth things over," according to a report by then constitutional expert Edward Iwi. In a report he gave to then Home Secretary Herbert Morrison, Iwi proposed to make the then Princess Elizabeth as Constable of Caernarfon Castle (a post then held by the Earl Lloyd George of Dwyfor), and patroness of *Urdd Gobaith Cymru* and a touring of Wales as *Urdd's* patroness.

The idea of posting the princess as constable of Caernarfon Castle was rejected by the Home Secretary as it might cause conflict between north and south Wales, and King George VI refused to let the then princess tour Wales as to not add undue pressure on her. Additionally, the plan to make the princess patroness of *Urdd Gobaith Cymru* was dropped as two of the leading members were conscientious objectors.

Military career

In 1945, Princess Elizabeth convinced her father that she should be allowed to contribute directly to the war effort. She joined the Women's Auxiliary Territorial Service, where she was known as No 230873 Second Subaltern Elizabeth Windsor, trained as a driver, and drove a military truck while she served. This training was the first time she had been taught together with other students. It is said that she greatly enjoyed this and that this experience led her to send her own children to school rather than have



Princess Elizabeth changing a vehicle wheel during WWII

them educated at home. She was the first, and so far only, female member of the royal family to actually serve in the armed forces, although every monarch is nominally the Commander-in-Chief of both the British and Canadian Armed Forces, and other royal women have been given honorary ranks. During the VE Day celebrations in London, she and her sister, Princess Margaret, mingled with the crowd after midnight to celebrate with everyone.

Marriage

Elizabeth married Prince Philip, Duke of Edinburgh (born Prince Philip of Greece and Denmark) on 20 November 1947. The couple are second cousins once removed: they are both descended from Christian IX of Denmark – Elizabeth II is a great-great-granddaughter through her paternal great-grandmother Alexandra of Denmark, and the

Duke is a great-grandson through his paternal grandfather George I of Greece. As well as second cousins once removed, the couple are third cousins: they share Queen Victoria as a great-great-grandmother. Elizabeth's great-grandfather was Edward VII, while Edward's sister Alice, Grand Duchess of Hesse and by Rhine was the Duke's great-grandmother. Prince Philip had renounced his claim to the Greek throne and was simply referred to as Lieutenant Philip Mountbatten before being created Duke of Edinburgh prior to their marriage. As a Greek royal, Philip is a member of the house of Schleswig-Holstein-Sonderburg-Glücksburg, the Danish royal house and a line of the House of Oldenburg. "Mountbatten" was an anglicisation of his mother's titular designation, Battenberg. The marriage was controversial; Philip was Greek Orthodox, with no financial resources behind him, and had sisters who had married Nazi supporters. Elizabeth's mother was reported in later biographies to have strongly opposed the marriage, even referring

to Philip as "the Hun". Still, the wedding was seen as the first glimmer of hope in a post-war Commonwealth, and, though the royal couple received over 2,500 wedding gifts from around the world, rationing required that the Princess save up her ration coupons to buy the material for her wedding dress.

At the wedding itself, the Princess' bridesmaids were: her sister, The Princess Margaret; her cousin Princess Alexandra of Kent; Lady Caroline Montagu-Douglas-Scott, a cadet relative via their mutual aunt, the Duchess of Gloucester; her second cousin, Lady Mary Cambridge; Lady Elizabeth Mary Lambart (now Longman), daughter of the 10th Earl of Cavan; The Hon. Pamela Mountbatten (now Hicks), Prince Philip's cousin; and two maternal cousins, The Hon. Margaret Elphinstone (now Rhodes) and The Hon. Diana Bowes-Lyon (now Somervell). The Princess' page boys were her young paternal first

cousins, Princes William of Gloucester and Michael of Kent.

After their wedding, the couple leased their first home, Windlesham Moor until 4 July 1949, when they took up residence at Clarence House, London. At various times between 1946 and 1953, the Duke of Edinburgh was stationed in Malta as a serving Royal Navy officer. Lord Mountbatten of Burma had purchased the Villa Gwardamangia (also referred to as the Villa G'Mangia), in the hamlet of Gwardamangia in Malta, in about 1929. Princess Elizabeth stayed there when visiting Philip in Malta. Philip and Elizabeth lived in Malta for a period between 1949 and 1951 (Malta being the only other country in which the Queen has lived, although at that time Malta was a British Protectorate).

On 14 November 1948, Elizabeth gave birth to her first child, Charles. Several weeks earlier, letters patent had been issued so that her children

would enjoy a royal and princely status to which they would not otherwise have been entitled, instead being styled merely as children of a duke. The couple had four children in all:

- The Prince Charles, Prince of Wales (born 14 November 1948)
- The Princess Anne, Princess Royal (born 15 August 1950)
- The Prince Andrew, Duke of York (born 19 February 1960)
- The Prince Edward, Earl of Wessex (born 10 March 1964)

Though the Royal House is named Windsor, it was decreed, via a 1960 Order-in-Council, that those descendants of Queen Elizabeth II and Prince Philip who were not Princes or Princesses of the United Kingdom should have the personal surname Mountbatten-Windsor. In practice all of their children, in honour of their father, have used *Mountbatten-Windsor* as their surname (or in Anne's case, her maiden surname). Both Charles and Anne used *Mountbatten-Windsor* as their

surname in the published banns for their first marriages.

Succession

Her father's health declined during 1951, and Elizabeth was soon frequently standing in for him at public events. She visited Greece, Italy and Malta (where Philip was then stationed) during that year. In October, she toured Canada and visited President Harry S Truman in Washington, D.C. In January, 1952, Elizabeth and Philip set out for a tour of Australia and New Zealand. They had reached Kenya when word arrived of the death of her father, on 6 February 1952, from lung cancer.

Elizabeth was staying at Sagana Lodge in Kenya when she was told of her father's death and of her own succession to the throne. It was Prince

Philip who broke the news of her father's death to Elizabeth. After that, Martin Charteris, then Assistant Private Secretary to the new Queen, asked her what she intended to be called. "Why, my own name; what else?" she replied. The royal party returned immediately to the United Kingdom.

Elizabeth was proclaimed Queen in Canada first, by the Queen's Privy Council for Canada, on 6 February 1952. Her British proclamation was read at St. James's Palace the following day.

Image:EIIR-dress.jpg

A detail of Elizabeth II's coronation gown, showing the embroidered national floral emblems of Commonwealth countries.

One year later, the Queen's grandmother, Queen Mary, died of lung cancer on 24 March 1953. Reportedly, the dowager queen's dying wish was that the coronation not be postponed. Elizabeth II's coronation took place in Westminster Abbey, on 2 June 1953. Her coronation gown, commissioned from Norman Hartnell, was embroidered with the floral emblems of the countries of the

Commonwealth: the Tudor rose of England, the Scots thistle, the Welsh leek, shamrock of Ireland, wattle of Australia, the maple leaf of Canada, the New Zealand fern, South Africa's protea, two lotus flowers for India and Ceylon, and Pakistan's wheat, cotton and jute.

Life as Queen

After the Coronation, The Queen and Prince Philip moved to Buckingham Palace, in central London, the main official residence of the monarch. It has been reported, however, that, as with many of her predecessors, she dislikes the Palace as a residence and considers Windsor Castle, another official residence, to be her home.

Not long after, the Queen and Prince Philip, from 1953 to 1954, made a six-month, around the world tour, becoming the first monarch to circumnavigate the globe. She also became the first reigning monarch of Australia, New Zealand and Fiji to visit those nations. Since then, Elizabeth II has undertaken many overseas voyages. In October, 1957, she made a state visit to the United States, addressing the United Nations General Assembly, and proceeded to tour Canada, wherein she became the first Canadian Monarch to open a session



Queen Elizabeth II reads a speech in Sydney, upon her visit in Australia in 1954.

of that nation's parliament. She made another state visit to the United States, as Queen of Canada, hosting the return dinner for President Dwight D. Eisenhower at the Canadian Embassy in Washington. In February, 1961, she visited Ankara with Cemal Gursel, and later toured India, Iran, Pakistan and Nepal for the first time. She has made state visits to most European countries and to many outside Europe. In 1969, Elizabeth II sent one of 73 Apollo 11 Goodwill Messages to NASA for the historic first lunar landing. The message is etched onto a tiny silicon disc and still rests on the lunar surface today. She greeted the Apollo 11 crew during their tour of the world. In 1991 she became the first British monarch to address a joint session of the United States Congress during another state visit to that country, and in 2007 became the first British monarch to address the Virginia General Assembly. She has also regularly attended Commonwealth Heads of Government meetings since the practice was established in Canada in 1973. Altogether,

Elizabeth II is the most widely-travelled head of state in history.

Continuing evolution of the Commonwealth

The British Empire began its metamorphosis following the Balfour Declaration at the Imperial Conference of 1926, followed by the formalization of the declaration in the *Statute of Westminster*, 1931.

By the time of Elizabeth's accession in 1952, there was much talk of a "new Elizabethan age". Since then, one of the Queen's roles has been to preside over the United Kingdom as it has shared world economic and military power with a growing host of independent nations and principalities.



The Queen's personal standard, used in her role as Head of the Commonwealth, and for when she visits Commonwealth countries of which she is not head of state.

As nations have developed economically and culturally, the Queen has witnessed, over the past 50 years, a gradual transformation of the British Empire into its modern successor, the Commonwealth of Nations. She has worked hard to maintain links with former British possessions, and in some cases, such as South Africa, she has played an important role in retaining or restoring good relations.

In 2007, papers from 1956 were declassified in which the then French Prime Minister Guy Mollet and British Prime Minister Sir Anthony Eden discussed the possibility of France joining in a union with the United Kingdom; amongst the ideas put forward was having Elizabeth II as the French head of state. A paper from 28 September 1956 stated that Mollet "had not thought there need be difficulty over France accepting the headship of Her Majesty." This proposal was never accepted, and the following year France signed the Treaty of Rome.

Views and perceptions

She has a strong sense of religious duty and takes her Coronation Oath seriously. This is one reason (as well as the example set by her uncle who abdicated) why it is considered highly unlikely that she will ever abdicate.

The Queen has shown a strong constitution in the face of turmoil; for example, during a trip to Ghana in 1961 she pointedly refused to keep her distance from the then President, Kwame Nkrumah, despite the fact that



Queen Elizabeth II with the Turkish Generals and the Head of State Cemal Gursel in Ankara

he was a target for assassins. Harold Macmillan wrote at the time: "the Queen has been absolutely determined all through. She is impatient of the attitude towards her to treat her as... a film star... She has indeed 'the heart and stomach of a man'... She loves her duty and means to be a Queen." One author describes another incident thus: "a similar situation occurred in 1964, when the Queen was invited to Quebec, according to Robert Speaight in *Vanier, Soldier, Diplomat and Governor General: A Biography*. There were fears for the Queen's safety, while the media whipped up a campaign of fear around the risks involved from separatist threats, and there was talk of cancelling the tour. The Queen's Private Secretary replied that the Queen would have been horrified to have been prevented from going because of the activities of extremists." Further, during the Trooping the Colour in 1981 there was an apparent attempt on the Queen's life: six rounds of blanks were fired at her from close range as she rode down The Mall. Her only reaction was to duck

slightly and then continue on. The Canadian House of Commons was so impressed by her display of courage that a motion was passed praising her composure.

Politics

As a constitutional monarch, Elizabeth II does not express her personal political opinions publicly. She has maintained this discipline throughout her reign, doing little in public to reveal what they might be, and thus her political views are not clearly known. However, there is some evidence to suggest that, in economic terms, she leans towards a One Nation point of view. During Margaret Thatcher's years as British Prime Minister, it was rumoured that the Queen worried that Mrs. Thatcher's economic policies were fostering social divisions, and she was reportedly alarmed by high unemployment, a series of riots in 1981, and

the violence of the miners' strike. Mrs. Thatcher once said to Brian Walden, referring to the Social Democratic Party: "The problem is, the Queen is the kind of woman who could vote SDP."

Canadian national unity

While not speaking directly against Quebec sovereignty in Canada, she has publicly praised Canada's unity and expressed her wish to see the continuation of a unified Canada, sometimes courting controversy over the matter. Like her mother, the Queen has shown an affection for Canada, stating in 1983, when departing California, "I am going home to Canada tomorrow," and at a dinner in Saskatchewan in 2005: "this country and Canadians everywhere have been a constant presence in my life and work." She has also stated that Canada feels like "a home away from home".

In a speech to the Quebec Legislature, at the height of the Quiet Revolution of 1964, she ignored the national controversy (including riots during her appearance in Quebec City — see History of Monarchy in Canada) in favour of praising Canada's two "complementary cultures", speaking, in both French and English, about the strength of Canada's two founding peoples, stating, "I am pleased to think that there exists in our Commonwealth a country where I can express myself officially in French," and, "whenever you sing [the French words of] 'O Canada' you are reminded that you come of a proud race."

After she proclaimed the Constitution Act in 1982, which was the first time in Canadian history that a major constitutional change had been made without the agreement of the government of Quebec, the Queen attempted to demonstrate her position as head of the whole Canadian nation, and her role as conciliator, by privately expressing to journalists

her regret that Quebec was not part of the settlement.

In 1995, during a separatist referendum campaign, the Queen was tricked into speaking, in both French and English, for fourteen minutes with 29-year-old Pierre Brassard, a DJ for Radio CKOI-FM Montreal, pretending to be then Canadian Prime Minister Jean Chrétien. When told that the separatists were showing a lead, the Queen revealed that she felt the "referendum may go the wrong way," adding, "if I can help in any way, I will be very happy to do so". However, she pointedly refused to accept "Chrétien"s advice that she intervene on the issue without first seeing a draft speech sent by him. (Her tactful handling of the call won plaudits from the DJ who made it.) Chrétien later, in his memoirs, recounted the Queen's tongue-in-cheek comments to him regarding this affair: "'I didn't think you sounded quite like yourself,' she told me, 'but I thought, given all the duress you were under, you might

have been drunk."

Rhodesia

On 18 November 1965, the Governor of Rhodesia, Sir Humphrey Vicary Gibbs, was made a Knight Grand Cross of the Royal Victorian Order, an honour in the personal gift of the Queen, a week after Ian Smith had made his Unilateral Declaration of Independence. Gibbs was intensely loyal to Rhodesia, and, although he had refused to accept the UDI, the award was criticised by some as badly timed. Others praised it as indicating support for her Rhodesian representative in the face of an illegal action by her Rhodesian prime minister.

United Kingdom

During an event in Westminster Hall marking her Silver Jubilee, in 1977, the Queen stated, "I cannot forget that I was crowned Queen of the United Kingdom of Great Britain and Northern Ireland." This reference came at a time when the Labour government was attempting to introduce a controversial devolution policy to Scotland and Wales, and was interpreted as opposition to devolution. Her reference in the Silver Jubilee speech is also believed, by some, to refer to the disturbances in Northern Ireland at that time.

She has spoken in favour of the continued union of England and Scotland, angering some Scottish nationalists. Her statement of praise for the Northern Ireland Belfast Agreement raised some complaints among some Unionists (who were traditionally strong monarchists). Ian Paisley, leader of the right-wing Democratic Unionist Party and founder of the evangelical Free Presbyterian church, famously broke with

Unionism's traditional deference for the British Crown by calling the Queen "a parrot" of Tony Blair. He suggested that her support for the Belfast Agreement would weaken the monarchy's standing amongst Northern Irish Protestants, a substantial number of whom remained opposed to certain parts of the Agreement. However, Paisley's criticism of the Queen on this matter was rejected by more traditional and moderate unionists.

In the late 1990s, after referendums approved a devolution policy, the Queen sent her best wishes to the new Scottish Parliament and the National Assembly of Wales, the first sessions of which she opened in person. Several MSPs stayed away from the ceremony, attending a republican rally instead. A number of AMs boycotted her opening of the first session of the National Assembly for Wales. Plaid Cymru's Leanne Wood AM also boycotted the opening of National Assembly's new

building (the Senedd) in 2006 and was thrown out of chamber for calling the Queen 'Mrs Windsor' during an Assembly debate.

Religion

Elizabeth II, as the Monarch of the United Kingdom, is the Supreme Governor of the Church of England and sworn protector of the Church of Scotland. She holds no religious role as Sovereign of the other Realms.

The Queen takes a keen personal interest in the Church of England, but, in practice, delegates authority in the Church of England to the Archbishop of Canterbury. She regularly worships at St George's Chapel at Windsor Castle, or at St. Mary Magdalene Church when staying at Sandringham House, Norfolk.

The Royal Family also regularly attends services at Crathie Kirk when holidaying at Balmoral Castle, and when in residence at the Palace of Holyroodhouse, the family attends services at the Canongate Kirk. The Queen has attended the annual General Assembly of the Church of Scotland on several occasions, most recently in 1977 and 2002, although, in most years, she appoints a Lord High Commissioner to represent her.

The Queen made particular reference to her Christian convictions in her Christmas Day television broadcast in 2000, in which she spoke about the theological significance of the Millennium as marking the 2000th anniversary of the birth of Jesus Christ:

“ To many of us, our beliefs are of fundamental importance. For me, the teachings of Christ, and my own personal accountability before God provide a ”

framework in which I try to lead my life. I, like so many of you, have drawn great comfort in difficult times from Christ's words and example.

The Queen often meets with leaders from other religions as well. She is Patron of The Council of Christians and Jews in the UK.

Family relations

The Jubilee year coincided with the deaths, within a few months, of the Queen's mother and sister. Her relations with her children have become much warmer since these deaths. She is particularly close to her daughter-in-law, Sophie, The Countess of Wessex and is very close to her grandchildren, noticeably Prince William, Princess Beatrice and Zara Phillips.

Health and longevity



The Queen (left) walks with then American First Lady Pat Nixon upon the Nixons' visit to the United Kingdom,

In late February 2003, the Queen's reign, then just over 51 years, surpassed the combined reigns of her four immediate predecessors: Edward VII, George V, Edward VIII and George VI. She is currently the second-longest-serving head of state in the world, after King Bhumibol of Thailand (fourth if one includes the rulers of the subnational entity Ras Al Khaimah and of the Government of Tibet in Exile), and the fourth-longest serving British or English monarch. Her reign of over half a century has seen eleven different Prime Ministers of the United Kingdom (twelve terms) and numerous Prime Ministers in the

Commonwealth Realms.

In June 2005, she was forced to cancel several engagements after contracting what the Palace described as a bad cold. Nonetheless, the Queen has been described as being in excellent health, and is seldom ill.

In October 2006, she suffered a burst blood vessel in her right eye, causing her entire eye to appear deep red in colour. While the palace would not comment on the Queen's condition, medical experts stated that the Queen would be in no pain and that her eye would heal within a week or two with no lasting damage. They also stated that blood vessel bursts are common amongst the elderly, but can also be a sign of high blood pressure. Later that month, on 26 October, she was due officially to open the new Emirates Stadium, the home of Arsenal F.C., but she was forced to cancel the engagement due to a strained back muscle that

had troubled her since the end of her Balmoral holiday. Her back troubles appear to be ongoing. There was serious concern in November 2006 that she wouldn't be well enough to open Parliament, and plans were drawn up to cover her possible absence. However, she was able to attend. The following month, the Queen faced more rumours that she was in declining health when she was seen in public with a plaster on her right hand. The positioning of the plaster seemed to suggest that the Queen may have been fitted with an intravenous drip. Medical experts suggest that given her back troubles and age she may be suffering from osteoporosis. Buckingham Palace refused to comment. However, it was later revealed that the plaster was as a result of one of her corgis biting her hand as she separated her two fighting pets.

On 21 December 2007, the Queen surpassed Queen Victoria as the

oldest reigning monarch in both British and the Commonwealth realms' history. Should she still be living on 29 January 2012, she would surpass Richard Cromwell as the longest-lived British ruler, including those who did not hold the office to their death.

Should she still be reigning on 10 September 2015, at the age of 89, her reign will surpass that of Queen Victoria and she will become the longest reigning monarch in British history. If she lives that long but is still survived by the Prince of Wales, he would be the oldest to succeed to the throne, surpassing William IV, who was 64.

Jubilees

Silver Jubilee

In 1977, the Queen celebrated her Silver Jubilee, marking the 25th anniversary of her accession to the Throne. The occasion was marked by a royal procession in the golden state coach and a service of thanksgiving at St. Paul's Cathedral attended by dignitaries and heads of state. Millions watched events on television and numerous public street parties were held across the UK to mark the occasion, culminating in several "Jubilee Days" held in June. Five commemorative stamps were also printed. This was also the occasion for the punk rock band the Sex Pistols to release their second single " God Save the Queen", which was considered by many to be highly offensive, and was banned from the BBC.

The Jubilee line of the London Underground, which opened in 1979, was also named in honour of the anniversary, and several other locations and public spaces were named to commemorate the Jubilee,

including the Jubilee Gardens in London's South Bank.

Golden Jubilee

In 2002, Elizabeth II celebrated her Golden Jubilee, marking the 50th anniversary of her accession to the Throne. The year saw an extensive tour of the Commonwealth realms, including the first ever pop concert in the gardens of Buckingham Palace, and as had been held in 1977, a service of thanksgiving took place at St Paul's Cathedral. Public celebrations in the UK were more muted than they had been 25 years previously, in part because earlier the same year both the Queen's mother and sister had died, and in part due to changing public attitudes towards the monarchy. However, street parties and commemorative events were still organised in many areas.

Diamond Wedding Anniversary

The Queen and Prince Philip celebrated their sixtieth (Diamond) wedding anniversary on Monday 19 November 2007, with a special service at Westminster Abbey, where they wed sixty years prior. Their actual anniversary came a day later, on 20 November. Distinguished guests included immediate members of the Royal Family, Sir John Major, Baroness Thatcher, Prime Minister Gordon Brown, David Cameron, Jack Straw and the surviving bridesmaids and pages from the wedding. The night before, Prince Charles hosted a private dinner at Clarence House for twenty of the most immediate members of the Royal Family in recognition of his parents' enduring marriage.

On the following day, 20 November, The Queen and Prince Philip embarked on a visit to Malta, where they had stayed from 1949 to 1951

after getting married. A Royal Navy ship which had docked in the vicinity arranged for its sailors to assemble on deck in the formation of the number '60' in recognition of the couple's sixtieth wedding anniversary.

Reduced duties

On Saturday, 21 April 2007, the Queen turned 81 years old and has since begun to hand over some public duties to her children and other members of the Royal Family.. In early 2006, reports began to surface that the Queen planned to reduce her official duties significantly, though she has made it clear that she has no intention of abdicating. The 2007 State Visit to the United States tends to show this to be an unfounded rumour. The British press has speculated that Prince Charles will start to perform many of the day-to-day duties of the Monarch, while the Queen will effectively go into "retirement". It was later confirmed by the Palace that Prince



The Queen and Prince Philip join U.S. President George W. Bush and Mrs. Bush at the White House on 7 May 2007.

Charles will begin to hold the regular audiences with the Prime Minister and other Commonwealth leaders. However, while the Queen would be increasing the length of her weekends by two days, she would continue with public duties well into the future. However, the Queen still meets with the Prime Minister – she has not handed over this duty to the Prince of Wales. Buckingham Palace already gives the Prince access to government papers. For a number of years, Prince Charles and the Princess Royal have each been standing in for the Queen when she has been unavailable for investitures. Whilst the Prince regularly meets foreign dignitaries, he does not, and can not, take the place of the Queen in welcoming ambassadors at the Court of St. James's unless he is acting as a Counsellor of State with another senior member of the royal family in the same role.

Unproven media speculation rumoured that her recent trip to Canada

and Australia will be amongst her last visits to her overseas realms. The Canadian and Australian governments and the Palace have denied it.

In May 2007, the Queen and Prince Philip made a state visit to the United States, in honour of the 400th anniversary of the Jamestown settlement.

Despite her good health and intention to stay on the throne, some saw the wedding of the Prince of Wales to Camilla as a message from the Queen that, by allowing Charles to marry, she is attempting to ensure that Charles' succession to the throne will be smooth. In 2004, a copy of the Queen's newly-revised funeral plans was stolen. And for the first time, in September, 2005, a mock version of the Queen's funeral march was held in the middle of the night (this was also done once a year after the late Queen Mother turned 80).

Shortly before her 80th birthday, polls were conducted that showed the majority of the British public wish for the Queen to remain on the throne until her death — many feel that the Queen has become an institution in herself.

Role in government

Constitutionally, the Queen is an essential part of the legislative process of her Realms. In practice, much of the Queen's role in the legislative process is ceremonial, as her reserve powers are rarely exercised.

She does decide the basis on which a person is asked to form a government; that is, whether a government should be formed capable of *surviving* in the House of Commons — the standard requirement — or capable of commanding *majority* support in the House of Commons (i.e.

forming a coalition if no one party has a majority). This requirement was last set in 1940, when King George VI asked Winston Churchill to form a government capable of commanding a majority in parliament, which necessitated the wartime coalition. The requirement is normally only made in emergencies or in wartime, and, to date, Elizabeth II has never set it.

On three occasions during her reign, Elizabeth II has had to deal with constitutional problems over the formation of UK governments. In 1957 and again in 1963, the absence of a formal open mechanism within the Conservative Party for choosing a leader meant that following the sudden resignations of Sir Anthony Eden and Harold Macmillan it fell to the Queen to decide whom to commission to form a government. In 1957, Eden did not proffer advice, and so the Queen consulted Lords Salisbury and Kilmuir for the opinion of the Cabinet, and Winston

Churchill, as the only living former Conservative Prime Minister (following the precedent of George V consulting Salisbury's father and Arthur Balfour upon Andrew Bonar Law's resignation in 1923). In October, 1963, the outgoing Prime Minister, Harold Macmillan, advised the Queen to appoint Alec Douglas-Home, the Earl of Home.

On the third occasion, in February, 1974, an inconclusive general election result meant that in theory the outgoing Prime Minister Edward Heath, who had won the popular vote, could stay in power if he formed a coalition government with the Liberals. Rather than immediately resign as prime minister he explored the option and only resigned when the discussions foundered. (Had he chosen to, he could have stayed on until defeated in the debate on the Queen's Speech.) Only when he resigned was the Queen able to ask the Leader of the Opposition, the Labour Party's Harold Wilson, to form a government. His minority

government lasted for eight months before a new general election was held.

In all three cases, she appears to have acted in accordance with constitutional tradition, following the advice of her senior ministers and Privy Councillors. Indeed, since constitutional practice in the UK is based on tradition and precedent rather than a written set of rules, it is generally accepted that the Sovereign cannot be acting unconstitutionally when acting on the advice of her or his ministers.

Relations with ministers

Since becoming Queen, Elizabeth spends an average of three hours every day "doing the boxes" — reading state papers sent to her from her various departments, embassies, and government offices. She takes her responsibilities in this regard seriously, once mentioning an "interesting telegram" from the Foreign Office to then-Prime Minister Winston Churchill, only to find that her prime minister had not bothered to read it when it came in his box.



Queen Elizabeth II and Prince Phillip, Ernest Harmon Air Force Base visit, 1959

The Queen also has regular meetings with her individual British

ministers, the First Minister of Scotland, and occasional meetings with ministers from her other realms, either when she is in the particular country, or the minister is in London. Though bound by convention not to intervene directly in politics, her having reviewed state documents from all her realms since 1952 means she has seen more of public affairs from the inside than any other person presently in any of her governments. This, coupled with her many interactions with a great many prime ministers in all of her realms, as well as with her knowledge of world leaders, means that when she does express an opinion, however cautiously, her words are taken with gravity. British Prime Ministers take their weekly meetings with the Queen very seriously; one Prime Minister said he took them more so than Prime Minister's Questions, because she would be better briefed and more constructive than anything he would face at the dispatch box. Paul Martin, Sr., who, along with John Roberts and Mark MacGuigan, was sent to the UK in

1980 to discuss the patriation of the Canadian constitution, noted that during this time the Queen had taken a great and deep interest in the constitutional debate, especially following the failure of Bill C-60, which affected her role as head of state. They found the Queen "better informed on both the substance and politics of Canada's constitutional case than any of the British politicians or bureaucrats." In her memoirs, Margaret Thatcher offered the following description of her weekly meetings with the Queen: "Anyone who imagines that they are a mere formality or confined to social niceties is quite wrong; they are quietly business like and Her Majesty brings to bear a formidable grasp of current issues and breadth of experience."

The Queen was thought to have had strained relations with Thatcher during Thatcher's eleven years as British Prime Minister. Reports throughout the period varied over the extent of this difference and to

what degree it was due to concerns over policies of the Thatcher government, or a personality clash between the two women themselves. During the 1980s, the Queen was even reported to "cordially dislike" Mrs Thatcher. During an argument within the Commonwealth over sanctions on South Africa, the Queen made a pointed reference to her role as Head of the Commonwealth, which was interpreted at the time as a disagreement with Thatcher's policy of opposing sanctions. However, whatever the differences between them, Thatcher has clearly conveyed her personal admiration for the Queen and believes that the image of animosity between the two of them has been played up because they are both women. In the aforementioned BBC documentary *Queen & Country*, Thatcher describes the Queen as "marvellous" and "a perfect lady" who "always knows just what to say," referring in particular to her final meeting with the sovereign as prime minister. Since leaving office, Thatcher has been awarded a life peerage,

the Order of Merit, and the Order of the Garter, which would seem to indicate a basic respect for Thatcher on the part of the Queen, as membership of the two Orders is entirely the personal gift of the sovereign. In October, 2005, the Queen and Prince Philip attended Thatcher's 80th birthday party in London.

The Queen's relations with her Canadian Prime Ministers have varied throughout the years. Prime Minister Pierre Trudeau seemed to have caused her some concern, perhaps due to his documented antics around the Monarch, such as his sliding down Buckingham Palace banisters, and his famous pirouette behind the Queen, captured on film in 1977, as well as the removal of various royal symbols from Canada during his premiership. The Queen was reported, by Paul Martin, Sr., as worrying that the Crown "had little meaning for [Trudeau]." However, as part of the patriation of Canada's Constitution in 1982, orchestrated by

Trudeau, the Monarchy was entrenched within Canada's governing system. Following this, Trudeau stated in his memoirs: "I always said it was thanks to three women that we were eventually able to reform our Constitution. The Queen, who was favourable, Margaret Thatcher, who undertook to do everything that our Parliament asked of her, and Jean Wadds, who represented the interests of Canada so well in London... The Queen favoured my attempt to reform the Constitution. I was always impressed not only by the grace she displayed in public at all times, but by the wisdom she showed in private conversation."



Elizabeth was thought to have had very good relations with British Prime Minister Tony Blair, during the first years of his time in office. However, evidence mounted that their relationship had hardened over the years, until it was revealed in May of 2007 that the Queen was "exasperated and frustrated" by the actions of then Prime Minister Tony Blair, especially by what she saw as detachment from rural issues, as well as a too-casual approach (he requested that the Queen call him "Tony"), and a contempt for British heritage, on his part. She was also rumoured to have shown concern with the over-taxation of the British Armed Forces

through overseas engagements, particularly in Iraq and Afghanistan, as well as "surprise" over Blair's shifting of their weekly meeting from Tuesday to Wednesday afternoons. She was supposed to have raised her concerns with Blair repeatedly at these meetings, though she has never revealed her opinions on the Iraq War itself. The relationship between the Queen and her husband and Blair and his wife was also reported to be distant, as the two couples shared little common interests. The Queen did, however, apparently admire Blair's efforts to achieve peace in Northern Ireland.

On a BBC documentary broadcast in 1992, *Elizabeth R.*, she was shown teasing former Prime Minister Sir Edward Heath about how he could travel to world trouble spots like Iraq because politicians saw him as "expendable." He laughed at the comment.

On occasion, her contacts have proved highly beneficial for her realms. For example, John Major, as British Prime Minister, once had difficulty working with Australian Prime Minister John Howard. The Queen suggested to Major that he and Howard shared a mutual sporting interest — that Howard was, like Major, a cricket fan. Major then broke the ice to establish a personal relationship which ultimately benefited both countries.

Relations with foreign leaders

Elizabeth II's personal relationships with world leaders are warm and informal, and she has developed friendships with many foreign leaders, including Nelson Mandela, Mary Robinson, and George W. Bush, who was the first American President in more than 80 years to stay at Buckingham Palace.

Mary McAleese, now President of Ireland, recounted how, as Pro Vice-Chancellor of the Queen's University of Belfast, she was, to her shock, invited to a lunch with the Queen and the Duke of Edinburgh, on the basis that the Queen wished to talk to her, as a leading Northern Ireland nationalist, and hear her views on Anglo-Irish relations. The two women struck up an instant rapport, with McAleese, during the 1997 Irish presidential election, calling the Queen "a dote" (a Hiberno-English term meaning a "really lovely person") in an *Irish Independent* interview. Nelson Mandela, in the BBC documentary, repeatedly referred to her as "my friend, Elizabeth".

Personality and image

Finances

The Queen's personal fortune has been the subject of speculation for many years. Sometimes estimated at US\$10 billion, recently *Forbes* magazine conservatively estimated her fortune at around US\$500 million (£280 million). This figure seems to agree with official Palace statements that called reports of the Queen's supposed multibillion-dollar wealth "grossly over-exaggerated;" however, it conflicts with a total addition of the Queen's personal holdings. Her personal art collection is worth at least £10 billion, but is held in trust for the nation, and cannot be sold.

The Queen also privately owns large amounts of property that have never been valued, including Sandringham House and Balmoral Castle. Press reports, upon the death of the Queen Mother, speculated that the Queen inherited estate worth around £70 million. Furthermore there is control and ownership of the Duchy of Lancaster, which is valued at

£310 million and transferred a private income to the Monarch of £9.811 million in 2006.

The Queen also technically owns the Crown Estate with holdings of £6 billion; however, the income of this is transferred to the Treasury in return for the civil list payments.

Titles, styles, honours and arms

Titles and styles

- **21 April 1926 - 11 December 1936:** *Her Royal Highness* Princess Elizabeth of York
- **11 December 1936 - 20**

*Monarchical Styles of
Queen Elizabeth II*

November 1947: *Her Royal Highness* The Princess Elizabeth

■ **20 November 1947 - 6**

February 1952: *Her Royal Highness* The Princess Elizabeth, Duchess of Edinburgh

■ **6 February 1952 –:** *Her Majesty* The Queen



| | |
|--------------------------|--------------|
| Reference style | Her Majesty |
| Spoken style | Your Majesty |
| Alternative style | Ma'am |

Following the Queen's accession, a decision was reached by Commonwealth Prime Ministers at the Commonwealth Conference of 1953, whereby the Queen would be accorded different styles and titles in each of her Realms, reflecting that in each state she acts as the Monarch of that state, regardless of her other roles. Traditionally, Elizabeth II's titles as Queen Regnant are listed by the order in which

the remaining original Realms first became Dominions of the Crown: The United Kingdom of Great Britain and Northern Ireland (original dominion), Canada (1867), Australia (1901), and New Zealand (1907); followed by the order in which the former Crown colony became an independent Realm: Jamaica (1962), Barbados (1966), the Bahamas (1973), Grenada (1974), Papua New Guinea (1975), the Solomon Islands (1978), Tuvalu (1978), Saint Lucia (1979), Saint Vincent and the Grenadines (1979), Antigua and Barbuda (1981), Belize (1981), and Saint Kitts and Nevis (1983).

The Queen has many titles within her various Realms and territories. In common practice, however, Queen Elizabeth II is referred to simply as "The Queen" or "Her Majesty". When in conversation with The Queen, one initially uses "Your Majesty", and thereafter "Ma'am".

In common practice, styled as *Her Majesty* The Queen (and, when the distinction is necessary, *Her Britannic Majesty*, *Her Australian Majesty*, or *Her Canadian Majesty*, etc.)

Scottish controversy

However, in Scotland, the title *Elizabeth II* caused some controversy, as there has never been an *Elizabeth I* in Scotland. In a rare act of sabotage, new Royal Mail post boxes in Scotland, bearing the initials "E II R", were vandalised. (Prior to Queen Elizabeth, Scottish boxes had borne the monarch's initials, but no crown.) To avoid further problems, post boxes and Royal Mail vehicles in Scotland now bear only the Crown of Scotland and no Royal cypher.

A legal case, *MacCormick v. Lord Advocate* (1953 SC 396), was taken

to contest the right of the Queen to style herself *Elizabeth II* within Scotland, arguing that to do so would be a breach of the Act of Union. The case was lost on the grounds that the pursuers had no title to sue the Crown, and also that the numbering of monarchs was part of the royal prerogative, and not governed by the Act of Union.

Less publicised controversies included the argument that the monarch was addressed as *Your Grace*, rather than *Majesty*, in pre-Union Scotland, and, second, that the preferred title had been *King/Queen of Scots* rather than *of Scotland* (although the latter was by no means unknown).

At the royal opening of the Scottish Parliament in 1999, the presiding officer David Steel referred to her as, "not only the Queen of the United Kingdom but seated as you are among us in the historic and

constitutionally correct manner as Queen of Scots".

Future British monarchs will be numbered according to either English or Scottish predecessors, whichever number is higher. Applying this policy retroactively to monarchs since the Act of Union yields the same numbering. However, equivalent rules have not been established in the Commonwealth Realms.

Honours and military positions

Arms



The Royal Coat of Arms of the United Kingdom.

The Queen has coats of arms in each of her Realms; these arms are also sometimes used by government agencies or ministries to symbolise the Crown. In the UK, they are known as the Royal coat of arms of the United Kingdom. Every British monarch has used these arms since the reign of Queen Victoria. A separate Royal Arms exists, for use in Scotland, which gives priority to Scottish elements and features the insignia of the Order of the Thistle. The Royal Coat of Arms of

Canada has been used by each monarch of Canada since George V; it is based on the British Royal Arms but contains unique Canadian

elements. The Queen also has Arms for use as sovereign of Australia, New Zealand, Jamaica, Barbados, the Bahamas, Grenada, Papua New Guinea, the Solomon Islands, Tuvalu, Saint Lucia, Saint Vincent and the Grenadines, Antigua and Barbuda, Belize, and Saint Kitts and Nevis. Each of these is different from the Royal coat of arms of the United Kingdom.

The Royal Standard is the Queen's flag, and is a banner of the Royal Arms. In some of the Commonwealth Realms, the Queen has an official standard for use when acting as Queen of that Realm. Australia, Barbados, Canada, Jamaica, and New Zealand each have their own Royal Standard, each one a defaced banner of the relevant coat of arms, including the Queen's personal badge: a crowned letter E inside a circle of roses on a blue disc. This badge was also used as the Queen's personal flag which is used in her role as Head of the Commonwealth

and for visiting Commonwealth countries where she is not the head of state.

From 21 April 1944 until her accession, Princess Elizabeth's arms were the Royal Arms, differenced by a label of three points argent (white), the centre bearing a Tudor Rose and the first and third points bearing a red cross.

Ancestry

An analysis of her great-great-great-grandparents shows that Elizabeth is;

- 57% English
- 34% German

- 6% Hungarian
- 3% Danish

Ancestors of Elizabeth II of the United Kingdom

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Francis Crick

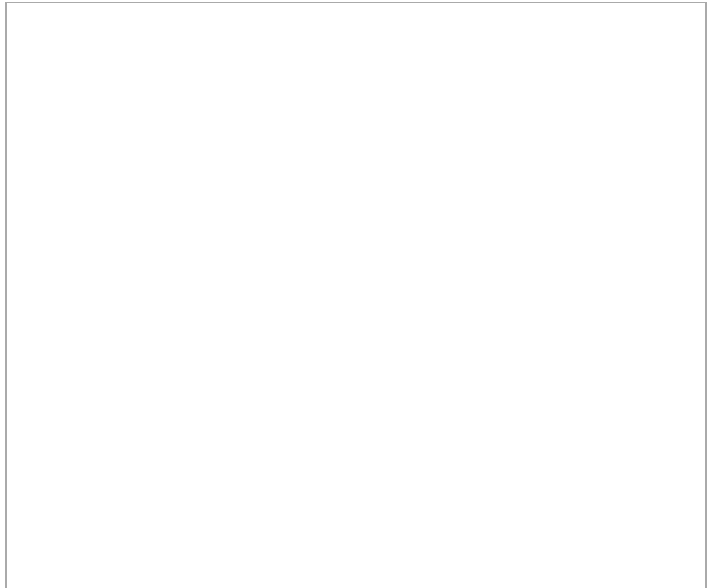
**2008/9 Schools Wikipedia Selection. Related subjects:
British History Post 1900; Human Scientists**

**Francis Harry
Compton
Crick** OM
FRS (June 8,
1916 – July 28,
2004), Ph.D.,
was an English
molecular

Francis Harry Compton Crick



biologist,
physicist, and
neuroscientist,
and most noted
for being one
of the
co-discoverers
of the structure
of the DNA
molecule in
1953. He,
James D.
Watson and
Maurice
Wilkins were



jointly awarded the 1962 Nobel Prize for Physiology or Medicine "for their discoveries concerning the molecular structure of nucleic acids and its significance for information transfer in

| | |
|---------------------|---|
| | Francis Harry Compton Crick |
| Born | 8 June 1916 Weston Favell, Northamptonshire, England |
| Died | 28 July 2004 (aged 88) San Diego, California, U.S. Colon Cancer |
| Residence | UK, U.S. |
| Nationality | British |
| Fields | Molecular biologist, Physicist |
| Institutions | Salk Institute |
| Alma mater | University College London University of Cambridge |

living material"

Crick is widely known for use of the term “central dogma” to summarize

an idea that genetic information flow in cells is essentially one-way, from DNA to RNA to protein. Crick was an important theoretical molecular biologist and played an important role in research related to revealing the genetic code.

During the remainder of his career, he held the post of J.W. Kieckhefer Distinguished Research Professor at the Salk Institute for Biological Studies in La Jolla, California. His later research centered on theoretical

| | |
|--------------------------|------------------------------|
| Doctoral advisor | Max Perutz |
| Doctoral students | none |
| Known for | DNA structure, consciousness |
| Notable awards | Nobel Prize (1962) |
| Religious stance | Atheist |

neurobiology and attempts to advance the scientific study of human consciousness. He remained in this post until his death; "he was editing a manuscript on his death bed, a scientist until the bitter end" said Christof Koch.

Biography, family and education

Francis Crick, the first son of Harry and Annie Elizabeth Crick (nee Wilkins), was born and raised in Weston Favell, then a small village on the edge of the English town of Northampton in which Crick's father and uncle ran the family's boot and shoe factory. At an early age, he was attracted to science and what he could learn about it from books. As a child, he was taken to church by his parents, but by about age 12 he told his mother that he no longer wanted to attend. Crick preferred the scientific search for answers over belief in any dogma. He was educated at Northampton Grammar School (now Northampton School For Boys) and, after the age of 14, Mill Hill School in London (on scholarship), where he studied mathematics,



Stained glass window in the dining hall of Caius College, in Cambridge, commemorating

physics, and chemistry. At the age of 21, Crick earned a B.Sc. degree in physics from University College London (UCL) after he had failed to gain his intended place at a Cambridge college, probably through failing their requirement for Latin; his contemporaries in British DNA research Rosalind Franklin and Maurice Wilkins both went up to Cambridge colleges, to Newnham and St. John's respectively. Crick later became a PhD student and Honorary Fellow of Caius College and mainly worked at the Cavendish Laboratory and MRC Laboratory of Molecular Biology in Cambridge. He was also an Honorary Fellow of Churchill College and of University College London.

Crick began a Ph.D. research project on measuring viscosity of water at high temperatures (what he later described as "the dullest problem imaginable") in the laboratory of physicist Edward Neville da Costa Andrade, but with the outbreak of World War II - in particular, an

incident during the Battle of Britain when a bomb fell through the roof of the laboratory and destroyed his experimental apparatus - Crick was deflected from a possible career in physics.

During World War II, he worked for the Admiralty Research Laboratory, from which emerged a group of many notable scientists; he worked on the design of magnetic and acoustic mines and was instrumental in designing a new mine that was effective against German minesweepers.

After World War II, in 1947, Crick began studying biology and became part of an important migration of physical scientists into biology research. This migration was made possible by the newly won influence of physicists such as John Randall, who had helped win the war with inventions such as radar. Crick had to adjust from the "elegance and deep simplicity" of physics to the "elaborate chemical mechanisms that

natural selection had evolved over billions of years." He described this transition as, "almost as if one had to be born again." According to Crick, the experience of learning physics had taught him something important—hubris—and the conviction that since physics was already a success, great advances should also be possible in other sciences such as biology. Crick felt that this attitude encouraged him to be more daring than typical biologists who tended to concern themselves with the daunting problems of biology and not the past successes of physics.

For the better part of two years, Crick worked on the physical properties of cytoplasm at Cambridge's Strangeways Laboratory, headed by Honour Bridget Fell, with a Medical Research Council studentship, until he joined Perutz and Kendrew at the Cavendish Laboratory. The Cavendish Laboratory at Cambridge was under the general direction of Sir Lawrence Bragg, a Nobel Prize winner in 1915 at the age of 25.

Bragg was influential in the effort to beat a leading American chemist, Linus Pauling, to the discovery of DNA's structure (after having been 'pipped-at-the-post' by Pauling's success in determining the alpha helix structure of proteins). At the same time Bragg's Cavendish Laboratory was also effectively competing with King's College London, which was under Sir John Randall. (Randall had turned down Francis Crick from working at King's College London.) Francis Crick and Maurice Wilkins of King's College London were personal friends, which influenced subsequent scientific events as much as the friendship between Crick and James Watson. Crick and Wilkins first met at King's College London and not as erroneously reported at the Admiralty during World War II.

- Spouses: 1# Ruth Doreen Crick, nee Dodd (b. 1913, m. 18 February 1940 - 1947); 2# Odile Crick, nee Speed (b. 11 August 1920, m. 14 August 1949 - 28 July 2004, d. 5 July 2007)
- Children: Michael b. 25 November 1940 [by Doreen Crick];

Gabrielle b. 15 July 1951 and Jacqueline [later Nichols] b. 12 March 1954 [by Odile Crick];

- Grandchildren: Alex, Camberley, Francis, Kindra (Michael & Barbara Crick's children) and Jacqueline Nichols' children Mark and Nicholas.

Crick died of colon cancer on 28 July 2004 at The University of California's San Diego Thornton Hospital, San Diego; he was cremated and his ashes scattered into the Pacific Ocean. A memorial service was held at The Salk Institute, La Jolla, near San Diego, California.

Biology research

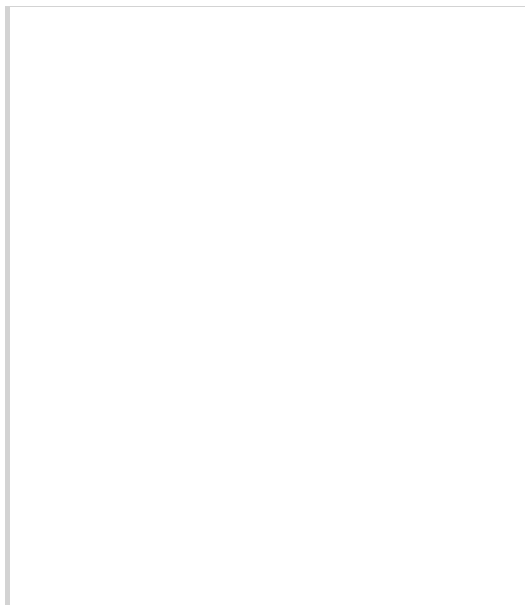
Crick was interested in two fundamental unsolved

Francis Crick

problems of biology. First, how molecules make the transition from the non-living to the living, and second, how the brain makes a conscious mind. He realized that his background made him more qualified for research on the first topic and the field of biophysics. It was at this time of Crick's transition from physics into biology that he was influenced by both Linus Pauling and Erwin Schrödinger. It was clear in

Discovery of the DNA Double Helix

theory that covalent bonds in biological molecules could provide the structural stability needed to hold genetic information in cells. It only remained as an exercise of experimental biology to discover exactly which molecule was the genetic molecule. In Crick's view, Charles Darwin's theory of evolution by natural selection, Gregor Mendel's genetics and knowledge of the molecular basis of genetics, when



combined, revealed the secret of life.

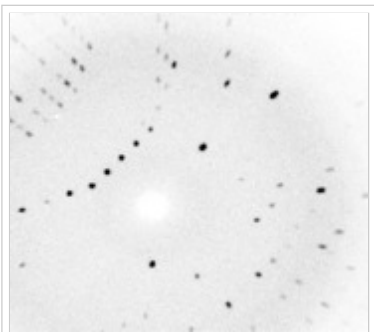
It's clear that some macromolecule such as protein was likely to be the genetic molecule. However, it was well-known that proteins are structural and functional macromolecules, some of which carry out enzymatic reactions of cells. In the 1940s,

some evidence had been found pointing to another macromolecule, DNA, the other major component of chromosomes, as a candidate genetic molecule. Oswald Avery and his collaborators showed that a

Francis Crick, lecturing ca. 1979

| | |
|----------------------|-------------------|
| William Astbury | Oswald Avery |
| Francis Crick | Erwin Chargaff |
| Jerry Donohue | Rosalind Franklin |
| Phoebus Levene | Linus Pauling |
| Erwin Schrödinger | Alec Stokes |
| James Watson | Maurice Wilkins |

phenotypic difference could be caused in bacteria by providing them with a particular DNA molecule.



An X-ray diffraction image for the protein myoglobin. At the time when Crick participated in the discovery of the DNA Double Helix, he was doing his thesis research on X-ray diffraction analysis of protein structure (see below).

However, other evidence was interpreted as suggesting that DNA was structurally uninteresting and possibly just a molecular scaffold for the apparently more interesting protein molecules. Crick was in the right place, in the right frame of mind, at the right time (1949), to join Max Perutz's project at Cambridge University, and he began to work on the X-ray crystallography of proteins. X-ray crystallography theoretically offered the opportunity to reveal the molecular structure of large molecules like proteins and DNA, but there were

serious technical problems then preventing X-ray crystallography from being applicable to such large molecules.

1949-1950

Crick taught himself the mathematical theory of X-ray crystallography. During the period of Crick's study of X-ray diffraction, researchers in the Cambridge lab were attempting to determine the most stable helical conformation of amino acid chains in proteins (the α helix). Pauling was the first to identify the 3.6 amino acids per helix turn ratio of the α helix. Crick was witness to the kinds of errors that his co-workers made in their failed attempts to make a correct molecular model of the α helix; these turned out to be important lessons that could be applied, in the future, to the helical structure of DNA. For example, he learned the importance of the structural rigidity that double bonds confer on

molecular structures which is relevant both to peptide bonds in proteins and the structure of nucleotides in DNA.

1951-1953

In 1951, together with Cochran and V. Vand, Crick assisted in the development of a mathematical theory of X-ray diffraction by a helical molecule. This theoretical result matched well with X-ray data obtained for proteins that contain sequences of amino acids in the Alpha helix conformation (published in Nature in 1952). Helical diffraction theory turned out to also be useful for understanding the structure of DNA.

Late in 1951, Crick started working with James D. Watson at Cavendish Laboratory at the University of Cambridge, England. Using the X-ray diffraction results of Raymond Gosling and Rosalind Franklin of King's

College London, given to them by Gosling and Franklin's colleague Maurice Wilkins, Watson and Crick together developed a model for a helical structure of DNA, which they published in 1953. For this and subsequent work they were jointly awarded the Nobel Prize in Physiology or Medicine in 1962 with Maurice Wilkins.

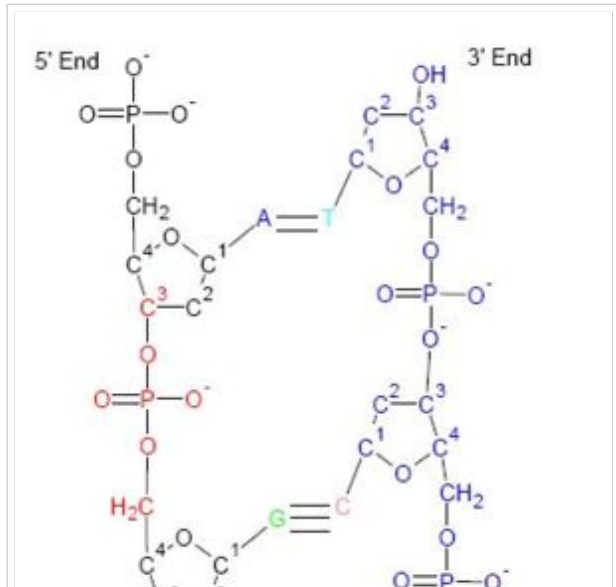
When James Watson came to Cambridge, Crick was a 35-year-old post-graduate student (due to his work during WWII) and Watson was only 23, but he already had a Ph.D. They shared an interest in the fundamental problem of learning how genetic information might be stored in molecular form. Watson and Crick talked endlessly about DNA and the idea that it might be possible to guess a good molecular model of its structure. A key piece of experimentally-derived information came from X-ray diffraction images that had been obtained by Maurice Wilkins, Rosalind Franklin and their research student, Raymond Gosling.

In November 1951, Wilkins came to Cambridge and shared his data with Watson and Crick. Alexander Stokes (another expert in helical diffraction theory) and Wilkins (both at King's) had reached the conclusion that X-ray diffraction data for DNA indicated that the molecule had a helical structure - but Rosalind Franklin vehemently did not. Stimulated by contact with Wilkins, and Watson attending a talk given by Rosalind Franklin about her work on DNA, Crick and Watson produced and showed off an erroneous first model of DNA. Watson, in particular, thought they were competing against Pauling and feared that Pauling might determine the structure of DNA.

Many have speculated about what might have happened had Pauling been able to travel to Britain as planned in May 1952. He 'might' have been invited to see some of the Wilkins/ Franklin X-ray diffraction data and such an event 'might' have led him to a double helix model (which

remains (as said above) total speculation. As it was, his political activities caused his travel to be restricted by the U. S. government and he did not visit the UK until later, at which point he met none of the DNA researchers in England. Watson and Crick were not officially working on DNA. Crick was writing his Ph.D. thesis. Watson also had other work such as trying to obtain crystals of myoglobin for X-ray diffraction experiments. In 1952, Watson did X-ray diffraction on tobacco mosaic virus and found results indicating that it had helical structure. Having failed once, Watson and Crick were now somewhat reluctant to try again and for a while they were *forbidden* to make further efforts to find a molecular model of DNA.

Of great importance to the model building effort of Watson and Crick was Rosalind Franklin's understanding of basic chemistry, which indicated that the hydrophilic phosphate-containing backbones of the nucleotide chains of DNA should be



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positioned so as to interact with water molecules on the outside of the molecule while the hydrophobic bases should be packed into the core. Franklin shared this chemical knowledge with Watson and Crick when she rather 'dismissively' pointed out to them that their first model (1951, with the phosphates inside) was obviously wrong.

Crick described what he saw as the failure of Maurice Wilkins and Rosalind Franklin to cooperate and work towards finding a molecular model of DNA as a major reason why he and Watson eventually made a second attempt to make a molecular model of DNA. They asked for, and received, permission to do so from both Bragg and Wilkins. In order to construct their model of DNA, Watson and Crick made use of information from unpublished X-ray diffraction images of Franklin's (shown at meetings and freely shared by Wilkins), including preliminary accounts of Franklin's results/photographs of the X-ray images that were

included in a written progress report for the King's laboratory of John Randall from late 1952.

It is a matter of debate whether Watson and Crick should have had access to Franklin's results without her knowledge or permission and before she had a chance to formally publish the results of her detailed analysis of her X-ray diffraction data that were included in the progress report - but Watson and Crick realised her 'staunchly' (uncompromising) held analysis (of the helical nature) was faulty - so they had a dilemma. In an effort to clarify this issue, Perutz later published what had been in the progress report, and suggested that nothing was in the report that Franklin herself had not said in her talk (attended by Watson) in late 1951. Further, Perutz explained that the report was to a Medical Research Council (MRC) committee that had been created in order to "establish contact between the different groups of people working for

the Council". Randall's and Perutz's labs were both MRC funded laboratories.

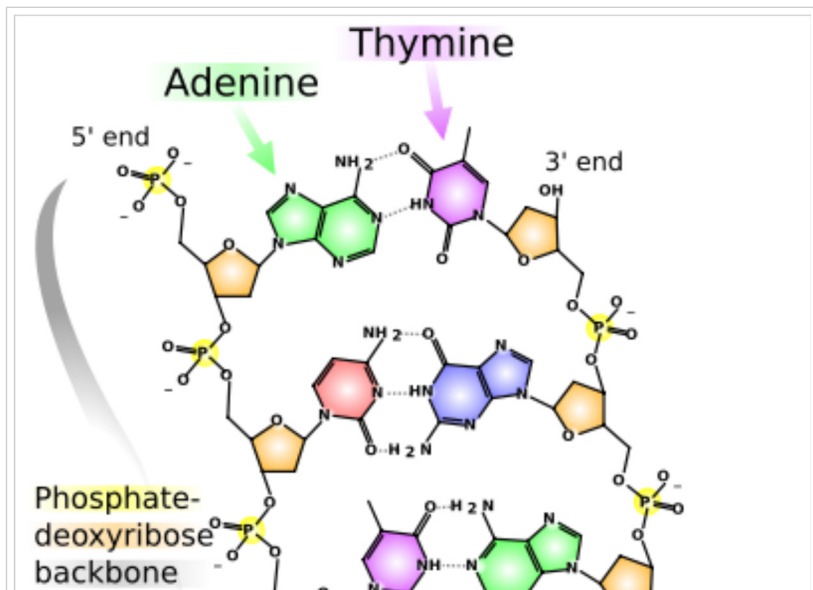
It is also not clear how important Franklin's unpublished results from the progress report actually were for the model building done by Watson and Crick. After the first crude X-ray diffraction images of DNA were collected in the 1930s, William Astbury had talked about stacks of nucleotides spaced at 3.4 angstrom (0.34 nanometre) intervals in DNA. A citation to Astbury's earlier X-ray diffraction work was one of only 8 references in Franklin's first paper on DNA. Analysis of Astbury's published DNA results and the better X-ray diffraction images collected by Wilkins and Franklin revealed the helical nature of DNA. It was possible to predict the number of bases stacked within a single turn of the DNA helix (10 per turn; a full turn of the helix is 27 angstroms [2.7 nm] in the compact A form, 34 angstroms [3.4 nm] in the wetter B

form). Wilkins shared this information about the B form of DNA with Crick and Watson. Crick did not see Franklin's B form X-ray images until after the DNA double helix model was published.

One of the few references cited by Watson and Crick when they published their model of DNA, was to a published article that included Sven Furberg's DNA model that had the bases on the inside. Thus, the Watson and Crick model was not the first "bases in" model to be published. Furberg's results had also provided the correct orientation of the DNA sugars with respect to the bases. During their model building, Crick and Watson learned that an antiparallel orientation of the two nucleotide chain backbones worked best to orient the base pairs in the centre of a double helix. Crick's access to Franklin's progress report of late 1952 is what made Crick confident that DNA was a double helix with anti-parallel chains, but there were other chains of reasoning and

sources of information that also led to these conclusions.

As a result of leaving King's College London for another institution, Franklin was asked by John Randall to give up her work on DNA. When it became clear to Wilkins and the supervisors of Watson and Crick that Franklin was going to the new job, and that Pauling was working on the structure of DNA, they were willing to share Franklin's data with Watson and Crick, in the hope that they could find a good model of DNA before Pauling was able. Franklin's X-ray diffraction data for DNA and her systematic analysis of DNA's structural features was useful to Watson and Crick in guiding them towards a correct molecular model. The key problem for Watson and Crick, which could not be resolved by the data from King's College, was to guess how the nucleotide bases pack into the core of the DNA double helix.



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Another key to finding the correct structure of DNA was the so-called Chargaff ratios, experimentally determined ratios of the nucleotide subunits of DNA: the amount of guanine is equal to cytosine and the amount of adenine is equal to thymine. A visit by Erwin Chargaff to England in 1952 reinforced the salience of this important fact for Watson and Crick. The significance of these ratios for the structure of DNA were not recognized until Watson, persisting in building structural models, realized that A:T and C:G pairs are structurally similar. In particular, the length of each base pair is the same. The base pairs are held together by hydrogen bonds, the same non-covalent interaction that stabilizes the protein α helix. Watson's recognition of the A:T and C:G pairs was aided by information from Jerry Donohue about the most likely structures of the nucleobases. After the discovery of the hydrogen bonded A:T and C:G pairs, Watson and Crick soon had their double helix model of DNA with the hydrogen bonds at the core of the helix

providing a way to unzip the two complementary strands for easy replication: the last key requirement for a likely model of the genetic molecule. As important as Crick's contributions to the discovery of the double helical DNA model were, he stated that without the chance to collaborate with Watson, he would not have found the structure by himself.

Crick did tentatively attempt to perform some experiments on nucleotide base pairing, but he was more of a theoretical than an experimental biologist. There was another close approach to discovery of the base pairing rules in early 1952. Crick had started to think about interactions between the bases. He asked John Griffith to try to calculate attractive interactions between the DNA bases from chemical principles and quantum mechanics. Griffith's best guess was that A:T and G:C were attractive pairs. At that time, Crick was not aware of Chargaff's rules

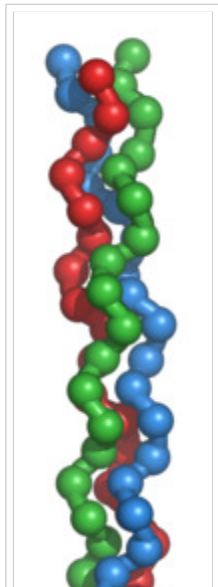
and he made little of Griffith's calculations. It did start him thinking about complementary replication. Identification of the correct base-pairing rules (A-T, G-C) was achieved by Watson "playing" with cardboard cut-out models of the nucleotide bases, much in the manner that Pauling had discovered the protein alpha helix a few years earlier. The Watson and Crick discovery of the DNA double helix structure was made possible by their willingness to combine theory, modeling and experimental results (albeit mostly done by others) to achieve their goal.

Molecular biology

In 1954, at the age of 37, Crick completed his Ph.D. thesis: "X-Ray Diffraction: Polypeptides and Proteins" and received his degree. Crick then worked in the laboratory of David Harker at Brooklyn Polytechnic Institute, where he continued to develop his skills in the analysis of

X-ray diffraction data for proteins, working primarily on ribonuclease and the mechanisms of protein synthesis. David Harker, the American X-ray crystallographer, was described as "the John Wayne of crystallography" by Vittorio Luzzati, a crystallographer at the Centre for Molecular Genetics in Gif-sur-Yvette near Paris, who had worked with Rosalind Franklin.

After the discovery of the double helix model of DNA, Crick's interests quickly turned to the biological implications of the structure. In 1953, Watson and Crick published another article in *Nature* which stated: "it therefore seems likely that the precise sequence of the bases is the code that carries the genetical information".



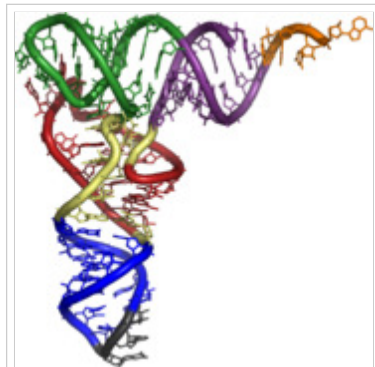
In 1956, Crick and Watson speculated on the structure of small viruses. They suggested that spherical viruses such as Tomato bushy stunt virus had icosahedral symmetry and were made from 60 identical subunits.

After his short time in New York, Crick returned to Cambridge where he worked until 1976, at which time he moved to California. Crick engaged in several X-ray diffraction collaborations such as one with Alexander Rich on the structure of collagen. However, Crick was quickly drifting away from continued work related to his expertise in the interpretation of X-ray diffraction patterns of proteins.

George Gamow established a group of scientists interested in the role of RNA as an intermediary between DNA as the genetic storage molecule in the nucleus of cells and the synthesis of proteins in the cytoplasm. It was clear to Crick that there had to be a code by which a short sequence of nucleotides would specify a particular amino acid in a newly synthesized protein. In 1956, Crick wrote an informal paper about the genetic coding problem for the small group of scientists in Gamow's RNA group. In this article, Crick reviewed the evidence supporting the idea that there was a common set of about 20 amino acids used to synthesize proteins. Crick proposed that there was a corresponding set of small adaptor molecules that would hydrogen bond to short sequences of a nucleic acid and also link to one of the amino acids. He also explored the many theoretical possibilities by which short nucleic acid sequences might code for the 20 amino acids.

During the mid-to-late 1950s Crick was very much intellectually engaged in sorting out the mystery of how proteins are synthesized. By 1958, Crick's thinking had matured and he could list in an orderly way all of the key features of the protein synthesis process:

- genetic information stored in the sequence of DNA molecules
- a “messenger” RNA molecule to carry the instructions for making one protein to the cytoplasm
- adaptor molecules (“they might contain nucleotides”) to match



Molecular model of a tRNA molecule. Crick predicted that such adaptor molecules might exist as the links between codons and amino acids.

short sequences of nucleotides in the RNA messenger molecules to specific amino acids

- ribonucleic-protein complexes that catalyse the assembly of amino acids into proteins according to the messenger RNA

The “adaptor molecules” were eventually shown to be tRNAs and the catalytic “ribonucleic-protein complexes” became known as ribosomes. An important step was later (1960) realization that the messenger RNA was not the same as the ribosomal RNA. None of this, however, answered the fundamental theoretical question of the exact nature of the genetic code. In his 1958 article, Crick speculated, as had others, that a triplet of nucleotides could code for an amino acid. Such a code might be “degenerate”, with $4 \times 4 \times 4 = 64$ possible triplets of the four nucleotide subunits while there were only 20 amino acids. Some amino acids might have multiple triplet codes. Crick also explored other codes in which for various reasons only some of the triplets were used, “magically”

producing just the 20 needed combinations. Experimental results were needed; theory alone could not decide the nature of the code. Crick also used the term “central dogma” to summarize an idea that implies that genetic information flow between macromolecules would be essentially one-way:

DNA → RNA → Protein

Some critics thought that by using the word "dogma" Crick was implying that this was a rule that could not be questioned, but all he really meant was that it was a compelling idea without much solid evidence to support it. In his thinking about the biological processes linking DNA genes to proteins, Crick made explicit the distinction between the materials involved, the energy required, and the information flow. Crick was focused on this third component (information) and it became the organizing principle of what became known as molecular biology. Crick

had by this time become a dominant, if not the dominant, theoretical molecular biologist.

Proof that the genetic code is a degenerate triplet code finally came from genetics experiments, some of which were performed by Crick. The details of the code came mostly from work by Marshall Nirenberg and others who synthesized synthetic RNA molecules and used them as templates for *in vitro* protein synthesis..

Controversy about using King's College London's results

An enduring controversy has been generated by Watson and Crick's use of DNA X-ray diffraction data collected by Rosalind Franklin and her

student Raymond Gosling. The controversy arose from the fact that some of the data were shown to them, without her knowledge, by her boss, Maurice Wilkins, and by Max Perutz. Her experimental results provided estimates of water content of DNA crystals and these results were most consistent with the three sugar-phosphate backbones being on the outside of the molecule. Franklin personally told Crick and Watson that the backbones had to be on the outside, whilst vehemently stating (erroneously) that it exhibited a helical structure. Her identification of the space group for DNA crystals revealed to Crick that the DNA strands were antiparallel, which helped Watson and Crick decide to look for DNA models with two polynucleotide strands. The X-ray diffraction images collected by Franklin provided the best evidence for the helical nature of DNA - but she failed to recognise this fact. However Franklin's experimental work proved important in Crick and Watson's development of the correct model.

Prior to publication of the double helix structure, Watson and Crick had little interaction with Franklin. Crick and Watson felt that they had benefited from collaborating with Maurice Wilkins. They offered him a co-authorship on the article that first described the double helix structure of DNA. Wilkins turned down the offer and was in part responsible for the terse character of the acknowledgment of experimental work done at King's College London. Rather than make any of the DNA researchers at King's College co-authors on the Watson and Crick double helix article, the solution that was arrived at was to publish two additional papers from King's College London along with the helix paper. Brenda Maddox suggested that because of the importance of her experimental results used Watson and Crick's model building and theoretical analysis, Franklin should have had her name on the original Watson and Crick paper in Nature. Watson and Crick offered joint authorship to Wilkins which he turned down at the time,

but which he may have subsequently regretted. (Franklin and Ray Gosling submitted their own joint 'second' paper to Nature at the same time as Wilkins, Stokes and Wilson submitted theirs, i.e., the 'third' paper on DNA.).

Views on religion

Crick once joked, "Christianity may be OK between consenting adults in private but should not be taught to young children."

In his book *Of Molecules and Men*, Crick expressed his views on the relationship between science and religion. After suggesting that it would become possible for people to wonder if a computer might be programmed so as to have a soul, he wondered: at what point during biological evolution did the first organism have a soul? At what moment

does a baby get a soul? Crick stated his view that the idea of a non-material soul that could enter a body and then persist after death is just that, an imagined idea. For Crick, the mind is a product of physical brain activity and the brain had evolved by natural means over millions of years. Crick felt that it was important that evolution by natural selection be taught in public schools and that it was regrettable that English schools had compulsory religious instruction. Crick felt that a new scientific world view was rapidly being established, and predicted that once the detailed workings of the brain were eventually revealed, erroneous Christian concepts about the nature of man and the world would no longer be tenable; traditional conceptions of the "soul" would be replaced by a new understanding of the physical basis of mind. He was skeptical of organized religion, referring to himself as a skeptic and an agnostic with "a strong inclination towards atheism".

In 1960, Crick accepted a fellowship at Churchill College Cambridge, one factor being that the new college did not have a chapel. Sometime later a large donation was made to establish a chapel and the fellowship elected to accept it. Crick resigned his fellowship in protest.

In October 1969, Crick participated in a celebration of the 100th year of the journal *Nature*. Crick attempted to make some predictions about what the next 30 years would hold for molecular biology. His speculations were later published in *Nature*. Near the end of the article, Crick briefly mentioned the search for life on other planets, but he held little hope that extraterrestrial life would be found by the year 2000. He also discussed what he described as a possible new direction for research, what he called "biochemical theology". Crick wrote, "So many people pray that one finds it hard to believe that they do not get some satisfaction from it...."

Crick suggested that it might be possible to find chemical changes in the brain that were molecular correlates of the act of prayer. He speculated that there might be a detectable change in the level of some neurotransmitter or neurohormone when people pray. Crick may have been imagining substances such as dopamine that are released by the brain under certain conditions and produce rewarding sensations. Crick's suggestion that there might someday be a new science of "biochemical theology" seems to have been realized under an alternative name: there is now the new field of neurotheology. Crick's view of the relationship between science and religion continued to play a role in his work as he made the transition from molecular biology research into theoretical neuroscience.

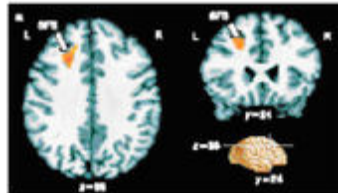
Directed panspermia

During the 1960s, Crick became concerned with the origins of the genetic code. In 1966, Crick took the place of Leslie Orgel at a meeting where Orgel was to talk about the origin of life. Crick speculated about possible stages by which an initially simple code with a few amino acid types might have evolved into the more complex code used by existing organisms. At that time, everyone thought of proteins as the only kind of enzymes and ribozymes had not yet been found. Many molecular biologists were puzzled by the problem of the origin of a protein replicating system that is as complex as that which exists in organisms currently inhabiting Earth. In the early 1970s, Crick and Orgel further speculated about the possibility that the production of living systems from molecules may have been a very rare event in the universe, but once it had developed it could be spread by intelligent life forms using space travel technology, a process they called “Directed Panspermia”. In a retrospective article, Crick and Orgel noted that they had been

overly pessimistic about the chances of abiogenesis on Earth when they had assumed that some kind of self-replicating protein system was the molecular origin of life.

Neuroscience, other interests

Crick's period at Cambridge was the pinnacle of his long scientific career, but he left Cambridge in 1977 after 30 years, having been offered (and having refused) the Mastership of Gonville & Caius. James Watson claimed at a Cambridge conference marking the 50th anniversary of the discovery of the structure of DNA in 2003: "Now perhaps it's a pretty well kept secret that one of the most uninspiring acts of Cambridge University over this past century was to turn down Francis Crick when he applied to be the Professor of Genetics,



Results from an fMRI experiment in which people made a conscious decision about a visual stimulus. The small region of the brain coloured orange shows patterns of activity that correlate with the decision making process. Crick stressed the importance of finding new methods to probe human brain function.

in 1958. Now there may have been a series of arguments, which lead them to reject Francis. It was really saying, don't push us to the frontier." The apparently "pretty well kept secret" had already been recorded in Soraya De Chadarevian's "Designs For Life: Molecular Biology After World War II", published by CUP in 2002. His major contribution to molecular biology in Cambridge is well documented in The History of the University of Cambridge: Volume 4 (1870 to 1990), which was published by Cambridge University Press in 1992.

According to the University of Cambridge's genetics department official website, the electors of the professorship could not reach consensus, prompting the intervention of then University Vice-Chancellor Lord Adrian. Lord Adrian first offered the professorship to a compromise candidate, Guido Pontecorvo, who refused, and is said to have offered it then to Crick, who also refused.

In 1976, Crick took a sabbatical year at the Salk Institute for Biological Studies in La Jolla, California. Crick had been a nonresident fellow of the Institute since 1960. Crick wrote, "I felt at home in Southern California." After the sabbatical, Crick left Cambridge in order to continue working at the Salk Institute. He was also a professor at the University of California, San Diego. He taught himself neuroanatomy and studied many other areas of neuroscience research. It took him several years to disengage from molecular biology because exciting discoveries continued to be made, including the discovery of alternative splicing and the discovery of restriction enzymes, which helped make possible genetic engineering. Eventually, in the 1980s, Crick was able to devote his full attention to his other interest, consciousness. His autobiographical book, *What Mad Pursuit*, includes a description of why he left molecular biology and switched to neuroscience.

Upon taking up work in theoretical neuroscience, Crick was struck by several things:

- there were many isolated subdisciplines within neuroscience with little contact between them
- many people who were interested in behaviour treated the brain as a black box
- consciousness was viewed as a taboo subject by many neurobiologists

Crick hoped he might aid progress in neuroscience by promoting constructive interactions between specialists from the many different subdisciplines concerned with consciousness. He even collaborated with neurophilosophers such as Patricia Churchland. Crick established a collaboration with Christof Koch that led to publication of a series of articles on consciousness during the period spanning from 1990 to 2005.

Crick made the strategic decision to focus his theoretical investigation of consciousness on how the brain generates visual awareness within a few hundred milliseconds of viewing a scene. Crick and Koch proposed that consciousness seems so mysterious because it involves very short-term memory processes that are as yet poorly understood. Crick also published a book describing how neurobiology had reached a mature enough stage so that consciousness could be the subject of a unified effort to study it at the molecular, cellular and behavioural levels. Crick's book *The Astonishing Hypothesis* made the argument that neuroscience now had the tools required to begin a scientific study of how brains produce conscious experiences. Crick was skeptical about the value of computational models of mental function that are not based on details about brain structure and function.

Crick was elected a fellow of CSICOP in 1983 and a Humanist Laureate

of the International Academy of Humanism in the same year. In 1995, Francis Crick was one of the original endorsers of the Ashley Montagu Resolution to petition for an end to the genital mutilation of children.

Reactions to Crick and his work

Crick has widely been described as talkative, brash, and lacking modesty. His personality combined with his scientific accomplishments produced many opportunities for Crick to stimulate reactions from others, both inside and outside of the scientific world, which was the centre of his intellectual and professional life. Also described as an example of Crick's wide recognition and public profile are some of the times Crick was addressed as "Sir Francis Crick" with the assumption that someone so famous must have been knighted.</ref> Crick spoke rapidly, and rather loudly, and had an infectious and reverberating laugh,

and a lively sense of humour. One colleague from the Salk Institute described him as "a brainstorming intellectual powerhouse with a mischievous smile..." Francis was never mean-spirited, just incisive. He detected microscopic flaws in logic. In a room full of smart scientists, Francis continually reearned his position as the heavyweight champ."

Religious beliefs

The conservative political analyst Mark Steyn published an obituary of Crick and attempted a deconstruction of Crick's scientific motivations. Steyn characterized Crick as a militant atheist and asserted that it was his atheism that "drove" Crick to move beyond conventional molecular biology towards speculative topics such as panspermia. Steyn described the theory of directed panspermia as amounting to, "gods in the skies who fertilize the earth and then retreat to the heavens beyond our

reach." Steyn categorized Crick's ideas on directed panspermia as a result of "hyper-rationalism" that, "lead him round to embracing a belief in a celestial creator of human life, indeed a deus ex machina."

Steyn's critique of Crick ignored the fact that Crick never held a belief in panspermia. Crick explored the hypothesis that it might be possible for life forms to be moved from one planet to another. What "drove" Crick towards speculation about directed panspermia was the difficulty of imagining how a complex system like a cell could arise under pre-biotic conditions from non-living chemical components. After ribozymes were discovered, Crick became much less interested in panspermia because it was then much easier to imagine the pre-biotic origins of life as being made possible by some set of simple self-replicating polymers.

Eugenics

Crick occasionally expressed his views on eugenics, usually in private letters. For example, Crick advocated a form of positive eugenics in which wealthy parents would be encouraged to have more children. He once remarked, "In the long run, it is unavoidable that society will begin to worry about the character of the next generation... It is not a subject at the moment which we can tackle easily because people have so many religious beliefs and until we have a more uniform view of ourselves I think it would be risky to try and do anything in the way of eugenics... I would be astonished if, in the next 100 or 200 years, society did not come round to the view that they would have to try to improve the next generation in some extent or one way or another." Some observers have labelled Crick's views on eugenics as "controversial"

Creationism

It has been suggested by some observers that Crick's speculation about panspermia, "fits neatly into the intelligent design concept." Crick's name was raised in this context in the Kitzmiller v. Dover Area School District trial over the teaching of intelligent design. However, Crick wrote:

The age of the earth is now established beyond any reasonable doubt as very great, yet in the United States millions of Fundamentalists still stoutly defend the naive view that it is relatively short, an opinion deduced from reading the Christian Bible too literally. They also usually deny that animals and plants have evolved and changed radically over such long periods, although this is equally well established. This gives one little confidence that what they have to say about the process of natural selection is

likely to be unbiased, since their views are predetermined by a slavish adherence to religious dogmas.

In the 1987 United States Supreme Court case *Edwards v. Aguillard*, Crick joined a group of other Nobel laureates who advised that, "'Creation-science' simply has no place in the public-school science classroom." Crick was also an advocate for the establishment of Darwin Day as a British national holiday.

Recognition

The Francis Crick Prize Lectures at The Royal Society, London

The Francis Crick Prize Lecture was established in 2003 following an endowment by his former colleague, Sydney Brenner, joint winner of the 2002 Nobel Prize in Physiology and Medicine. The lecture is delivered

annually in any field of biological sciences, with preference given to the areas in which Francis Crick himself worked. Importantly, the lectureship is aimed at younger scientists, ideally under 40, or whose career *progression corresponds to this age*.

The Francis Crick Graduate Lectures at the University of Cambridge

The University of Cambridge Graduate School of Biological, Medical and Veterinary Sciences hosts The Francis Crick Graduate Lectures. The first two lectures were by John Gurdon and Tim Hunt.

"For my generation, Francis Crick was probably the most obviously influential presence. He was often at lunch in the canteen of the Laboratory of Molecular Biology where he liked to explain what he was thinking about, and he was always careful to make sure that everyone round the table really understood. He was a frequent presence at talks in

and around Cambridge, where he liked to ask questions. Sometimes, I remember thinking, they seemed slightly ignorant questions to which a man of his extraordinary range and ability ought to have known the answers. Only slowly did it dawn on me that he only and always asked questions when he was unclear or unsure, a great lesson." (Tim Hunt, first Francis Crick Graduate Lecturer: June 2005)

The wording on the new DNA sculpture (which was donated by James Watson) outside Clare College's Thirkill Court, Cambridge, England is

a) on the base:

i) "These strands unravel during cell reproduction. Genes are encoded in the sequence of bases."

ii) "The double helix model was supported by the work of Rosalind

Franklin and Maurice Wilkins."

b) on the helices:

i) "The structure of DNA was discovered in 1953 by Francis Crick and James Watson while Watson lived here at Clare."

ii) "The molecule of DNA has two helical strands that are linked by base pairs Adenine - Thymine or Guanine - Cytosine."

The aluminium sculpture stands fifteen feet high. It took a pair of technicians a fortnight to build it. For the artist responsible it was an opportunity to create a monument that brings together the themes of science and nature; Charles Jencks, Sculptor said "It embraces the trees, you can sit on it and the ground grows up and it twists out of the ground. So it's truly interacting with living things like the turf, and that idea was

behind it and I think it does celebrate life and DNA." Tony Badger, Master of Clare, said: "It is wonderful to have this lasting reminder of his achievements while he* was at Clare and the enormous contribution he* and Francis Crick have made to our understanding of life on earth." * James Watson.

- Fellow of the Royal Society
- Fellow International Academy of Humanism
- Fellow CSICOP
- Westminster City Council unveiled a green plaque to Francis Crick on the front façade of 56 St George's Square, Pimlico, London SW1 on the 20 June 2007; Crick lived in the first floor flat, together with Robert Dougall of BBC radio and later TV fame, a former Royal Navy associate.

Books by Francis Crick

- *Of Molecules and Men* (Prometheus Books, 2004; original edition 1967) ISBN 1-59102-185-5
- *Life Itself* (Simon & Schuster, 1981) ISBN 0-671-25562-2
- *What Mad Pursuit: A Personal View of Scientific Discovery* (Basic Books reprint edition, 1990) ISBN 0-465-09138-5
- *The Astonishing Hypothesis: The Scientific Search For The Soul* (Scribner reprint edition, 1995) ISBN 0-684-80158-2
- *Kreiseliana: about and around Georg Kreisel*; ISBN 1-56881-061-X; 495 pages. For pages 25 - 32 "Georg Kreisel: a Few Personal Recollections" contributed by Francis Crick.

Books about Francis Crick and the structure

of DNA discovery

- John Bankston, Francis Crick and James D. Watson; *Francis Crick and James Watson: Pioneers in DNA Research* (Mitchell Lane Publishers, Inc., 2002) ISBN 1-58415-122-6
- Soraya De Chadarevian; *Designs For Life: Molecular Biology After World War II*, CUP 2002, 444 pp; ISBN 0-521-57078-6
- Edwin Chargaff; *Heraclitean Fire*, Rockefeller Press, 1978
- S. Chomet (Ed.), "*D.N.A. Genesis of a Discovery*", 1994, Newman- Hemisphere Press, London
- Dickerson, Richard E.; "*Present at the Flood: How Structural Molecular Biology Came About*", Sinauer, 2005; ISBN 0-878-93168-6;
- Edward Edelson, "*Francis Crick And James Watson: And the Building Blocks of Life*" Oxford University Press, 2000, ISBN

0-19-513971-2.

- Hager, Thomas; "*Force of Nature: The Life of Linus Pauling*", Simon & Schuster 1995; ISBN 0-684-80909-5
- Graeme Hunter; *Light Is A Messenger, the life and science of William Lawrence Bragg*, ISBN 0-19-852921-X; Oxford University Press, 2004.
- Horace Freeland Judson, *The Eighth Day of Creation. Makers of the Revolution in Biology*"; Penguin Books 1995, first published by Jonathan Cape, 1977; ISBN 0-14-017800-7.
- Torsten Krude (Ed.); *DNA Changing Science and Society* (ISBN 0-521-82378-1) CUP 2003. (The Darwin Lectures for 2003, including one by Sir Aaron Klug on Rosalind Franklin's involvement in the determination of the structure of DNA).
- Brenda Maddox *Rosalind Franklin: The Dark Lady of DNA*, 2002. ISBN 0-00-655211-0.
- Robert Olby; *The Path to The Double Helix: Discovery of DNA*;

first published in October 1974 by MacMillan, with foreword by Francis Crick; ISBN 0-486-68117-3; revised in 1994, with a 9-page postscript.

- Robert Olby; "Francis Crick: A Biography", Cold Spring Harbour Laboratory Press, ISBN 9780879697983, to be published in June 2009.
- Matt Ridley; *Francis Crick: Discoverer of the Genetic Code (Eminent Lives)* first published in June 2006 in the USA and then in the UK September 2006, by HarperCollins Publishers; 192 pp, ISBN 0-06-082333-X. See: <http://www.nytimes.com/2006/07/10/science/11books-excerpt.html>
- Anne Sayre. 1975. *Rosalind Franklin and DNA*. New York: W.W. Norton and Company. ISBN 0-393-32044-8.
- James D. Watson; *The Double Helix: A Personal Account of the Discovery of the Structure of DNA*, Atheneum, 1980, ISBN 0-689-70602-2 (first published in 1968) is a very readable

firsthand account of the research by Crick and Watson. The book also formed the basis of the award winning television dramatization *Life Story* by BBC Horizon (also broadcast as *Race for the Double Helix*).

- James D. Watson; *The Double Helix: A Personal Account of the Discovery of the Structure of DNA*; The Norton Critical Edition, which was published in 1980, edited by Gunther S. Stent: ISBN 0-393-01245-X. (It does not include Erwin Chargaff's critical review unfortunately.)
- James D. Watson; "Avoid boring people and other lessons from a life in science" New York: Random House. ISBN 978-0-375-41284-4, 366pp
- Maurice Wilkins; *The Third Man of the Double Helix: The Autobiography of Maurice Wilkins* ISBN 0-19-860665-6.

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George V of the United Kingdom

2008/9 Schools Wikipedia Selection. Related subjects: British History Post 1900; Monarchs of Great Britain

George V (3 June 1865 – 20 January 1936), born

George Frederick Ernest Albert, was the first British monarch belonging to the House of

George V

King of the United Kingdom and her dominions beyond the Seas; Emperor of India (more...)

Windsor, which he created from the British branch of the German House of Saxe-Coburg-Gotha. As well as being King of the United Kingdom, and the Commonwealth Realms, George was also the Emperor of India and the first King of the Irish Free



State. George reigned from 6 May 1910 through World War I (1914–1918) until his death in 1936.

From the age of 12 George served in the Royal Navy, but upon the unexpected death of his elder brother, Prince Albert Victor,

King George V

| | |
|--------------------|------------------------------|
| Reign | 6 May 1910 - 20 January 1936 |
| Coronation | 22 June 1911 |
| Predecessor | Edward VII |
| Successor | Edward VIII |
| Consort | Mary of Teck |
| Issue | |
| | Edward VIII |
| | George VI |
| | Mary, Princess Royal |
| | Henry, Duke of Gloucester |
| | George, Duke of Kent |
| | Prince John |

Duke of Clarence, he became heir to the throne and married his brother's fiancée, Mary of Teck. Although they occasionally toured the British Empire, George preferred to stay at home with his stamp collection, and lived what later biographers would

Full name

George Frederick Ernest Albert

Titles and styles
Detail

HM The King

HRH The Prince of Wales

HRH The Duke of Cornwall

HRH The Duke of York

HRH Prince George of Wales

Royal house

House of Windsor

House of Saxe-Coburg-Gotha

Royal anthem

God Save the King

Father

Edward VII

Mother

Alexandra of Denmark

consider a dull life because of its conventionality.

When George's father, King Edward VII died in 1910, he became King-Emperor. He was the only

Emperor of India to be crowned there. During World War I he relinquished all German titles and styles on behalf of his relatives who were British subjects; and changed the name of the royal house from Saxe-Coburg-Gotha to Windsor. During his reign, the Statute of Westminster separated the crown so that George ruled the dominions as

| | |
|-----------------|--|
| Born | 3 June 1865 Marlborough House, London |
| Baptised | 7 July 1865 Windsor Castle, Windsor |
| Died | Template:Euro death date and age Sandringham House, Norfolk |
| Burial | 29 January 1936 St George's Chapel, Windsor |

separate kingdoms, and the rise of socialism, fascism and Irish republicanism changed the political spectrum.

George was plagued by illness throughout much of his later reign; he was succeeded by his eldest son, Edward, upon his death.

Early life and education

George was born on 3 June 1865, at Marlborough House, London. His father was The Prince of Wales (later King Edward VII), the eldest son of Queen Victoria and Prince Albert of Saxe-Coburg-Gotha. His mother was the Princess of Wales (later Queen Alexandra), the eldest daughter of King Christian IX of Denmark. As a grandson of Queen Victoria in the male line, George was styled *His Royal Highness Prince George of Wales* at birth.

He was baptised in the Private Chapel of Windsor Castle on 7 July 1865. As a younger son of the Prince of Wales, there was no expectation that George would become King as his elder brother, Prince Albert Victor, was second in line to the throne after their father.

Given that George was born only fifteen months after his brother Prince Albert Victor, it was decided to educate both royal princes together. The Prince of Wales appointed John Neale Dalton as their tutor, although neither Albert Victor nor George excelled intellectually. In September 1877 both brothers joined the training ship HMS *Britannia* at Dartmouth. Their father thought that the navy was "the very best possible training for any boy."

For three years from 1879 the royal brothers served as midshipmen on HMS *Bacchante*, accompanied by Dalton. They toured the British

Empire, visiting Norfolk, Virginia, the colonies in the Caribbean, South Africa and Australia, as well as the Mediterranean, South America, the Far East and Egypt. Dalton wrote an account of their journey entitled *The Cruise of HMS Bacchante*. Between Melbourne and Sydney, Dalton records a sighting of the Flying Dutchman, a mythical ghost ship. When they returned to the UK, the brothers were separated with Albert Victor attending Trinity College, Cambridge and George continuing in the Royal Navy. He travelled the world and visited many areas of the British Empire, serving actively in the navy until his last command in 1891. From then on his naval rank was largely honorary.

British Royalty
House of Windsor

Marriage

As a young man destined to serve in the Navy, Prince George served for many years under the command of his uncle, Prince Alfred, Duke of Edinburgh, who was stationed in Malta. There, he grew close to and fell in love with his uncle's daughter, his first cousin, Marie of Edinburgh. His grandmother, father and uncle all approved the match, but the mothers, the Princess of Wales and the Duchess of Edinburgh, both opposed it. The Princess of Wales thought the family was too



George V

Edward VIII

George VI

Mary, Princess Royal

Henry, Duke of Gloucester

George, Duke of Kent

Prince John

Grandchildren

pro-German, and the Duchess of Edinburgh disliked England. When George proposed, Marie refused, guided by her mother. She later became Queen of Romania.

In 1891, Prince Albert Victor, Duke of Clarence became engaged to his second cousin once removed, Princess Victoria Mary of Teck (always called "May"), the only daughter of Prince Francis, Duke of Teck and Princess Mary Adelaide of Cambridge. However, Albert Victor died of pneumonia six weeks later, leaving George second in line to the throne and likely to succeed after his

Elizabeth II

Margaret, Countess of Snowdon

Prince William of Gloucester

Richard, Duke of Gloucester

Edward, Duke of Kent

Prince Michael of Kent

Princess Alexandra

father. This effectively ended George's naval career, as he was now expected to assume a more political role.

Queen Victoria still favoured Princess May as a suitable candidate to marry a future king, so she persuaded George to propose to May. George duly proposed and May accepted. The marriage was a success, and throughout their lives the couple exchanged notes of endearment and loving letters.

The marriage of George and May took place on 6 July 1893 at the Chapel Royal, St. James's Palace in London. *The Times* claimed that at the wedding, the crowd may have been confused as to who was the Duke of York (later George V) and who was the Tsarevitch (later Nicholas II) of Russia, because their beards and dress made them look alike superficially. However, their remaining facial features were quite

different up close.

Duke of York

On 24 May 1892 Queen Victoria created George, Duke of York, Earl of Inverness and Baron Killarney. After George's marriage to May, she was styled *Her Royal Highness The Duchess of York*.

The Duke and Duchess of York lived mainly at York Cottage, a relatively small house in Sandringham, Norfolk where their way of life mirrored that of a comfortable middle-class family rather than grand royalty. George preferred the simple, almost quiet, life in marked contrast to his parents. Even his official biographer despaired of George's time as Duke of York, writing: "He may be all right as a young midshipman and a wise old king, but when he was Duke of York...he did

nothing at all but kill [*i.e.* shoot] animals and stick in stamps."

George was a well-known stamp collector, and played a large role in building the Royal Philatelic Collection into the most comprehensive collection of United Kingdom and Commonwealth stamps in the world, in some cases setting record purchase prices for items. His enthusiasm for stamps was denigrated by the intelligentsia.

Randolph Churchill claimed that George was a strict father, to the extent that his children were terrified of him, and that George had remarked to Edward Stanley, 17th Earl of Derby: "My father was frightened of his mother, I was frightened of my father, and I am damned well going to see to it that my children are frightened of me." In reality there is no direct source for the quote and it is likely that George's parenting style was little different from that adopted by most people at the time. George and May



had five sons and a daughter.

As Duke and Duchess of York, George and May carried out a wide variety of public duties. In 1901, they toured the British Empire, visiting Australia, where the Duke opened the first session of the Australian Parliament upon the creation of the Commonwealth of Australia. Their tour also included South Africa, Canada, and New Zealand, where (as they were now the Duke and Duchess of Cornwall and York) Cornwall Park in Auckland was named in their honour by its donor, John Logan Campbell, then Mayor of Auckland.

Prince of Wales

On 22 January 1901, Queen Victoria died, and George's father, Albert Edward, ascended the throne as King Edward VII. At that point George

inherited the titles of Duke of Cornwall and Duke of Rothesay. For the rest of that year, George was styled *His Royal Highness The Duke of Cornwall and York*, until 9 November 1901 when he was created Prince of Wales and Earl of Chester.

King Edward VII wished his son to have more preparation and experience prior to his future role. In contrast to Edward himself, whom Queen Victoria had excluded from state affairs, George was given wide access to state documents and papers by his father. George in turn allowed his wife access to his papers, as he valued her counsel, and May often helped write her husband's speeches.

In 1906 he toured India, where he was disgusted by racial discrimination and campaigned for greater involvement of Indians in the government of the country.

King and Emperor

On 6 May 1910, King Edward VII died, and the Prince of Wales ascended the throne. George was now King George V and May was Queen. George had never liked his wife's habit of signing official documents and letters as "Victoria Mary" and insisted she drop one of the names. Neither thought she should be called Queen Victoria, and so she became Queen Mary. Their coronation took place at Westminster Abbey on 22 June 1911. In 1911, the King and Queen travelled to India for the Delhi Durbar on December 12, where they were presented to an assembled audience of Indian dignitaries and princes as the Emperor and Empress of India. George wore the newly-created Imperial Crown of India at the ceremony. Later, the Emperor and Empress travelled throughout India, visiting their new subjects. George took the opportunity to indulge in hunting tigers, shooting 21. On 18 December

1913 George shot over a thousand pheasants in six hours at the home of Lord Burnham, although even he had to acknowledge that "we went a little too far" that day.

World War I

From 1914 to 1918 Britain was at war with Germany. The German Emperor Wilhelm II, who for the British public came to symbolise all the horrors of the war, was the King's first cousin. Queen Mary, although British herself, was the daughter of the Duke of Teck, a descendant of the German Royal House of Württemberg.

Image:George V of the United Kingdom - Punch cartoon - Project Gutenberg eText 16113.png
"A good riddance"
A 1917 *Punch* cartoon depicting King George V sweeping away his German titles. Changing the name of his family's royal house from *Saxe-Coburg-Gotha* to *Windsor* was a popular move.

The King's paternal grandfather was Prince Albert of Saxe-Coburg-Gotha; the King and his children bore the titles Prince and Princess of Saxe-Coburg and Gotha and Duke and Duchess of Saxony. The King had brothers-in-law and cousins who were British subjects but who bore German titles such as Duke and Duchess of Teck, Prince and Princess of Battenberg, Prince and Princess of Hesse and by Rhine, and Prince and Princess of Schleswig-Holstein-Sønderburg-Augustenberg. Writer H. G. Wells wrote about Britain's "alien and uninspiring court", and George famously replied: "I may be uninspiring, but I'll be damned if I'm alien."

On 17 July 1917, George V issued an Order-in-Council that changed the name of the British Royal House from the German-sounding House of Saxe-Coburg-Gotha to the House of Windsor, to appease British nationalist feelings. He specifically adopted Windsor as the surname for

all descendants of Queen Victoria then living in the United Kingdom, excluding females who married into other families and their descendants.

Finally, on behalf of his various relatives who were British subjects he relinquished the use of all German titles and styles, and adopted British-sounding surnames. George compensated several of his male relatives by creating them British peers. Thus, overnight his cousin, Prince Louis of Battenberg, became Louis Mountbatten, 1st Marquess of Milford Haven, while his brother-in-law, the Duke of Teck, became Adolphus Cambridge, 1st Marquess of Cambridge. Others, such as Princess Marie Louise of Schleswig-Holstein and Princess Helena Victoria of Schleswig-Holstein, simply stopped using their territorial designations. In Letters Patent gazetted on 11 December 1917, the King restricted the style "His (or Her) Royal Highness" and the titular dignity of "Prince (or

Princess) of Great Britain and Ireland" to the children of the Sovereign, the children of the sons of the Sovereign, and the eldest living son of the eldest living son of a Prince of Wales.

The Letters Patent also stated that "the titles of Royal Highness, Highness or Serene Highness, and the titular dignity of Prince and Princess shall cease except those titles already granted and remaining unrevoked." Relatives of the British Royal Family who fought on the German side, such as Prince Ernst August of Hanover, 3rd Duke of Cumberland and Teviotdale (the senior male-line great grandson of George III) and Prince Carl Eduard, Duke of



Albany and the reigning Duke of Saxe-Coburg-Gotha (a male line grandson of Queen Victoria), were simply cut off; their British peerages were suspended by a 1919 Order in Council under the provisions of the Titles Deprivation Act 1917. George also removed their garter flags from St George's Chapel at Windsor Castle under pressure from his mother, Queen Alexandra.

When Tsar Nicholas II of Russia, a first cousin of George through his mother, Queen Alexandra (Nicholas II's mother was Maria Fyodorovna, Queen Alexandra's sister) was overthrown in the Russian Revolution of 1917, the British Government offered asylum to the Tsar and his family but worsening conditions for the British people, and fears that revolution might come to the British Isles, led George to think that the presence of the Romanovs might seem inappropriate under the circumstances. Despite the later claims of Lord Mountbatten of Burma

that David Lloyd George, the Prime Minister, was opposed to the rescue of the Romanovs, records of the King's private secretary, Lord Stamfordham, suggest that George V opposed the rescue against the advice of Lloyd George. Advanced planning for a rescue was undertaken by MI1, a branch of the British secret service, but because of the strengthening Bolshevik position and wider difficulties with the conduct of the war, the plan was never put into operation. The Tsar and his immediate family thus remained in Russia and were murdered by Bolshevik revolutionaries in Yekaterinburg in 1918.

Two months after the end of the war, the King's youngest son, John, died aged 13 after a short lifetime of ill-health. George was informed of the death by the Queen who wrote, "[John] had been a great anxiety to us for many years... The first break in the family circle is hard to bear but people have been so kind & sympathetic & this has helped us

much."

Later life

During and after World War I, many of the monarchies which had ruled most European countries fell. In addition to Russia, the monarchies of Austria, Germany, Greece, and Spain also fell to revolution and war, although the Greek monarchy was restored again shortly before George's death. Most of these countries were ruled by relatives of George. In 1922, a Royal Navy ship was sent to Greece to rescue his cousins, Prince Andrew of Greece and Denmark and Princess Alice of Battenberg and their children, including Prince Philip, who would later marry George's granddaughter, Elizabeth II.

George also took an interest in the political turmoil in Ireland,

expressing his horror at government-sanctioned killings and reprisals to Prime Minister Lloyd George. During the General Strike of 1926 the King took exception to suggestions that the strikers were 'revolutionaries' saying, "Try living on their wages before you judge them." He also advised the Government against taking inflammatory action.

In 1932 George agreed to deliver a Royal Christmas speech on the radio, an event which was to become an annual event. He was not in favour of the innovation originally but was persuaded by the argument that it was what his people wanted. He was concerned by the rise of the Nazi Party in Germany, and warned the British ambassador in Berlin to be suspicious of the fascists. By the silver jubilee of his reign in 1935, he had become a well-loved king, saying in response to the crowd's adulation, "I cannot understand it, after all I am only a very ordinary

sort of fellow." But George's relationship with his heir, Prince Edward deteriorated in these later years. George was disappointed in Edward's failure to settle down in life and appalled by his many affairs with married women. He was reluctant to see Edward inherit the crown. In contrast, he was fond of his second eldest son, Prince Albert (later George VI) and doted on his eldest granddaughter, Princess Elizabeth; he nicknamed her "Lilibet", and she affectionately called him "Grandpa England". George was quoted as saying about his son Edward: "After I am dead the boy will ruin himself within 12 months," and later about Albert and Lilibet: "I pray to God my eldest son will never marry and have children, and that nothing will come between Bertie and Lilibet and the throne."

Death

World War I took a toll on George's health, and his heavy smoking exacerbated recurring breathing problems. A bout of illness saw him retire to the seaside resort of Bognor Regis in West Sussex. A myth later grew that the King's last words, upon being told that he would soon be well enough to revisit the town, were "bugger Bognor!"

George never fully recovered. In the evening of 15 January 1936, the King took to his bedroom at Sandringham House complaining of a cold; he would



Statue of King George V by

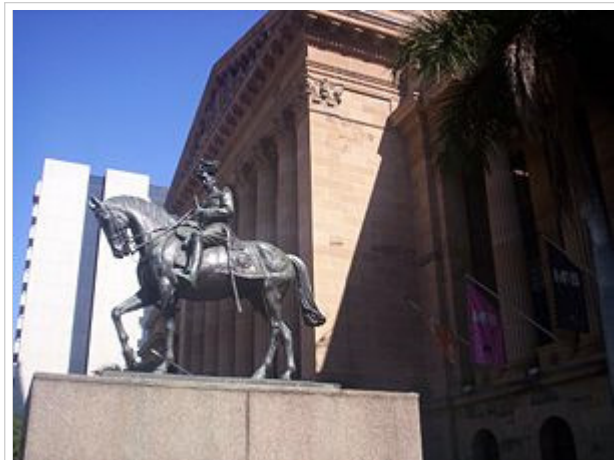
never leave the room alive. The King became gradually weaker, drifting in and out of consciousness. The diary of his physician, Lord Dawson of Penn, reveals that the King's last words, a mumbled "God damn you!", were addressed to his nurse when she gave him a sedative on the night of the 20 January. When the King was already comatose and close to death, Dawson admits hastening the King's end by giving him a lethal injection of cocaine and morphine, both to prevent further strain on the family and so that the news of his death could be announced in the morning edition of *The Times* newspaper. He died at 11.55 p.m. and is buried at St George's Chapel, Windsor Castle.

At the procession to George's Lying in State in Westminster Hall, as the cortege turned into New Palace Yard, the Maltese Cross fell from the Imperial Crown and landed in the gutter. The new King, Edward VIII, saw it fall and wondered whether this was a bad omen for his new reign.

As a mark of respect to their father, George's four surviving sons, King Edward VIII, the Duke of York, the Duke of Gloucester and the Duke of Kent, mounted the guard at the catafalque on the night of 28 January, the day before the funeral.

Tributes

A statue of King George V was unveiled outside the Brisbane City Hall in 1938 as a tribute to the King from the citizens of Brisbane, Queensland, Australia. The square on which the statue stands was originally called Albert Square, but was later renamed King George Square



Statue of King George V in King George Square
outside Brisbane City Hall

in honour of King George V. In London, a statue by William Reid Dick stands outside the east end of Westminster Abbey.

The King George's Fields in London were created as a memorial by a committee in 1936 chaired by the then Lord Mayor of London. Today they are each registered charities and are under the guidance of the National Playing Fields Association. The national stadium of Newfoundland in St. John's was named King George V Park in 1925. *Rehov ha-Melekh George ha-Hamishi* ("King George V Street") is a major thoroughfare in both Jerusalem and Tel-Aviv, the only streets in these Israeli cities named after a non-Jewish monarch. In Paris, France, a large avenue from the top of the Champs-Élysées down to the Seine river and an underground station were named for George V.

The World War I Royal Navy battleship HMS *King George V* and the

World War II Royal Navy battleship HMS *King George V* were named in his honour.

Other information

Titles

- **1865–1892:** *His Royal Highness* Prince George of Wales
- **1892–1901:** *His Royal Highness* The Duke of York
- **1901:** *His Royal Highness* The Duke of Cornwall and York



Newfoundland dollar bill featuring King George V

- **1901–1910:** *His Royal Highness* The Prince of Wales
 - *in Scotland:* **1901–1910:** *His Royal Highness* The Prince George, Duke of Rothesay
- **1910–1936:** *His Majesty* The King
 - *and, occasionally, outside of the United Kingdom, and with regard to India:* **1910-1936:** *His Imperial Majesty* The King-Emperor

Ancestors

George V's ancestors in three generations

| | | | |
|---|--|---|---|
| George V of the United Kingdom | Father: Edward VII of the United Kingdom | Paternal grandfather: Albert, Prince Consort | Paternal great- grandfather: Ernst I, Duke of Saxe-Coburg and Gotha |
| | | | Paternal great- grandmother: Louise of Saxe-Gotha- Altenburg |
| | Paternal grandmother: Victoria of the | Paternal great- grandfather: Prince Edward | |

| | | | |
|--|--|---|---|
| | | United Kingdom | Augustus, Duke of Kent and Strathearn |
| | | | Paternal great-grandmother: Princess Victoria of Saxe-Coburg-Saalfeld |
| | Mother: Alexandra of Denmark | Maternal grandfather: Christian IX of Denmark | Maternal great-grandfather: Friedrich Wilhelm, Duke of Schleswig-Holstein-Sonderburg-Glücksburg |

| | | | |
|--|--|--|---|
| | | | Maternal great-grandmother: Louise Caroline of Hesse-Kassel |
| | | Maternal grandmother: Louise of Hesse-Kassel | Maternal great-grandfather: Prince William of Hesse |
| | | | Maternal great-grandmother: Charlotte of Denmark |

Issue

| Name | Birth | Death | Notes |
|----------------------------------|------------------------|--------------------|---|
| King Edward VIII | 23 June 1894 | 28 May 1972 | later the Duke of Windsor; married Wallis Simpson; no issue |
| King George VI | 14 December 1895 | 6 February 1952 | married Lady Elizabeth Bowes-Lyon; had issue (including Elizabeth II) |
| Mary, Princess Royal | 25 April 1897 | 28 March 1965 | married Henry Lascelles, 6th Earl of Harewood; and had issue |
| Prince Henry, Duke of Gloucester | 31 March 1900 | 10 June 1974 | married Lady Alice Montagu-Douglas-Scott; had issue |

| | | | |
|--------------------------------|------------------------|--------------------|--|
| Prince George, Duke of Kent | 20 December 1902 | 25 August 1942 | married Princess Marina of Greece and Denmark; had issue |
| Prince John | 12 July 1905 | 18 January 1919 | Died from seizures |

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George VI of the United Kingdom

2008/9 Schools Wikipedia Selection. Related subjects: British History Post 1900; Monarchs of Great Britain

George VI (Albert Frederick Arthur George; 14 December 1895 – 6 February 1952) was King of the

George VI

King of Great Britain, Ireland and the British dominions beyond the Seas; Emperor of India
(more...)

United Kingdom and the British Dominions from 11 December 1936 until his death. He was the last Emperor of India (until 1947) and the last King of Ireland (until 1949).

As the second son of King George V, he was not



expected to inherit the throne and spent his early life in the shadow of his elder brother, Edward. He served in the Royal Navy during World War I, and after the war took on the usual round of public engagements. He married Lady Elizabeth Bowes-Lyon in

Formal portrait, circa 1940–46.

| | |
|--------------------|---|
| Reign | 11 December 1936 – 6 February 1952 <i>Emperor of India</i> : 1936–47 <i>King of Ireland</i> : 1936–49 |
| Coronation | 12 May 1937 |
| Predecessor | Edward VIII |
| Successor | Elizabeth II |
| Consort | Elizabeth Bowes-Lyon |
| Offspring | Elizabeth II Margaret, Countess of Snowdon |
| Full name | Albert Frederick Arthur George |

1923, and they had two daughters, Elizabeth (who succeeded him as Queen Elizabeth II) and Margaret.

At the death of his father in 1936, the future George VI's brother ascended the throne as Edward VIII. However, less than a year later

Titles and styles

Detail

HM The King

HRH The Duke of York

HRH The Prince Albert

HRH Prince Albert of Wales

HRH Prince Albert of Cornwall and York

HRH Prince Albert of York

HH Prince Albert of York

Royal house House of Windsor

Royal anthem God Save the King

Father George V

Mother Mary of Teck

Born 14 December 1895

Edward expressed his desire to marry the twice-divorced American socialite Wallis Simpson.

For political and religious reasons, the British Prime Minister, Stanley Baldwin, advised

Edward that he could not marry Mrs. Simpson and remain king. So, Edward abdicated in order to marry. By reason of this abdication, unique in the history of the British Isles (previous abdications were forced by military or political pressures), George VI ascended the throne as the third monarch of the House of Windsor.

| | |
|-----------------|--|
| | Sandringham House, Norfolk, England |
| Baptised | 17 February 1896 St. Mary Magdalene's Church, Sandringham, England |
| Died | 6 February 1952 (aged 56) Sandringham House, Norfolk, England |
| Burial | 15 February 1952 St George's Chapel, Windsor, England |

Within 24 hours of his accession the Irish parliament (the Oireachtas) passed the *External Relations Act*, which essentially removed the power of the monarch in Ireland. Further events greatly altered the position of the monarchy during his reign: three years after his accession, his realms, except Ireland, were at war with Nazi Germany. In the next two years, war with Italy and the Empire of Japan followed. A major consequence of World War II was the decline of the British Empire, with the United States and the Soviet Union rising as pre-eminent world powers. With the independence of India and Pakistan in 1947, and the foundation of the Republic of Ireland in 1949, King George's reign saw the acceleration of the break-up of the British Empire and its transition into the Commonwealth of Nations.

Birth and family

The future George VI was formally known as Prince Albert, and informally as "Bertie" to his family. He was born at York Cottage, on the Sandringham Estate in Norfolk, during the reign of his great-grandmother Queen Victoria. His father was Prince George, Duke of York (later King George V), the second and eldest-surviving son of the Prince (later Edward VII) and Princess of Wales (later Queen Alexandra). His mother was the Duchess of York (later Queen Mary), the eldest daughter of Prince Francis, Duke of Teck and Princess Mary Adelaide of Cambridge.

Albert's birthday (14 December 1895) was the anniversary of the death of his great-grandfather, Prince Albert, the Prince Consort. Uncertain of how the Prince Consort's widow Queen Victoria would take the news of the birth, the Prince of Wales wrote to his son, Prince George, Duke of York, that the Queen had been "rather distressed". Two days later, he

wrote again: "I really think it would gratify her if you yourself proposed the name *Albert* to her". This mollified the baby's great-grandmother, who wrote to the baby's mother, the Duchess of York: "I am all impatience to see the *new* one, born on such a sad day but rather more dear to me, especially as he will be called by that dear name which is a byword for all that is great and good". He was baptised Albert Frederick Arthur George at St Mary Magdalene's Church near Sandringham three months later. However, his maternal grandmother Princess Mary Adelaide of Cambridge did not like the first name the baby had been given, and she wrote prophetically that she hoped the last name "may supplant the less favoured one". As the second son, Albert was fourth in line for the throne at birth. The third in line to the throne, his older brother Edward, was born more than a year earlier, on 23 June 1894.

Early life



Four kings: King Edward VII
(far right), his son George,

As a great-grandson of Queen Victoria, Albert was styled His Highness Prince Albert of York from birth. In 1898, Queen Victoria issued Letters Patent that granted the children of the eldest son of the Prince of Wales the style *Royal Highness*, and at age two, Albert became His Royal Highness Prince Albert of York.

He often suffered from ill health and was described as "easily frightened and somewhat prone to tears". His parents, the Duke and Duchess of York, were generally removed from their children's

day-to-day upbringing, as was the norm in aristocratic families of that era. Albert developed a stammer that lasted for many years, as well as chronic stomach problems. He suffered from knock knees, and to correct this he was forced to wear splints, which were extremely painful. He was also forced to write with his right hand although he was naturally left-handed.

Queen Victoria died on 22 January 1901, and the Prince of Wales succeeded her as King Edward VII. The Duke of York became the new Prince of Wales. Prince Edward was then second in line to the throne, and Prince Albert was third.

Military career and education

From 1909, Albert attended the Royal Naval College, Osborne as a

naval cadet. He came bottom of the class in the final examination, but despite this he progressed to the Royal Naval College, Dartmouth in 1911. When Edward VII died on 6 May 1910, Albert's father became King George V. Prince Edward was created Prince of Wales on 2 June 1910, and Albert was now second in line to the throne.

Albert was commissioned as a midshipman on 15 September 1913 and one year later began service in World War I. His fellow officers gave their royal peer the ordinary nickname "Mr. Johnson". He saw action aboard HMS *Collingwood* in the Battle of Jutland (31 May – 1 June 1916), which ended as a tactical victory for Germany but a strategic victory for the United Kingdom. Albert did not see further action in the War largely because of ill health caused by a duodenal ulcer. In February 1918 Prince Albert was appointed Officer in Charge of Boys at the Royal Naval Air Service's training establishment at Cranwell.

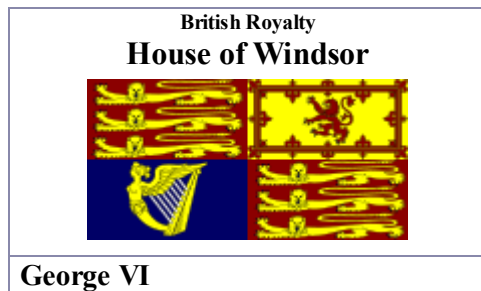
With the establishment of the Royal Air Force later that year and the transfer of Cranwell from Navy to Air Force control, Albert transferred from the Royal Navy to the Royal Air Force. He was later appointed Officer Commanding Number 4 Squadron of the Boys' Wing at Cranwell and he remained there until August 1918. During the closing weeks of the War, Albert served on the staff of the Independent Air Force at its headquarters in Nancy.

After the war, Prince Albert studied history, economics and civics for a year at Trinity College, Cambridge, from October 1919. On 3 June 1920, Prince Albert was created Duke of York, Earl of Inverness and Baron Killarney. He then began to take on royal duties, representing his father, the King, touring coal mines, factories, and railyards, acquiring the nickname of the "Industrial Prince".

His speech impediment, and his embarrassment over it, together with his tendency to shyness, caused him to appear much less impressive than his older brother the Prince of Wales. However, he was physically active and enjoyed playing tennis.

Marriage

In a time when royals were expected to marry fellow royals, it was unusual that Albert had a great deal of freedom in choosing a prospective wife. In 1920 he met Lady Elizabeth Bowes-Lyon, the youngest daughter of Claude Bowes-Lyon, 14th Earl of



Strathmore and Kinghorne and Cecilia Cavendish-Bentinck. He became determined to marry her.

Elizabeth II

Margaret, Countess of Snowdon

Although Lady Elizabeth was a descendant of King Robert I of Scotland and King Henry VII of England, she was, according to British law, a commoner. She rejected his proposal twice and hesitated for nearly two years, reportedly because she was reluctant to make the sacrifices necessary to become a member of the royal family. In the words of Lady Elizabeth's mother, Albert would be "made or marred" by his choice of wife, and after a protracted courtship Elizabeth agreed to marry him.

They were married on 26 April 1923 in Westminster Abbey. The newly-formed British Broadcasting Company wished to record and broadcast

the event on radio, but the Chapter vetoed the idea (although the Dean, Herbert Edward Ryle, was in favour). Lady Elizabeth was styled Her Royal Highness The Duchess of York after their marriage. Albert's marriage to a British commoner was considered a modernising gesture.

The Duke and Duchess of York had two children, Elizabeth (called "Lilibet" by the family), born 21 April 1926, who succeeded her father as Elizabeth II, and Margaret, born 21 August 1930. The Duke and Duchess and their two daughters lived a relatively sheltered life at their London residence, 145 Piccadilly. One of the few stirs arose when the Canadian Prime Minister, R. B. Bennett, considered the Duke for Governor General of Canada in 1931—a proposal that the King rejected on the advice of his ministers.

The Duchess helped him overcome his dread (due to stammering) of

public speaking. He was introduced by her to Lionel Logue, an Australian-born expert on speech. The Duke and Logue practiced breathing exercises, and the Duchess rehearsed with him patiently. As a result of the training, the Duke's opening address at Australia's Federal Parliament at Canberra in 1927 went successfully, and he was able to speak thereafter with only a slight hesitation.

Reluctant king

On 20 January 1936, King George V died and Prince Edward ascended the throne as Edward VIII. As Edward had no children, Albert was the heir presumptive to the throne until his unmarried brother had any legitimate children, or died. George V had had severe reservations about Edward, saying, "I pray God that my eldest son will never marry and that nothing will come between Bertie and Lilibet and the throne." Less

than a year later, on 11 December 1936, Edward VIII abdicated the throne in order to marry his mistress, the twice-divorced Wallis Warfield Simpson. Edward had been advised by Prime Minister Stanley Baldwin that he could not remain King and marry a divorced woman with two living ex-husbands. Edward chose abdication in preference to abandoning his marriage plans. Thus Prince Albert, Duke of York, was now king, a position he was reluctant to accept. The day before the abdication, he went to London to see his mother, Queen Mary. He wrote in his diary, "When I told her what had happened, I broke down and sobbed like a child."

Courtier and journalist Dermot Morroh alleged that there was brief speculation as to the desirability of bypassing Albert and his brother, Prince Henry, Duke of Gloucester, in favour of the younger brother Prince George, Duke of Kent. This seems to have been suggested on the

grounds that Prince George was at that time the only brother with a son.

Reign

Albert assumed the style and title King George VI to emphasise continuity with his father and restore confidence in the monarchy. The beginning of George VI's reign was taken up by questions surrounding his predecessor and brother, whose titles, style and position were uncertain. He had been introduced as "His Royal Highness Prince Edward" for the Abdication broadcast, but George VI felt that by abdicating and renouncing the succession Edward had lost the right to bear Royal titles, including "Royal Highness". In settling the issue, George's first act as King was to confer upon his brother the title HRH The Duke of Windsor. But the Letters Patent creating the dukedom prevented any wife and children from bearing royal styles. George VI

was also forced to buy the royal residences of Balmoral Castle and Sandringham House from Prince Edward, as these were private properties and did not pass to George VI on his accession. Three days after his accession, on his 41st birthday, he invested his wife, the new Queen, with the Order of the Garter.

George VI's coronation took place on 12 May 1937, the previously intended date of Edward's coronation. In a break with tradition, Queen Mary attended the coronation as a show of support for her son. There was no Durbar held in Delhi for George VI, as had occurred for his father, as the cost would have been a burden to the government of India. Rising Indian nationalism made the welcome that the royal couple would have received likely to be muted at best, and a prolonged absence from Britain would have been undesirable in the tense period before World War II. Two overseas tours were undertaken, to France

and North America, both of which promised greater strategic advantages in the event of war.

The growing likelihood of war in Europe dominated the early reign of George VI. The King was constitutionally bound to support Prime Minister Neville Chamberlain's appeasement stance towards Adolf Hitler. However, when the King and Queen greeted Chamberlain on his return from negotiating the Munich Agreement in 1938, they invited him to appear on the balcony of Buckingham Palace with them. This public association of the monarchy with a politician was exceptional, as balcony appearances were traditionally restricted to the royal family.

In 1939, the King and Queen undertook an extensive tour of Canada, during which they made a brief visit to the United States. From Ottawa, the royal couple were accompanied throughout the trip by the Prime Minister of Canada, and not a British minister, meaning they were present in both Canada and the US as King and Queen of Canada. George was the first reigning Monarch of Canada to visit North America, though he had been to his Canadian realm previously as Prince Albert and as Duke of York. The Canadian Prime



George VI, as King of Canada, grants Royal Assent to laws in the Canadian Senate, 19 May 1939 His consort Queen

Minister at the time, William Lyon Mackenzie King, hoped that the King's presence in Canada would allow him to demonstrate in reality the principles of the Statute of Westminster 1931, which gave full self-government to the Dominions and recognised each Dominion as having a separate crown. Thus, at his Canadian residence, Rideau Hall, George VI personally accepted and approved the Letter of Credence of the newly appointed U.S. Ambassador to Canada, Daniel Calhoun Roper. The official Royal Tour historian, Gustave Lanctot, stated: "When Their Majesties walked into their Canadian residence, the Statute of Westminster had assumed full reality: the King of Canada had come home."

The entire trip was a measure intended to soften the strong isolationist tendencies among the North American public vis-à-vis the developing tensions in Europe. Although the aim of the tour was mainly political, to

shore up Atlantic support for Britain in any upcoming war, the King and Queen were enthusiastically received by the Canadian public. The fear that George would be unfavourably compared to his predecessor, Edward VIII, was dispelled. They were also warmly received by the American people, visiting the 1939 New York World's Fair and staying with President Franklin D. Roosevelt at the White House and at his private estate at Hyde Park, New York.

When war broke out in 1939, George VI and his wife resolved to stay in London and not flee to Canada, as had been suggested. The King and Queen officially stayed in Buckingham Palace throughout the war, although they usually spent nights at Windsor Castle to avoid bombing raids. George VI and Queen Elizabeth narrowly avoided death when two German bombs exploded in a courtyard at Buckingham Palace while they were there.



Eleanor Roosevelt (centre), King George VI and Queen Elizabeth in London, 23 October 1942.

In 1940 Neville Chamberlain was replaced as Prime Minister by Winston Churchill. Throughout the war, the King and Queen provided morale-boosting visits throughout the UK, visiting bomb sites and munitions factories. The Royal Family adhered to rationing restrictions in the country at the time; indeed, U.S. First Lady

Eleanor Roosevelt during her stay at Buckingham Palace during the war reported expressly on the rationed food served in the Palace and the limited bathwater that was permitted.

Author Will Swift has suggested that a strong bond of friendship was forged between the King and Queen and President and First Lady during the 1939 Royal Tour, which had major significance in the relations between the United States and the United Kingdom through the war years. However, there have never been credible suggestions that the King took any strategic role in the war; his frequent letters to the President were mostly unanswered, and it was Roosevelt's relationship with Churchill that was critical. Eleanor Roosevelt took a wry view of the utility of kings and queens and the substance of George and Elizabeth ("a little self-consciously regal," was her verdict on Elizabeth).

In 1945, in an echo of Chamberlain's appearance, the King invited Churchill to appear with him on the balcony of Buckingham Palace for the VE Day celebrations.

Empire to Commonwealth



George VI's reign saw the acceleration of the dissolution of the British Empire, which had begun with the Balfour Declaration at the Imperial Conference of 1926, when the Commonwealth came into being and the Dominions were acknowledged to have evolved into sovereign states over a period of years previous—a declaration which was formalised in the Statute of Westminster 1931.

Britain's brief League of Nations Mandate over Iraq ended in 1932 with Iraqi independence without

membership in the as-yet ill-defined Commonwealth even being considered. This process gathered pace after World War II. Transjordan became independent as the Hashemite Kingdom of Jordan in 1946, Burma in January 1948, and Palestine (although divided between Israel and the Arab states) that May; all three opted out of the Commonwealth. After declaring itself a Republic, southern Ireland left the Commonwealth the following year. India became the two independent dominions of India and Pakistan. George relinquished the title of Emperor of India, and became King of India and King of Pakistan instead. He remained King of Pakistan until his death, but in 1950 George ceased to be King of India when that country became a republic within the Commonwealth of Nations, recognising George's new title as Head of the Commonwealth.

Illness and death

The stress of the war had taken its toll on the King's health, exacerbated by his heavy smoking and subsequent development of lung cancer among other ailments including arteriosclerosis. Increasingly his daughter Princess Elizabeth, the heiress presumptive, took on more royal duties as her father's health deteriorated. In September 1951, George VI underwent a pneumonectomy where his left lung was removed following the discovery of a malignant tumour.

In January 1952, despite advice from those close to him, he went to the airport to see off Princess Elizabeth, who was going on a tour of Australia via Kenya. Before takeoff he reportedly said to Bobo Macdonald, Elizabeth's nanny in childhood who was accompanying her on the trip, "Take care of Lilibet for me", and she promised she would. It was the last time he was to see her.

On 6 February 1952, George VI died from a coronary thrombosis in his sleep at Sandringham House in Norfolk, at the age of 56. After lying in state at Westminster Hall, his funeral took place on 15 February, and he was interred in St George's Chapel at Windsor Castle. In 2002, the remains of his wife Queen Elizabeth and the ashes of his daughter, Princess Margaret, were interred in the King George VI Memorial Chapel in St George's Chapel alongside him.

He was succeeded by the next in line to the throne, his daughter Elizabeth, who became Queen Elizabeth II.

Legacy

There are a number of geographical features, roads, and institutions named after George VI. These include King George Hospital in London;

King George VI Highway and King George Station in the Metro Vancouver district of British Columbia; George VI Sound in Antarctica; and the King George VI Chase, a horse race in the United Kingdom.

A statue of the king is also found in the Hong Kong Zoological and Botanical Gardens.

In popular culture

George has been portrayed on screen by:

- Lyndon Brook in the BBC TV drama *Churchill and the Generals* (1979)
- Owen Holder in the TV drama series *Lord Mountbatten: The Last Viceroy* (1986)
- James Wilby in the Carlton Television drama *Bertie and*

Elizabeth (2002)

- Anthony Andrews in the BBC TV series *Cambridge Spies* (2003)
- Mike Rose in the TV drama *Ike: Countdown to D-Day* (2004)
- Harry Enfield in the spoof *Churchill: The Hollywood Years* (2004)

Titles, styles and honours

Titles and styles

 United Kingdom of Great Britain and Ireland

- **14 December 1895 – 28 May 1898:** *His Highness* Prince Albert of York
- **28 May 1898 – 22 January 1901:** *His Royal Highness* Prince Albert of York
- **22 January 1901 – 9 November 1901:** *His Royal Highness* Prince Albert of Cornwall and York



- **9 November 1901 – 6 May 1910:** *His Royal Highness* Prince Albert of Wales
- **6 May 1910 – 3 June 1920:** *His Royal Highness* The Prince Albert
- **3 June 1920 – 11 December 1936:** *His Royal Highness* The Duke of York
 - *in Scotland:* May 1929: *His Grace* The Lord High Commissioner
- **11 December 1936 – 6 February 1952:** *His Majesty* The King

and, occasionally, outside of the United Kingdom, and with regard to India (until the King ceased to use the imperial title upon India's independence)

- 1936–1947: *His Imperial Majesty* The King–Emperor



Isle of Man:

- 1936–1952: Lord of Mann



~~Islands of Guernsey & Jersey:~~

- 1936–1952: Duke of Normandy

From his brother's ascension to the throne, on 20 January 1936, until his own accession, on 11 December 1936, Prince Albert held the style *His Royal Highness, The Prince Albert, Duke of York, Earl of Inverness and Baron Killarney*.

*Monarchical Styles of
King George VI of the United
Kingdom*





Albert's arms as Duke of York.

His
full
style
as

| | |
|--------------------------|--------------|
| Reference style | His Majesty |
| Spoken style | Your Majesty |
| Alternative style | Sir |

king was, from 11 December 1936,
George the Sixth, by the Grace of God, of Great Britain, Ireland and the British Dominions beyond the Seas King, Defender of the Faith, Emperor of India.

Following 1948 the style Emperor of India was dropped, and the King was styled
George the Sixth, by the Grace of God, of Great Britain, Ireland and the British

Dominions beyond the Seas King, Defender of the Faith.

Honours

Arms

The Duke of York bore the royal arms, differenced with a label argent of three points, the centre bearing an anchor azure—a difference later awarded to his grandson, Prince Andrew, Duke of York. As king, he bore the royal arms undifferenced.

Ancestors

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Henry Joseph Wood

2008/9 Schools Wikipedia Selection. Related subjects: British History Post

1900; Performers and composers

Sir Henry Wood Kt CH (3 March 1869 – 19 August 1944) was an English conductor, forever associated with the Promenade Concerts which he conducted for half a century. Founded in 1895, they became known after his death as the “Henry Wood Promenade Concerts” (now the “BBC Proms”). It is impossible to overestimate the influence he had on musical life in Britain: he improved access immensely, and also raised the standard of orchestral playing and nurtured the taste of the public, introducing them to a vast repertoire of music, encouraging especially compositions by British composers. He was knighted in 1911.



Early life and career

Henry Joseph Wood was born on 3 March 1869 in London. His father was a qualified optician, but had become well-known as a craftsman and model maker, running a highly successful model engine shop in Oxford Street. Both parents were keen amateur musicians: his father sang in church choirs and played the cello and his mother sang songs from her native Wales.

At the age of fourteen, Henry learned to play the organ at the 'Musicians' Church' St Sepulchre-without-Newgate, the largest parish church in the City of London, where his ashes now are .

He also learned the piano and violin, but it was not until he entered the Royal Academy of Music at the age of sixteen that he received

methodical tuition. During his two years at the RAM he took classes in piano, organ, composition and singing. His teachers included Ebenezer Prout (composition) and Manuel Garcia (singing). His ambition at the time was to become a teacher of singing (and he gave singing lessons throughout his life), and so he attended classes of as many singing teachers as he could, both as pupil and as accompanist.

On leaving the Royal Academy of Music he found work as a singing teacher and as an orchestral and choral conductor. He gained experience by working for several opera companies, many of them obscure. He conducted the Carl Rosa Opera Company in 1891, and the following year the English premiere of Tchaikovsky's *Eugene Onegin* at the newly rebuilt Olympic Theatre. He collaborated with Arthur Sullivan on preparation of *The Yeomen of the Guard* and *Ivanhoe*. Meanwhile he was deriving a steady income from his singing tuition, and he published a

manual *The Gentle Art of Singing*.

Promenade Concerts

In 1893, Robert Newman, manager of the Queen's Hall, proposed holding a series of promenade concerts with Wood as conductor. The term promenade concert normally referred to concerts in London parks where the audience could walk about as they listened (French *se promener* = to walk). Newman's aim was to educate the musical taste of the public who were not used to listening to serious classical music unless it was presented in small doses with plenty of other popular items in between. Wood shared Newman's ideals. Dr George Cathcart, a wealthy ear, nose and throat specialist, offered to sponsor the project on condition that Wood took charge of every concert. He also insisted that the pitch of the instruments, which in England was nearly a semitone

higher than that used on the continent, should be brought down to *diapason normal* (A=435Hz). On the 10 August 1895 the first of the Queen's Hall Promenade Concerts took place. The singer Agnes Nicholls, who was in the audience, recalls:

Just before 8 o'clock I saw Henry Wood take up his position behind the curtain at the end of the platform – watch in hand. Punctually, on the stroke of eight, he walked quickly to the rostrum, buttonhole and all, and began the National Anthem..... A few moments for the audience to settle down, then the *Rienzi* Overture, and the first concert of the new Promenades had begun.

It is particularly significant that he should have chosen an overture by Wagner to open the first programme. Prejudice against British musicians was very strong. Nineteenth century England had been labelled by the Germans *Das Land ohne Musik* (“The Land without Music”) and not

without a certain amount of justification. Henry Wood was to alter all that. In particular, it was thought that no British conductor would be capable of conducting Wagner. Wood was to prove otherwise. In fact, for many years the programming of the promenade concerts followed a particular pattern according to the day of the week, with Monday nights being Wagner nights and Friday being dedicated to Beethoven. Wood also bravely introduced British audiences to many noteworthy European composers, especially Sibelius and composers of the Russian school. In 1912 he conducted Schoenberg's Five Orchestral Pieces ("Stick to it, gentlemen" he urged the orchestra at rehearsal, "This is nothing to what you'll have to play in 25 years' time").

Wood remained in sole charge of the Proms (with one or two exceptions) until 1941 when he shared the conducting with Basil Cameron and, in the following season, with Sir Adrian Boult as well.

During Wood's time the Proms were a central feature of British musical life and he gained the nickname of "Timber" from the Promenaders. He brought about many innovations. He fought continuously for improved pay for musicians, and introduced women into the orchestra in 1911. In 1904, after a rehearsal in which he was faced with a sea of entirely unfamiliar faces in his own orchestra, he at one stroke abolished the deputy system in which players had been free to send in a deputy whenever they wished. Forty players resigned en bloc and formed their own orchestra: the London Symphony Orchestra.

Other musical activities

Wood's fame lies mainly with the promenade concerts, but he was active in many areas of musical life. He conducted many concerts in London and the provinces, and appeared regularly at choral festivals in Norwich

and Sheffield. He conducted many amateur groups, and was very generous with the time he gave to the students' orchestra at the RAM. He was meticulous and thorough in his preparation, and built up a large library of scores which were carefully marked up in coloured pencil. His famous medley *Fantasia on British Sea Songs*, prepared for the 1905 centenary celebrations of the Battle of Trafalgar, is now an indispensable item at the Last Night of the Proms.

His orchestrations of other composers' works drew frequent criticisms, so when in 1929 he made an orchestral transcription of Bach's *Toccatina and Fugue in D minor*, he presented it as a piece by a Russian composer called Paul Klenovsky. It was a great success. Only several years later did he confess to the little joke.

In 1938 he presented a jubilee concert in the Royal Albert Hall. Rachmaninov was the soloist, and Vaughan Williams wrote his *Serenade*

to Music for orchestra and sixteen soloists. He tended to overwork himself, and the strain began to tell in his later years.

Wood died on 19 August 1944, just over a week after the fiftieth anniversary concert of the Proms, which he had been too ill even to listen to on the radio. A number of honours were bestowed on him: knighted by the king in 1911, he was awarded the gold medal of the Royal Philharmonic Society in 1921 and was made a Companion of Honour in 1944. He is remembered today in the name of the *Henry Wood Hall*, the deconsecrated Holy Trinity Church in Southwark, which was converted to a rehearsal and recording venue in 1975. His bust stands upstage centre in the Royal Albert Hall during the whole of each Prom season, and is decorated by a chaplet on the Last Night of the Proms.

Premières

In Arthur Jacobs' 1994 biography *Henry Wood*, the list of premières conducted by Wood extends to eighteen pages.

World premières included:

- Benjamin Britten: Piano Concerto
- Frederick Delius: A Song Before Sunrise; A Song of Summer; and the Idyll.
- Edward Elgar: The Wand of Youth Suite No 1; Sospiri and the fourth and fifth Pomp and Circumstance Marches
- Sergei Rachmaninoff: Piano Concerto No 1
- Ralph Vaughan Williams: Norfolk Rhapsody No 1; Flos Campi;

Serenade to Music

Wood's UK premières included:

- Béla Bartók: Dance Suite
- Emmanuel Chabrier: Joyeuse Marche
- Aaron Copland: Billy the Kid (ballet)
- Claude Debussy: L'après-midi d'un faune; Ibéria
- César Franck: Le Chasseur Maudit
- Reynaldo Hahn: Le Bal de Béatrice d'Este
- Paul Hindemith: Kammermusik 2 and 5
- Leos Janáček: Sinfonietta; Taras Bulba; Glagolitic Mass
- Zoltán Kodály: Dances from Galanta
- Gustav Mahler: Symphonies 1, 4, 7 and 8; Das Lied von der Erde
- Sergei Prokofiev: Piano Concerto No 1; Violin Concerto No 2

- Maurice Ravel: Ma Mère l'Oye; Rapsodie espagnole; La Valse; Piano Concerto in D
- Nicolai Rimsky-Korsakov: Capriccio Espagnole; Scheherazade; Symphony No 2
- Camille Saint-Saëns: Carnival of the Animals
- Robert Schumann: Konzertstück for four horns and orchestra
- Dmitry Shostakovich: Piano Concerto No 1; Symphonies 7 and 8
- Jean Sibelius: Symphonies 1, 6, and 7; Violin Concerto; Karelia Suite; Tapiola
- Richard Strauss: Symphonia Domestica
- Igor Stravinsky: The Firebird (suite)
- Peter Ilyich Tchaikovsky: Eugene Onegin; Manfred; The Nutcracker (suite)
- Anton Webern: Passacaglia

Theory that he was of gipsy stock

It has been claimed that Wood came from a family of British Gypsies (Romanichel).

says he "belonged to a traditional Romanichel family"

disputes the Romany theory

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J. J. Thomson

**2008/9 Schools Wikipedia Selection. Related subjects:
British History Post 1900; Engineers and inventors**

**Sir Joseph
John “J.J.”
Thomson,**
OM, FRS (18
December
1856 – 30
August 1940)
was a British



J. J. Thomson

physicist and
Nobel
laureate,
credited for
the discovery
of the electron
and of
isotopes, and
the invention
of the mass
spectrometer.
He was
awarded the
1906 Nobel
Prize in



Physics for the discovery of the electron and his work on the conduction of electricity in gases.

Sir Joseph John Thomson (1856-1940). Portrait by Arthur Hacker.

| | |
|--------------------------|---|
| Born | 18 December 1856 Cheetham Hill, Manchester, UK |
| Died | 30 August 1940 (aged 83) Cambridge, UK |
| Nationality | United Kingdom |
| Fields | Physicist |
| Institutions | University of Cambridge |
| Alma mater | University of Manchester University of Cambridge |
| Academic advisors | John Strutt (Rayleigh) |

Notable students

Edward John Routh

Charles T. R. Wilson

Ernest Rutherford

Francis William Aston

John Townsend

J. Robert Oppenheimer

Owen Richardson

William Henry Bragg

H. Stanley Allen

John Zeleny

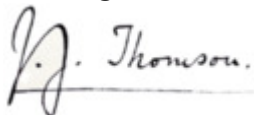
Daniel Frost Comstock

Max Born

T. H. Laby

Paul Langevin

| | |
|-------------------------|---|
| Known for | Plum pudding model Discovery of electron Discovery of isotopes Mass spectrometer invention First m/e measurement Proposed first waveguide Thomson scattering Thomson problem Coining term 'delta ray' Coining term 'epsilon radiation' Thomson (unit) |
| Notable awards | Nobel Prize for Physics (1906) |
| Religious stance | Anglican |

SignatureA handwritten signature in cursive script that reads "J.J. Thomson." The signature is written in dark ink on a light background and is positioned above a thin horizontal line.**Notes**

Thomson is the father of Nobel laureate George Paget Thomson.

Biography

J.J. Thomson was born in 1856 in Cheetham Hill, Manchester in England, of Scottish parentage. In 1870 he studied engineering at University of Manchester known as Owens College at that time, and moved on to Trinity College, Cambridge in 1876. In 1880, he obtained

his BA in mathematics (Second Wrangler and 2nd Smith's prize) and MA (with Adams Prize) in 1883. In 1884 he became Cavendish Professor of Physics. One of his students was Ernest Rutherford, who would later succeed him in the post. In 1890 he married Rose Elisabeth Paget, daughter of Sir George Edward Paget, KCB, a physician and then Regius Professor of Physic at Cambridge. He fathered one son, George Paget Thomson, and one daughter, Joan Paget Thomson, with her. One of Thomson's greatest contributions to modern science was in his role as a highly gifted teacher, as seven of his research assistants and his aforementioned son won Nobel Prizes in physics. His son won the Nobel Prize in 1937 for proving the wavelike properties of electrons.

He was awarded a Nobel Prize in 1906, "in recognition of the great merits of his theoretical and experimental investigations on the conduction of electricity by gases." He was knighted in 1908 and

appointed to the Order of Merit in 1912. In 1914 he gave the Romanes Lecture in Oxford on "The atomic theory". In 1918 he became Master of Trinity College, Cambridge, where he remained until his death. He died on August 30, 1940 and was buried in Westminster Abbey, close to Sir Isaac Newton.

Thomson was elected a Fellow of the Royal Society on June 12, 1884 and was subsequently President of the Royal Society from 1915 to 1920.



Sir Joseph John Thomson.

Career

Cathode rays

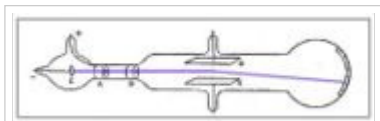
Thomson conducted a series of experiments with cathode rays and cathode ray tubes leading him to the discovery of electrons and subatomic particles. Thomson used the cathode ray tube in three different experiments.

First experiment

In his first experiment, he investigated whether or not the negative

charge could be separated from the cathode rays by means of magnetism. He constructed a cathode ray tube ending in a pair of cylinders with slits in them. These slits were in turn connected to an electrometer. Thomson found that if the rays were magnetically bent such that they could not enter the slit, the electrometer registered little charge. Thomson concluded that the negative charge was inseparable from the rays.

Second experiment

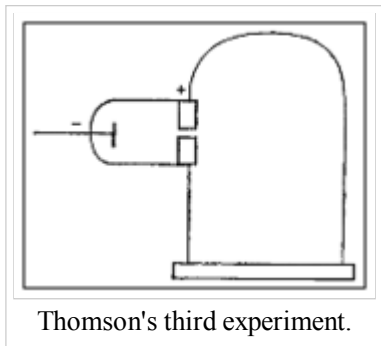


Thomson's second experiment.

In his second experiment, he investigated whether or not the rays could be deflected by an electric field (something that is characteristic of charged particles). Previous experimenters had failed to observe

this, but Thomson believed their experiments were flawed because they contained trace amounts of gas. Thomson constructed a cathode ray tube with a practically perfect vacuum, and coated one end with phosphorescent paint. Thomson found that the rays did indeed bend under the influence of an electric field, in a direction indicating a negative charge.

Third experiment



In his third experiment, Thomson measured the charge-to-mass ratio of the cathode rays by measuring how much they were deflected by a magnetic field and how much energy they carried. He found that the charge to mass ratio was over a thousand times higher than that of a hydrogen ion (H^+), suggesting either that the particles were very light or very highly charged.

Thomson's conclusions were bold: cathode rays were indeed made of particles which he called "corpuscles", and these corpuscles came from within the atoms of the electrodes themselves, meaning that atoms are

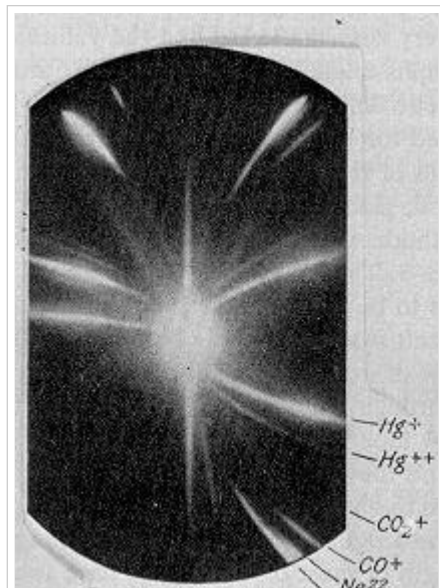
in fact divisible. The "corpuscles" discovered by Thomson are identified with the electrons which had been proposed by G. Johnstone Stoney.

Thomson imagined the atom as being made up of these corpuscles swarming in a sea of positive charge; this was his plum pudding model. This model was later proved incorrect when Ernest Rutherford showed that the positive charge is concentrated in the nucleus.

Thomson's discovery was made known in 1897, and caused a sensation in scientific circles, eventually resulting in him being awarded a Nobel Prize in Physics in 1906.

Isotopes and mass spectrometry

In 1913, as part of his exploration into the composition of canal rays, Thomson channelled a stream of ionized neon through a magnetic and an electric field and measured its deflection by placing a photographic plate in its path. Thomson observed two patches of light on the photographic plate (see image on right), which suggested two different parabolas of deflection. Thomson concluded that the neon gas was composed of atoms of two different atomic masses (neon-20 and neon-22).



This separation of neon isotopes by their mass was the first example of mass spectrometry, which was subsequently improved and developed into a general method by Thomson's student F. W. Aston and by A. J. Dempster.

Other work

In 1906 Thomson demonstrated that hydrogen had only a single electron per atom. Previous theories allowed various numbers of electrons.

Awards

- Royal Medal (1894)
- Hughes Medal (1902)

- Nobel Prize for Physics (1906)
- Copley Medal (1914)

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Khudai Khidmatgar

2008/9 Schools Wikipedia Selection. Related subjects: British History Post 1900

Khudai Khidmatgar (Pashto: خدای خدمتگار) literally translates as the *servants of God*. It represented a non-violent freedom struggle against the British Empire by the Pashtuns (also known as Pathans, Pakhtuns or Afghans) of the North West Frontier Province. The movement was led by Khan Abdul Ghaffar Khan, known locally as Bacha Khan or Badshah Khan.

Conditions prior to the movement

At the turn of the last century Pashtun society was colonized, stagnant, violent, worn down by feuds, inequalities, factionalism, poor social cooperation, and plain ignorance. Education opportunities were strictly limited. Pashtuns are Muslims; and religious leaders and Mullahs were known to have told parents that if their children went to school, they would go to hell. Khan stated that “the real purpose of this propaganda” was to keep Pashtuns “illiterate and uneducated”, and hence his people “were the most backward in India” with regard to education. He also stated that by the time Islam reached his people centuries earlier, it had lost much of its original spiritual message.

Origins

Formed out of the society for reformation of Pashtuns (Anjuman-e-Islah-e-Afghan), it initially targeted social reformation and launched

campaigns against prostitution. Bacha Khan as its founder seemed to be influenced by the realisation that whenever British troops were faced with an armed uprising they eventually always overcame the rebellion. The same could not be said when using non violence against the troops.

The movement started prior to the Qissa Khwani bazaar massacre, when a demonstration of hundreds of non violent supporters were fired upon by British soldiers in Peshawar. Its low point and eventual dissipation was after Pakistan's independence in 1947 when the Muslim League Chief Minister Abdul Qayyum Khan banned the movement and launched a brutal crackdown on its members which culminated in the Babra Sharif massacre. At its peak the KK movement consisted of almost 100,000 members.

"The Khidmatgar movement was one of self-reform and introspection,"

says Mukulika Banerjee, author of *The Pathan Unarmed: Opposition and Memory in the North West Frontier* (School of American Research Press, 2000). "It involved two crucial elements: Islam and Pashtunwali (the Pashtun tribal code). Here nonviolence becomes an ideological system very compatible with Islam and Pakhtunwali, since these are reinterpreted."

Genesis

Initially the movement focussed on social reform as a means of improving the status of Pashtuns against the British. Ghaffar Khan founded several reform movements prior to the formation of the Khudai Khidmatgar, the Anjumen-e Islah ul-Afghan in 1921, the farmers' organisation Anjuman-e Zamidaran in 1927 and the youth movement Pashtun Jirga in 1927. Trying to further spread awareness on Pashtun

issues Abdul Ghaffar Khan founded the magazine Pakhtun in May 1928. Finally in November 1929, almost on the eve of the Qissa Khwani bazaar massacre the Khudai Khidmatgar were formed.

"The Red Shirts"

Khan drew his first recruits from the young men who had graduated from his schools. Trained and uniformed, they served behind their officers and filed out into various villages to seek recruits. They began by wearing a simple white overshirt, but the white was soon dirtied. A couple of men had their shirts dyed at the local tannery, and the brick-red colour proved a breakthrough, it was this distinctive colour that earned the Khudai khidmatgar movement activists the name "*the Red shirts*" or *surkh posh*.

Structure

Volunteers who took the oath formed platoons with commanding officers and learned basic army discipline. The volunteers had their own flags: red in the beginning, later tri-colour and bands: bagpipe and drums. The men wore red uniforms and the women black. They had drills, badges, a flag, the entire military hierarchy of rank and even a bagpipe corps.

Khan set up a network of committees called jirgas, named and modelled after the traditional tribal councils. Villages were grouped into larger groups, responsible to district-wide committees. The Provincial Jirgah was the ultimate authority.

Officers in the ranks were not elected, since Khan wanted to avoid

infighting. He appointed a salar-e-azam or commander-in-chief, who in turn appointed officers to serve under him. Other ranks included Jarnails (Generals). The army was completely voluntary; even the officers gave their services free. Women were recruited too, and played an important role in the struggles to come.

Volunteers went to the villages and opened schools, helped on work projects, and maintained order at public gatherings. From time to time they drilled in work camps and took long military-style marches into the hills.

Ideology

Under the influence of Abdul Ghaffar Khan the movement advocated non-violent protests and justified their actions through an Islamic

context. Khan did not find Islam and non-violence as incompatible. Despite that the movement was intrinsically non-sectarian. In more than one occasion when Hindus and Sikhs were attacked in Peshawar, Khidmatgar members helped protect their lives and property.

“The Holy Prophet Mohammed came into this world and taught us ‘That man is a Muslim who never hurts anyone by word or deed, but who works for the benefit and happiness of God's creatures.’ Belief in God is to love one's fellow men.” – Khan Abdul Ghaffar Khan

“There is nothing surprising in a Muslim or a Pathan like me subscribing to the creed of nonviolence. It is not a new creed. It was followed fourteen hundred years ago by the Prophet all the time he was in Mecca.” – Khan Abdul Ghaffar Khan

Khan always considered trials and tribulations, which he underwent

ceaselessly, as the means by which Almighty Allah meant to fashion his life for better things. Being a great humanist, he ardently believed that human nature was not so depraved as to hinder it from respecting goodness in others. It is easy to look down on others but to make an estimate of our failing is difficult. Allah's blessings according to Bacha Khan are marked for those, who submit to Allah's will and serve Almighty Allah through selfless activities for the overall good of humanity at large irrespective of caste, colour, race or religions.

British tactics against the Khudai Khidmatgar

British troops employed a wide variety of tactics against KK activists.

"The British used to torture us, throw us into ponds in wintertime, shave our beards, but even then Badshah Khan told his followers

not to lose patience. He said 'there is an answer to violence, which is more violence. But nothing can conquer nonviolence. You cannot kill it. It keeps standing up. The British sent their horses and cars to run over us, but I took my shawl in my mouth to keep from screaming. We were human beings, but we should not cry or express in any way that we were injured or weak.' -- Musharraf Din (Baldauf).

Another tactic employed against non-violent protesters who were blocking roads was to charge them with cars and horses.

In 1930, soldiers of the Garhwal Rifles refused to fire on non-violent protests led by Khudai Khidmatgars in Peshawar. By disobeying direct orders, the regiment sent a clear message to London that loyalty of India's armed forces could not be taken for granted to enact draconian measures. However, by 1931, 5,000 members of the Khudai Khidmatgar

and 2,000 members of the Congress Party were arrested.

In 1932, the Khudai Khidmatgar movement changed its tactics and involved women in the movement. This unnerved many Indian officers working in the region as in those days of conservative India it was considered a grave insult to attack women, more so in a conservative Pashtun society. However the brutality increased and in one case five police officers in Benares had to be suspended due to 'horrific reports about violence used against young female volunteers'.

The British bombed a village in the Bajadur Valley in March 1932 and arrested Abdul Ghaffar Khan as well as more than 4,000 Red Shirts. The British bombardments in the border area continued up till 1936-1937 because, "India is a training field for active military training which can be found nowhere else in the Empire", a British court

concluded in 1933.

Other tactics ranged from poisoning to the barbaric as castrations were used against some Khudai Khidmatgar activists.

After the anti-war resignation of Dr. Khan's Ministry in 1939 because of the events of World War 2, British tactics towards the movement changed to employ divide-and-rule tactics through the instigation of sectarian and communal tensions over brute force. Governor George Cunningham's policy note of 23 September 1942 called for the government to 'continuously preach the danger to Muslims of connivance with the revolutionary Hindu body. Most tribesmen seem to respond to this', while in another paper he commented about the period 1939–43: 'Our propaganda since the beginning of the war had been most successful. It had played throughout on the Islamic theme.'

Relationship with the Indian National Congress

The movement was facing intense pressure by 1930 and the leadership under Ghaffar Khan was actively seeking political allies in India to help reduce the pressure on it by the British authorities. Previously in December 1928, Abdul Ghaffar Khan with some of



his colleagues went to Calcutta to attend a khilafat conference. The session ended badly with Maulana Shaukat Ali nearly being attacked by one member from the Punjab.

The British authorities, had by this point sealed off the whole province. Two Khidmatgars Mian Jafar Shah and Mian Abdullah Shah escaped and managed to meet Ghaffar Khan in the prison to inform him of the horror that his followers were going through. It was decided that the two should continue to Lahore, Delhi and Simla to get help from friends in Muslim League. A few months later, the two returned with no success. The British, they said, was protecting them in order that they could fight the Hindus. Desperate for help, they decided to ask Congress.

Despite the initial closeness between Ghaffar Khan and the Ali brothers, the harshness of their critique of Gandhi contrasted poorly with the

patience shown by Gandhi in Ghaffar Khan's eyes. The Congress subsequently offered all possible help to the Pathans in exchange on their part to joining the Congress party for the freedom struggle for India. This offer was put forth in the Frontier province, and was accepted by the Khudai Kidmatgars on August 1931. The move shocked the British authorities who were forced to ease pressure on the KK.

From Mass Movement to Political party

More, with the introduction of provincial autonomy under the Government of India Act 1935, The first limited election were held in NWFP in 1936. Ghaffar Khan was banned from the province. His brother, Dr. Khan Sahib, led the party to a narrow victory and became Chief Minister. Ghaffar Khan returned to Peshawar in triumph on August 29, 1937 on what the Peshawar daily Khyber Mail called the

happiest day of his life. During the two year stint of the Congress party under Dr Khan Sahib as Chief minister, major reforms were introduced including land reforms, promotion of the teaching of Pashto and the release of political prisoners.

On Congress directive the ministries in eight out of eleven provinces resigned in protest against Britain's not promising India independence after the War. The decision to resign proved a pivotal moment in Indian history, in the Frontier it was instrumental in giving those groups that opposed the Khudai Khidmatgar movement the opportunity to broaden their constituency.

Subhash Chandra Bose

The KK's activists role in helping Subhash Chandra Bose's escape in

1943 has largely been ignored till recently. In 1943, Amir Khan Khattak along with four other people received Subhash Chandra Bose at Nowshera Railway Station. He had come to make his escape to Germany via Afghanistan. Disguised as a Muslim, Subhash was taken to Khattak's village Dak Ismailkhel on the request of Mian Akbar Shah from Faqir Chand's house in Peshawar. He stayed with him for two days before leaving in a Pashtun attire for the German Embassy in Kabul leading to his journey to Germany and finally Japan.

Fall of the Khudai Khidmatgar

The Khudai Khidmatgar movement decline can be traced back to two decisions the first was the Congress decision in 1939 to resign from power in protest against British World War II policy. This move gave an opportunity to the Muslim League to develop and for the British

authorities to alter their strategy.

In 1940, a split occurred within the Pakhtun Zalmey, the youth organisation affiliated with Bacha Khan's Khudai Khidmatgar movement. It occurred after Bacha Khan refused to accept the results of the internal party 1940 elections in which Salar Aslam Khan of Kohat won the contest as president of Pakhtun Zalmey with overwhelming majority. The refusal by Bacha Khan to accept Salar Aslam caused a great damage to the party in southern districts of the province where Khudai Khidmatgars won all the seats of the provincial as well as national assemblies in the previous elections. Salar Aslam was also a member of the Forward Block and Bacha Khan's argument was that he could not trust anyone but his elder son, Ghani Khan, whom he wanted to lead Pakhtun Zalmey. "It was a mistake of Bacha Khan. He was not happy about his decision later, but had to argue that at that sensitive

stage of the political struggle, he could only trust Ghani Khan."

An exception to the rule of non-violence occurred when Badshah Khan's son Ghani Khan on 26/27 April, 1947 founded the breakaway group Zalmi Pukhtoon (Pashtun Youth), a militant, organisation of Pukhtoon youth, carrying fire-arms, the aim of which was to protect the Khudai Khidmatgars (Servants of God) and members of the Congress Party from violence feared at the hands of Muslim League activists. It had no connection as such with the Khudai Khidmatgars. Nehru's fateful visit to the Frontier in October, 1946, and its tragic aftermath in a gradual erosion of the popular base of the incumbent Khan Sahib Ministry. Despite this, the movement stayed true to its non-communal leanings, when the red shirts came out to protect thousands of sikhs and Hindus worried they would be attacked in the increasing pre-partition violence between Hindus and Muslims.

Post Partition

Pakistan's Independence in August 1947 marked the beginning of the end of the Khudai Khidmatgar movement. While the Congress government remained in power briefly it was eventually dismissed by the Governor under the orders of Pakistan's founder Muhammad Ali Jinnah. Dr. Khan Sahib was replaced by former Congressite Abdul Qayyum Khan. He successfully stopped an attempted rapprochement between Ghaffar Khan and Muhammad Ali Jinnah by stopping a planned meeting between the two citing security threats . With that, Jinnah gave Qayyum Khan a free hand in dealing with the Congress and the Khudai Khidmatgars. The crackdown that followed culminated with the Babra Sharif massacre. As part of the crackdown the houses of Khudai Khidmatgar activists were ransacked and plundered. In some cases men were stripped naked in presence of their mothers and sisters

and their beards shaven (all of which was seen as a great insult by Pashtuns). Despite the provocation and its obvious ambivalence over Pakistan's creation, the Khudai Khidmatgar leaders reconvened at Sardaryab on 3 and 4 September 1947 and passed a resolution that accepted Pakistan's creation and they would leave in Pakistan as its bona fide citizens and would refrain from making any sort of disturbance and difficulty for the new state.

However Qayyum Khan and the central government had already decided that there would be no accord with the movement. The Khudai Khidmatgar organisation was declared unlawful in mid-September 1948, mass arrests followed and the centre at Sardaryab (Markaz-e-Khudai Khidmatgaran), built in 1942, was destroyed by the Provincial Government. This crackdown ultimately led to the Babra Sharif massacre.

The movement was also hit by defections as party members switched sides out of fear or for benefit. Those members that wished to survive politically rallied behind a former ally, turned opponent of Qayyum Khan, the Pir of Manki Sharif. The Pir created a breakaway Muslim League, however, it proved no match for Qayyum who engineered his re-election in 1951.

The movement lingered on till 1955 when it was again banned by the central government because of Ghaffar Khan's opposition to the One Unit. An aborted attempt was made to bring Ghaffar Khan into the government as a Minister as well as turning the KK movement into a national organization, however Ghaffar Khan turned down the offer.

Although the ban on the movement was lifted in 1972, the Khudai Khidmatgar movement had been broken.

Criticisms

The Khudai Khidmatgar movement was a success in the terms of its opposition to British rule. However, the social effects of the movement have not survived. While the Ghaffar Khan family maintains a hold over the political philosophy of the movement, its history has largely been wiped out from official memory in Pakistan. The movement has also been criticized for its opposition to partition, and by that virtue the creation



Modern day red shirts at the funeral of Wali Khan

of Pakistan. As a result it has been seen as a sectionist movement in Pakistan, and in the 1950s and 1960s it was also perceived as pro communist. An argument that was used by conservative elements to discredit it as anti-Islam. The movement's claim to total non-violence seems flawed as well; some critics argue that while the movement proved a success against the British, it like other non-violent movements would not have proved a success against another Imperial power. This is supposedly proved by its failure to pose a challenge to the Pakistani government amidst a crackdown that was far more brutal than any done by the British. Others have also suggested that the Khudai Khidmatgar movement was not in fact as non-violent as its supporters would argue. Writers like Schofield and Bannerjee have documented cases of attacks on British personnel and soldiers.

Pledge of the Khudai Khidmatgar

[histukmodm_lp_480 of 696](#)

There are two variations on record:

Example 1

In the name of God who is Present and Evident, I am a Khudai Khitmatgar.

I will serve the nation without any self-interest.

I will not take revenge (badla) and my actions will not be a burden for anyone.

My actions will be non-violent.

I will make every sacrifice required of me to stay on this path.

I will serve people without regard to their religion or faith.

I shall use nation-made goods.

I shall not be tempted by any office."

Example 2

In the presence of God I solemnly affirm that

1. I hereby honestly and sincerely offer myself for enrollment as a Khudai Khitmatgar.
2. I shall be ever ready to sacrifice personal comfort, property, and even life itself to serve the nation and for the attainment of my country's freedom.

3. I shall not participate in factions, nor pick up a quarrel with or bear enmity towards anybody. I shall always protect the oppressed against the tyranny of the oppressor.
4. I shall not become member of any other organization, and shall not furnish security or tender apology in the course of a non-violent fight.
5. I shall always obey every legitimate order of my superior officers.
6. I shall always live up to the principles of non-violence.
7. I shall serve all humanity equally. The chief objects of my life shall be attainment of complete independence and religious freedom.
8. I shall always observe truth and parity in all my actions.

9. I shall expect no remuneration for my service.

10. All my services shall be dedicated to God, they shall not be for attaining rank or for show."

The Oath of the Khudai Khidmatgar

I am a Servant of God, and as God needs no service, serving His creation is serving Him,

I promise to serve humanity in the name of God.

I promise to refrain from violence and from taking revenge.

I promise to forgive those who oppress me or treat me with cruelty.

I promise to refrain from taking part in feuds and quarrels and from creating enmity.

I promise to treat every Psthun as my brother and friend.

I promise to refrain from antisocial customs and practices.

I promise to live a simple life, to practice virtue, and to refrain from evil.

I promise to practice good manners and good behaviour and not to lead a life of idleness.

I promise to devote at least two hours a day to social work.

I put forth my name in honesty and truthfulness to become a true Servant of God.

I will sacrifice my wealth, life, and comfort for the liberty of my nation and people.

I will never be a party to factions, hatred, or jealousies with my people; and will side with the oppressed against the oppressor.

I will not become a member of any other rival organization, nor will I stand in an army.

I will faithfully obey all legitimate orders of all my officers all the time.

I will live in accordance with the principles of nonviolence.

I will serve all God's creatures alike; and my object shall be the attainment of the freedom of my country and my religion.

I will always see to it that I do what is right and good.

I will never desire any reward whatever for my service.

All my efforts shall be to please God, and not for any show or gain.

Anthem of Khudai Khidmatgar

We are the army of God By death or wealth unmoved, We march, our leader and we, Ready to die!

In the name of God, we march And in his name, We die We serve in the name of God God's servant are we!

God is our king, And great is he, We serve our Lord, His slaves are we!

Our country's cause We serve with our breath, For such an end,
Glorious is death

We serve and we love Our people and our cause Freedom is our aim,
And our lives are its price.

We love our country And respect our country Zealously we protect it
For the glory of God

By canon or gun undismayed Soldiers and horsemen, None can come
between, Our work and our duty.

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Supermarine Spitfire

2008/9 Schools Wikipedia Selection. Related subjects: Air & Sea transport;
British History Post 1900

The
**Supermarine
Spitfire** was a
British single-seat
fighter, used by
the Royal Air
Force and many
other Allied

Spitfire

countries during the Second World War, and into the 1950s. It was produced in greater numbers than any other Allied design. The Spitfire was the only Allied fighter in production at the outbreak of the Second World War that was still in production at



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the end of the war.

Produced by the Supermarine subsidiary of Vickers-Armstrongs, the Spitfire was designed by the company's Chief Designer R. J. Mitchell, who continued to refine the design

RAF Supermarine Spitfire XII banks above clouds.

Type Fighter

Manufacturer Supermarine

Designed by R. J. Mitchell

Maiden flight 5 March 1936

Introduction 1938

Retired 1955, RAF

Primary user Royal Air Force

Produced 1938–1948

Number built 22,351

Unit cost £12,604 (1939)

until his death
from cancer in
1937; the position
of chief designer

Variants Seafire
Spitfire

was then filled by his colleague, Joseph Smith. Its elliptical wing had a thin cross-section, allowing a higher top speed than the Hawker Hurricane and many other contemporary designs.

The distinctive silhouette imparted by the wing planform helped the Spitfire to achieve legendary status during the Battle of Britain. There was, and still is, a public perception that it was *the* RAF fighter of the Battle, in spite of the fact that the more numerous Hurricane shouldered a great deal of the burden against the potent Messerschmitt Bf 109. Much loved by its pilots, the Spitfire saw service throughout the whole of the Second World War, in most theatres of war, in several roles and

in many different variants. The Spitfire was to continue to serve as a front-line fighter and in secondary roles for several airforces well into the 1950s.

The Spitfire will always be compared to its main adversary, the Bf 109: both were among the finest fighters of their day, although the Spitfire ultimately proved to be a more flexible and tractable design, and kept its superb handling qualities through every permutation, although increased torque reaction from higher powered engines could cause 'swing' on take-off.

Design and development

Mitchell's 1931 design to meet Air Ministry specification F7/30 for a new and modern fighter capable of 250 mph, the Supermarine Type

224, resulted in an open-cockpit monoplane with bulky gull-wings and a large fixed, spatted undercarriage powered by the evaporative-cooled Rolls-Royce Goshawk engine. This made its first flight in February 1934. This aircraft was a big disappointment to Mitchell and his design team, who immediately embarked on a series of "cleaned up" designs, using their experience with the Schneider trophy seaplanes as a starting point. The F7/30 design accepted was the biplane Gloster Gladiator

One big step to the Spitfire was the first design for the *Supermarine Type 300* fighter which was on the drawing boards in November 1934 as a private venture design, started with the backing of Supermarine's owner, Vickers-Armstrongs. The new design featured undercarriage retraction, an enclosed cockpit, oxygen breathing-apparatus and the newly-developed and much more powerful Rolls-Royce PV-XII engine, later named the Merlin. The Air Ministry issued a contract *AM*

361140/34 in December 1934, providing for the construction of Mitchell's "improved F.7/30 design". On 3 January 1935 the Air Ministry formalised the contract and a new Specification F.10/35 was written around the aircraft. Just 15 months later, after several major design changes and refinements, on 6 March 1936 the sleek new prototype took off on its first flight.

Name origin

The Air Ministry submitted a list of possible names to Vickers-Armstrongs for the new aircraft, now known as the Type 300. One of these was the improbable *Shrew*. The name *Spitfire* was suggested by Sir Robert MacLean, director of Vickers-Armstrongs at the time, who called his daughter Ann "a little spitfire." The word dates from Elizabethan times and refers to a particularly fiery, ferocious type of

person, and at the time, associated with a girl or woman of that temperament. The name had previously been used unofficially for Mitchell's earlier F.7/30 Type 224 design. Mitchell is reported to have said that it was "just the sort of bloody silly name they would choose", possibly an oblique reference to the Type 224.

Airframe

In the mid-1930s aviation design teams started developing a new generation of all-metal, low wing fighter aircraft. Aircraft such as the French Dewoitine D.520, and Germany's Messerschmitt Bf 109 were designed to take advantage of new techniques of monocoque construction, and new high powered, liquid cooled, in-line aero engines. They also featured refinements such as retractable undercarriages, fully enclosed cockpits and low-drag, all metal wings (all introduced on U.S.

civil air-liners years before, but slow to be adopted by the military who favoured the simplicity and manoeuvrability of the biplane.)

Mitchell's design aims were to create a well balanced high performance fighter aircraft which would be able to fully utilise the power of the Merlin engine and, at the same time would be relatively easy to fly. To that end his design team developed an airframe which, for its day, was complex.

The exceptionally well streamlined semi-monocoque duralumin fuselage featured a large number of compound curves and was built up from a skeleton of 19 frames, starting from the main engine bulkhead, or frame number one. Aft of the engine bulkhead were five half frames to accommodate the fuel tanks and cockpit. From the seventh, which was the frame to which the pilot's seat and (later) armour plating was

attached, to the 15th, which was mounted at a forward angle just forward of the tailfin, the frames were oval in shape, each reducing slightly in size, and had numerous holes drilled through them to lighten the structural weight as much as possible without weakening them. Frame 16 formed a double bulkhead with frame 17, which was extended to form the main spar of the vertical fin; frame 18 formed the secondary spar. Just aft of this the 19th frame formed the rudder post. A combination of 14 longitudinal stringers and two main longerons helped form a light but rigid structure to which sheets of alclad stressed skinning were attached. There was plenty of room to later fit camera equipment and fuel tanks.

The skin of the fuselage, wings and tailplane was attached with rivets, and in critical areas, such as the wing forward of the main spar where an uninterrupted airflow was required, flush rivets were used. In some

areas, such as the rear of the wing, the top was riveted and the bottom fixed by woodscrews into sections of spruce; later pop-riveting would be used for these areas. From 1943 on, flush riveting was used throughout the entire airframe; the first version of the Spitfire to change to flush riveting was the Mk XII closely followed by all Castle Bromwich built Mk IXs. At first the ailerons, elevators and rudder were fabric covered. However, once combat experience showed that the fabric covered ailerons became impossible to use at high speeds the fabric was replaced with a light-alloy, enhancing control throughout the speed range of the Spitfire.

Elliptical wing design

From early on Mitchell and the design staff were contemplating an elliptical wing shape to solve the conflicting requirements of having the

lowest possible thickness-to-chord ratio to reduce drag, and having room to install a retractable undercarriage, as well as the projected armament and ammunition which, in April 1935, was changed from two .303 Vickers machine guns in each wing to four .303 Brownings.

It has been suggested that Mitchell copied the wing shape of the Heinkel He 70. Mitchell's aerodynamicist, Beverley Shenstone, however, has pointed out that the He 70 was designed to fulfill a completely different role and that other aircraft also had elliptical wings. The Spitfire wing was much thinner with a completely different section. As a practical engineer Mitchell was fully aware of the efficiency of the elliptical wing, as were Siegfried and Walter Günther, who designed the Heinkel. In any event, the single-spar elliptical wing was enough to sell the Air Ministry on this new Type 300, which they funded by a new specification, F.10/35, drawn up around the Spitfire.



Spitfire flying over the English coast (from a period

A design aspect of the wing which contributed greatly to its success was an innovative spar boom design, made up of five square concentric tubes which fitted into each other. Two of these booms were linked together by an alloy web creating a lightweight and very strong main spar. The undercarriage legs were attached to pivot points built into the inner, rear of the main spar and retracted outwards and slightly backwards into wells in the non-load carrying wing structure. The narrow undercarriage track was considered to be an acceptable

compromise as it allowed the landing impact loads to be transmitted to the strongest parts of the wing structure.

Ahead of the spar, the thick-skinned leading edge of the wing formed a strong and very rigid D-shaped box, which took most of the wing loads. At the time the wing was designed this D-shaped leading edge was intended to house steam condensers for the evaporative cooling system intended for the PV XII. The constant problems with the evaporative system in the Goshawk led to the adoption of a 100% glycol cooling system and a new radiator duct design, devised by a Fredrick Meredith of the RAE at Farnborough. This meant that the leading edge structure lost its function as an evaporator, but it was later to become very useful as it was able to be adapted to house integral fuel tanks of various sizes.

The wing section used was a NACA 2200 series which had been

adapted to create a thickness to chord ratio of 13% at the root reducing to 6% at the tip. A dihedral of six degrees was adopted to give increased lateral stability.

Another feature of the wing was its washout. The trailing edge of the wing twisted slightly upward along its span, the angle of incidence decreased from +2 degrees at its root to -1/2 degree at its tip. This caused the wing roots to stall before the tips, reducing tip stall that may have resulted in a spin. In a tight turn the disturbance of the slipstream near the wing-root caused a distinctive "juddering" through the control column and fuselage skin, warning the pilot that the Spitfire was nearing a stall. Many other aircraft of the time gave no advance warning and would flick straight into a spin, which was often fatal. In combat, experienced pilots were able to use the tight turning ability and stall warning provided by the wing to full advantage, especially when

pursuing or being pursued by a Bf 109 which had a higher stalling speed and could often fall into a spin without much warning. The Bf 109 used leading edge slats which were deployed prior to stalling.

The elliptical wing was able to reach a safe Mach number of 0.83 and maximum of 0.86 without encountering the problem of Mach-induced aileron flutter, a phenomenon which continued to blight many newer designs.

At first the complexity of the wing design, especially the precision required to manufacture the vital spar and leading edge structures, caused some major hold-ups in the production of the Spitfire. This was amplified when the work was put out to



The elliptical wing and tail units are shown to good effect in this photograph of a Spitfire Mk VR which also shows

sub-contractors, most of whom had never dealt with metal-structured, high-speed aircraft. Over time, however, these problems were overcome and thousands of these wings, of six basic types, were built.

One flaw in the thin-wing design of the Spitfire manifested itself when the aircraft was brought up to very high speeds. When the pilot attempted to roll the aircraft at these speeds, the aerodynamic forces on the ailerons were enough to twist the entire wingtip in the direction opposite of the aileron deflection (much like the way an aileron trim tab will deflect the aileron itself). This so-called aileron reversal resulted in the Spitfire rolling in the opposite direction to the control-column input. The new wing of the Spitfire F. Mk 21 and its successors was designed to help alleviate this problem. The ellipse also served as the design basis for the Spitfire's fin and tailplane assembly, once again exploiting the shape's favourable aerodynamic characteristics. Both the elevators and

rudder were shaped so that their centre of mass was shifted forward thus reducing control surface flutter. The longer noses and greater propeller wash resulting from larger engines in later models necessitated increasingly larger vertical and, later, horizontal tail surfaces to compensate for the altered aerodynamics, culminating in those of the Mk 22/24 series which were 25% larger in area than those of the Mk I.

Carburettor versus fuel injection

Early in its development, the Merlin engine's lack of direct fuel injection meant that both Spitfires and Hurricanes, unlike the Bf 109E, were unable to simply nose down into a steep dive. This meant a Luftwaffe fighter could simply "bunt" into a high-power dive to escape an attack, leaving the Spitfire sputtering behind, as its fuel was forced by negative "g" out of the carburettor. RAF fighter pilots soon learned to "half-roll"

their aircraft before diving to pursue their opponents. The use of carburetors was calculated to give a higher specific power output, due to the lower temperature, and hence the greater density, of the fuel/air mixture fed into the motor, compared to injected systems. In March 1941, a metal diaphragm with a hole in it was fitted across the float chambers. It partly cured the problem of fuel starvation in a dive, and became known as "Miss Shilling's orifice" as it was invented by a female engineer, Beatrice "Tilly" Shilling. Further improvements were introduced throughout the Merlin series, with Bendix-manufactured pressure carburetors introduced in 1943.

Production

The prototype (**K5054**) first flew on 6 March 1936, from Eastleigh Aerodrome (later Southampton Airport), just four months after the

maiden flight of the contemporary Hawker Hurricane. Testing continued until 26 May 1936, when Captain J. "Mutt" Summers, (Chief Test Pilot for Vickers (Aviation) Ltd.) flew K5054 to RAF Martlesham Heath and handed the aircraft over to Squadron Leader Anderson of the Aeroplane & Armament Experimental Establishment (A&AEE).

The Air Ministry placed an order for 310 aircraft on 3 June 1936, before any formal report had been issued by the A&AEE, interim reports being issued on a piecemeal basis. The British public first saw the Spitfire at the RAF Hendon air-display on Saturday 27 June 1936.

Castle Bromwich

To build the Spitfires in the numbers anticipated, a huge new facility was started on 12 July 1938 at Castle Bromwich, near Birmingham, as a

" shadow" to Supermarine's original Southampton factories: the most modern machine tools then available were being installed two months after work started on the site. Although the project was at first managed and equipped by Morris Motors Ltd under Lord Nuffield, who was an expert in mass construction in the motor-vehicle industry, it was funded by government money. However, although the new factory had been completed in late 1939 continual problems were experienced in building a complete airframe. The Spitfire's stressed-skin construction required skills and techniques outside the experience of the local labour force and a continual stream of changes were demanded by the RAF. Finally, on 17 May 1940, with no sign of a single Spitfire being built, Lord Beaverbrook, Minister of Aircraft Production, outmanoeuvred Lord Nuffield and took over Castle Bromwich for the government. Beaverbrook immediately sent in experienced management staff and experienced workers from Supermarines and Vickers-Armstrongs. In

June 1940, 10 Mk IIs were built, the first of thousands of Spitfires to emerge from Castle Bromwich (which also built 305 Avro Lancasters).

Production dispersal

The Germans were fully aware of the importance of the Spitfire and during the Battle of Britain concerted efforts were made by the Luftwaffe to destroy the main manufacturing plants at Woolston and Itchen, near Southampton. The first raid, which missed the factories, came on 23 August. Over the next month other raids were mounted until, on 26 September both factories were completely wrecked, with 92 people being killed and a large number injured: most of the casualties were experienced aircraft production workers.

Fortunately for the future of the Spitfire many of the production jigs and

machine tools had already been relocated by 20 September and steps were being taken to disperse production to small local facilities throughout the Southampton area. To this end the British government requisitioned the likes of *Vincent's Garage* in Station Square Reading, which later specialised in manufacturing Spitfire fuselages, and *Anna Valley Motors*, Salisbury which was to become the sole producer of the wing leading-edge fuel tanks for photo reconnaissance Spitfires, as well as producing other components. A purpose built works, specialising in manufacturing fuselages and installing engines, was built at Star Road, Caversham in Reading. The drawing office, in which all Spitfire designs were drafted was relocated to another purpose built site at Hursley Park, near Southampton. This site also had an aircraft assembly hanger, with its associated aerodrome, where many of the prototype and experimental Spitfires were assembled and flown.

Four towns and their satellite airfields were chosen to be the focal points for these workshops. They were:

- Southampton and Eastleigh Airport
- Salisbury with High Post and Chattis Hill aerodromes
- Trowbridge with Keevil aerodrome
- Reading with Henley and Aldermaston aerodromes.

Completed Spitfires were delivered to the airfields on large Commer "Queen Mary" low-loader articulated trucks, there to be fully assembled, tested, then passed on to the RAF.

Flight Testing

One of the factors in the success of the Spitfire is that every single one

built was flight tested before delivery. During the Second World War Jeffrey Quill was Vickers Supermarine's chief test pilot who oversaw a group of 10 to 12 pilots responsible for testing all developmental and production Spitfires built by the company in the Southampton area. Jeffrey Quill devised the standard testing procedures, which, with some variations for the numerous variants, operated from 1938, and was in charge of all flight testing of all aircraft types built by Vickers Supermarine. Alex Henshaw, Chief Test Pilot at Castle Bromwich from 1940, was placed in charge of testing all Spitfires built at that factory, coordinating a team of 25 pilots, and also assessing Spitfire developments. It is estimated that Henshaw flew at least 10% of all Spitfires built.

A total of 20,351 examples of all variants were built, including two-seat trainers, with some Spitfires remaining in service well into the 1950s.

The Spitfire was the only British fighter aircraft to be in continual production before, during, and after the Second World War.

Operational history

The operational history of the Spitfire with the RAF started with the first Mk Is, which entered service with 19 Squadron on 4 August 1938. The last flight of a Spitfire in RAF service, which took place on 9 June 1957, was by a PR 19, *PS583*, from RAF Woodvale of the Temperature and Humidity Flight. This was also the last known flight of a piston-engined fighter in the RAF.

Although the Spitfire achieved legendary status during the Battle of Britain it is now sometimes forgotten that the aircraft was to continue to play increasingly diverse roles throughout World War II and beyond,

often in air forces other than the RAF.

For example, the Spitfire became the first high-speed photo-reconnaissance aircraft to be operated by the RAF. Unarmed and armed, at high, medium and low altitudes, and often ranging far into enemy territory, these Spitfires kept a close watch on the Axis powers, providing an almost continual flow of valuable intelligence information right throughout the war. In 1941 and 1942 PRU Spitfires were to provide the first photographs of the Freya and Würzburg radar systems and, in 1943, would help confirm that the Germans were building the V1 and V2 vergeltungswaffe ("vengeance weapons") by photographing Peenemünde, on the Baltic Sea coast of Germany.

In the Mediterranean the Spitfire blunted the heavy attacks on Malta by the Regia Aeronautica and Luftwaffe and, from early 1943, helped pave

the way for the Allied invasions of Sicily and Italy. Over the Northern Territory of Australia RAAF Spitfires helped defend the port city of Darwin against air attack by the Japanese Naval Air Force.

These are just some of the many facets of the operational history of the Spitfire.

Speed and altitude records

Beginning in late 1943, high-speed diving trials were undertaken at Farnborough to investigate the handling characteristics of aircraft travelling at speeds near the sound barrier (i.e. the onset of compressibility effects). Because it had the highest limiting Mach number of any aircraft at that time, a Spitfire XI was chosen to take part in these trials. Due to the high altitudes necessary for these dives, a fully feathering Rotol propeller was fitted to prevent overspeeding. It was during these trials that *EN409*, flown by Squadron Leader J. R. Tobin,



The Spitfire Mk XI flown by Sq. Ldr. Martindale, seen here after its flight on 27 April 1944 during which it was damaged achieving a true airspeed of 606 mph (975 km/h).

reached 606 mph (975 km/h, Mach 0.891) in a 45 degree dive. In April 1944 the same aircraft suffered engine failure in another dive while being flown by Squadron Leader A. F. Martindale, when the propeller and reduction gear broke off. Martindale successfully glided the Spitfire 20 miles (32 km) back to the airfield and landed safely.

That any operational aircraft off the production line, cannons sprouting from its wings and warts and all, could readily be controlled at this speed when the early jet aircraft such as Meteors, Vampires, P-80s, etc could not, was certainly extraordinary. —
Jeffrey Quill

On 5 February 1952, a Spitfire 19 of No. 81 Squadron RAF based in Hong Kong reached probably the highest altitude ever achieved by a Spitfire. The pilot, Flight Lieutenant Ted Powles, was on a routine flight to survey outside air temperature and report on other meteorological

conditions at various altitudes in preparation for a proposed new air service through the area. He climbed to 50,000 feet (15,240 m) indicated altitude, with a true altitude of 51,550 feet (15,712 m). The cabin pressure fell below a safe level, and in trying to reduce altitude, he entered an uncontrollable dive which shook the aircraft violently. He eventually regained control somewhere below 3,000 feet (900 m) and landed safely with no discernible damage to his aircraft. Evaluation of the recorded flight data suggested that, in the dive, he achieved a speed of 690 mph (1,110 km/h, Mach 0.94), which would have been the highest speed ever reached by a propeller-driven aircraft.

The critical Mach number of the Spitfire's original elliptical wing was higher than the subsequently-used laminar-flow-section, straight-tapering planform wing of the follow-on Supermarine Spiteful, Seafang and Attacker, illustrating that Reginald Mitchell's thoughtful and

practical engineering approach to the problems of high speed flight had paid off handsomely.

Variants

As its designer, R.J. Mitchell will forever be known for his most famous creation. However, the development of the Spitfire did not cease with his premature death in 1937. Mitchell only lived long enough to see the prototype Spitfire fly. Subsequently a team led by his Chief Draughtsman, Joe Smith, would develop more powerful and capable variants to keep the Spitfire current as a front line aircraft. As one historian noted: "If Mitchell was born to design the Spitfire, Joe Smith was born to defend and develop it."



Duxford, 2001. The "Grace Spitfire," a preserved trainer version, ex- No. 485 Squadron RNZAF.

There were 24 marks of Spitfire and many sub-variants. These covered

the Spitfire in development from the Merlin to Griffon engines, the high speed photo-reconnaissance variants and the different wing configurations. The Spitfire Mk V was the most common type, with 6,487 built, followed by the 5,656 Mk IX airframes produced. Different wings, featuring a variety of weapons, were fitted to most marks; the A wing used eight .303 machine guns, the B wing with four .303 machine guns and two 20 mm Hispano cannon, and the C or Universal Wing which could mount either four 20 mm cannon or two 20 mm and four .303 machine guns. As the war progressed, the C wing became more common. The final armament variation was the E wing which housed two 20 mm cannon and two .50 inch Browning heavy machine guns.

Supermarine developed a two-seat variant to be used for training and was known as the T Mk VIII, but no orders were received for this aircraft and only one example was ever constructed (identified as N32/*G-AIDN* by Supermarine). However, in the absence of an official two-seater variant, a number of airframes were crudely converted in the field. These included an RAF Mk VB in North Africa, where a second seat was fitted instead of the upper fuel tank in front of the cockpit; although it was not a dual-control aircraft and is thought to have been used as the squadron "run-about." The only unofficial



Pilots of 611 *West Lancashire* Squadron lend a hand pushing an early Spitfire Mark IXb, Biggin Hill, late 1942. (RAF Official)

two-seat conversions that were fitted with dual-controls were a small number of Russian lend/lease Mk IX aircraft. These were referred to as Mk IX UTI and differed from the Supermarine proposals by using an inline "greenhouse" style double canopy rather than the raised "bubble" type of the T Mk VIII.

In the postwar era, the idea was revived by Supermarine and a number of two-seat Spitfires were built by converting old Mk IX airframes with a second "raised" cockpit featuring a bubble canopy. These TR9 variants were then sold to the Indian Air Force and a total of nine to the Irish Air Corps. Today, only a handful of the trainers are known to exist, including both the T Mk VIII and a T Mk IX based in the U.S., and the "Grace Spitfire" *ML407* – a variant of the Mk IX that is a privately owned (formerly *IAC-162*) TR9 and operates out of Duxford, UK. The second cockpit of this aircraft has been lowered and is now below the

front cockpit. *IAC-161* (Previously *PV202*) has also been recently restored to flying condition.

Naval variants

The **Seafire** was a naval version of the Spitfire specially adapted for operation from aircraft carriers. Although never conceived for the rough-and-tumble of carrier-deck operations, the Spitfire was considered to be the best candidate available at the time and went on to serve with distinction. Modifications included an arrester hook, folding wings and other specialised equipment. Some features of the basic design were, whilst unproblematic for land operation, problematic for carrier deck operations. One was poor visibility over the nose; and like the Spitfire, the Seafire had a relatively narrow undercarriage track which meant that it was not ideally suited to deck operations. The

addition of heavy carrier equipment also added to the weight of the machine and reduced low-speed stability, critical for such operations, and normally a forte of the Spitfire. Early marks of Seafire had relatively few modifications, however late marks were heavily-adapted.

The Seafire II was able to outperform the A6M5 (Zero) at low altitudes when the two types were tested against each other during wartime mock combat exercises. Contemporary Allied carrier fighters such as the F6F Hellcat and F4U Corsair, however, were considerably more robust and practical for carrier operations. A performance advantage was regained when late-war Seafire marks equipped with the Griffon engines supplanted their Merlin-engined predecessors.

The name Seafire was arrived at by collapsing the longer name **Sea Spitfire**.

Griffon-engined variants

The first Rolls Royce Griffon-engined Mk XII flew on August 1942, but only five had reached service status by the end of the year. This mark could nudge 400 mph in level flight and climb to an altitude of 30,000 feet (10,000 m) in under eight minutes. Although the Spitfire continued to improve in speed and armament, range and fuel capacity were major issues: it remained "short-legged" throughout its life except in the dedicated photo-reconnaissance role, when its guns were replaced by extra fuel tanks.

Newer Griffon-engined Spitfires were being introduced as home-defence interceptors, where limited range was not an impediment. These faster Spitfires were used to defend against incursions by high-speed "tip-and-run" German fighter-bombers and V-1 flying bombs

over Great Britain.

As American fighters took over the long-range escorting of USAAF daylight bombing raids, the Griffon-engined Spitfires progressively took up the tactical air superiority role as interceptors, while the Merlin-engined variants (mainly the Mk IX and the Packard-engined XVI) were adapted to the fighter-bomber role.



Spitfire LF. Mk. XII's of 41 Squadron in mid-1943.

Although the later Griffon-engined marks lost some of the favourable handling characteristics of their Merlin-powered predecessors, they could still out-maneuvre their main German foes and other, later American and British-designed fighters. The distinctive Merlin sound of a supercharger whine and the accompanying whistle from the

under-wing radiators was replaced by a deeper, throatier growl.

Griffon-engined Spitfires and Seafires continued to be flown by many squadrons of the Royal Auxiliary Air Force and Royal Naval Volunteer Reserve until re-equipped in 1951–52.

In late 1962, Air Marshal Sir John Nicholls instigated an interesting trial when he flew a Spitfire against the supersonic Lightning F 3 interceptor in mock combat at RAF Binbrook. At the time British Commonwealth forces were involved in possible action against Indonesia over Malaya and Nicholls decided to develop tactics to fight the Indonesian Air Force P-51 Mustang, a fighter that had a similar performance to the Spitfire PR 19. He concluded that the most effective and safest way for a modern jet-engined fighter to attack a piston-engined fighter was from below and behind; contrary to all established fighter-on-fighter dictum.

Survivors

There are approximately 44 Spitfires and a few Seafires airworthy worldwide, although many air museums have static examples. For example, Chicago's Museum of Science and Industry has paired a static Spitfire with a static Ju 87 R-2/Trop. Stuka dive bomber.

- The RAF Battle of Britain Memorial Flight at RAF Coningsby in Lincolnshire maintains and operates five Spitfires (of various marks) for flying display and ceremonial purposes.
- A Spitfire XIVe, MV293 owned by *The Fighter Collection* at Duxford is marked as MV268, JE-J, flown by Wing Commander



Preserved Spitfire at Duxford.
Notice the late-war "bubble"
canopy

Johnnie Johnson OC 127 Wing, Germany May 1945. There are regularly more than a dozen Spitfires on site at Duxford. Whilst some of these are under restoration in a private hangar many flying and static examples can be seen in hangars one to 5.

- The Temora Aviation Museum in Temora, New South Wales, Australia, has two airworthy Spitfires: a Mk VIII and a Mk XVI, which are flown regularly during the museum's flying weekends.
- A Supermarine Spitfire LF Mk XVII is on display in the Polish Aviation Museum.
- The Hellenic Air Force Museum own and displays a Supermarine Spitfire Mk IXc.
- Kennet Aviation, a British company specializing in ex-military aircraft has a Seafire XVII and a number of Seafire projects at its home airfield at North Weald Airfield.

- The *Black Spitfire* is a black-painted Spitfire which belonged to Israeli pilot and former president Ezer Weizman. It is on exhibit in the Israeli Air Force Museum in Hatserim and is used for ceremonial flying displays.
- Kermit Weeks keeps a restored Mk XVI at his Fantasy of Flight museum in Florida.
- The "TAM Asas de Um Sonho" Museum, located in São Carlos, Brazil, owns the only airworthy Spitfire in South America, a Mk IXc donated to the museum by Rolls Royce and painted in the colors and markings of RAF ace Johnnie Johnson.
- One of the newest Spitfires to fly in Canadian skies is Michael



Spitfires at Goodwood, West
Sussex 2006

Potter's Supermarine Mk XVI Spitfire SL721/N721WK/C-GVZB, refinished in the markings of No. 421 Squadron RCAF and is now registered in Gatineau, Quebec as part of the Vintage Wings of Canada Collection.

- A Seafire 47, the final aircraft in the long and distinguished line of aircraft, is airworthy with Jim Smith in the U.S. after being restored by Ezell Aviation.
- The Shuttleworth Collection maintains and displays an airworthy Mk Vc, *AR501*.
- One Spitfire Mk IX is on display at the "Vigna di Valle Museum" (Italian Air Force Museum) Bracciano, Rome, Italy.
- A Spitfire Mark XVI has been displayed at the Auckland War Memorial Museum, New Zealand, since 1956 when New Zealander Sir Keith Park, commander of No 11 Fighter Group, arranged for it to be donated.
- The Lone Star Flight Museum in Galveston, Texas has a Spitfire

Mk. XVI TE392/N97RW in flying condition painted in commemoration of Texas Ace, Lance C. Wade who flew with the RAF from December 1940 until his death in Foggia Italy, 1944.

- The Kent Spitfire, a MK IX Serial TA805, today flies from the ex-RAF station at Biggin Hill. After the war it was used by the South African Air Force, recovered from a scrap yard, and returned to England in the early 1990s. It wears 234 Squadron markings with coding FX-M.
- TE330, a. L.F Mk. XVIe owned by the Subritzky family of the North Shore, Auckland, New Zealand was put up for sale in March 2008. TE330 had been built at Castle Bromwich in late April 1945. In 1957 it joined the Battle of Britain Memorial Flight before being sold to the Smithsonian Institution in September 1959, and was put on display in the USAF museum at Dayton, Ohio in 1961. In 1996 the aircraft was bought by a Hong Kong based businessman, James Slade, who shipped it to Don Subritzky

for restoration work in 1997. In 1999 TE330 was sold to the Subritzky family.

- Spitfire RW388, Mk XVI Spitfire, is located at the Potteries Museum and Art Gallery, Hanley, Stoke on Trent. It was formally presented to the City of Stoke-on-Trent in 1972 and was built by the contractor Vickers Armstrong, in Castle Bromwich. The original contract number was B981867/39. It is fitted with a Merlin 266 (Packard) engine.
- The Fighter Factory in Suffolk, Virginia has a 1943 Vickers Supermarine Spitfire Mk IX that flew 15 sorties in Italy and appeared in a William Wyler film shot in Corsica, but wound up in an Israeli playground until the 1970s, when a collector took it back to England for restoration; Federal Express founder Fred Smith bought it in 1986.

Memorials

- *Sentinel* is a sculpture by Tim Tolkien in Castle Bromwich, England, commemorating the main Spitfire factory.
- A sculpture of the prototype Spitfire, *K5054*, stands on the roundabout at the entrance to Southampton International Airport, which, as Eastleigh Aerodrome, saw the first flight of the aircraft in March 1936
- There is also a Spitfire on display on the Thornaby Road roundabout near the school named after Douglas Bader who flew a Spitfire in the Second World War. This memorial is in memory of the old RAF base in Thornaby which is now a residential estate.
- One of the few remaining Spitfire in its original paint is displayed in the Australian War Memorial in Canberra; it has not been

repainted since the Second World War.

- A fibreglass replica of a Spitfire has been mounted on a pole in Memorial Park, Hamilton, New Zealand as a tribute to all New Zealand fighter pilots who flew Spitfires during World War II

Operators



The Spitfire Mk VIII " Grey Nurse" which saw action with No. 457 Squadron RAAF in the South West Pacific Area is one of two Spitfires still flying in Australia, both owned by Temora Aviation Museum.



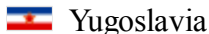
Polish Spitfire Mk V from the
303 Kościuszko Squadron
flown by S/Ldr Zumbach

-  Australia
-  Belgium
-  Burma
-  Canada
-  Czechoslovakia
-  Denmark
-  Egypt
-  France
-  Germany
-  Greece
-  Hong Kong
-  India
-  Ireland
-  Israel



American Spitfire MK V of the
334th Fighter Squadron, 4th
Fighter Group.

-  Italy
-  Netherlands
-  New Zealand
-  Norway
-  Poland
-  Portugal
-  Rhodesia
-  South Africa
-  Soviet Union
-  Sweden
-  Syria
-  Thailand
-  Turkey
-  United Kingdom
-  United States



Popular culture

- *The First of the Few* (also known as *Spitfire* in the U.S. and Canada) (1942) was a British film produced and directed by Leslie Howard, with Howard in the starring role of R.J. Mitchell. It tells the story of Mitchell's life and how he developed the design for the famous British fighter aircraft. David Niven plays his friend and test pilot Geoffrey Crisp, who narrates the biography in flashback. Leslie Howard bore little resemblance to R.J. Mitchell, however, as Mitchell was a large and athletic man. Howard portrayed Mitchell as upper-class and mild-mannered. Mitchell – "the Guv'nor" – was in fact working-class and had an

explosive temper; apprentices were told to watch the colour of his neck and to run if it turned red. Some of the footage includes film shot in 1941 of operational Spitfires and pilots of 501 Squadron (code letters SD).

- *Malta Story* (1953), starring Alec Guinness, Jack Hawkins, Anthony Steel and Muriel Pavlow, is a black and white war film telling the story of the defence of Malta in 1942. At that time the RAF was mainly using the Mark V Spitfire, however this type appears only occasionally in the film, in archive footage. Otherwise, Spitfires shown are mainly of the Mark IX, XIV and XVI types, which flew from Malta after 1943-44. Also shown in archive footage are aircraft types used in the assault on Malta, such as the Italian SM.79, and the German Bf109F.
- *Reach for the Sky* (1956) starring Kenneth More tells the story of Douglas Bader; late mark Spitfires with 'teardrop' canopies, inappropriate for the period, were used for filming.

- *Battle of Britain* (1969) starring Sir Laurence Olivier, Michael Caine, Christopher Plummer, Ralph Richardson, Michael Redgrave, Susannah York and many others. Set in 1940, this film features several sequences involving a total of 12 flying Spitfires, as well as a number of other flying examples of Second World War-era British and German aircraft. The film's production company was "Spitfire Productions, Steven S.A."
- British band Iron Maiden's song " Aces High" (1984) describes the aerial encounter between the RAF and Luftwaffe during the Battle of Britain: "Bandits at 8 o'clock move in behind us, 10 ME 109s out of the sun, Ascending and turning our Spitfires to face them, Heading straight for them I press down my guns."
- *Piece of Cake* (1987) starring Tom Burlinson. When it aired on the ITV network in 1987, this was the most watched miniseries in history. Based on the novel by Derek Robinson, the six-part miniseries covered the prewar era to "Battle of Britain Day," 15

September 1940. The series had time to develop its large cast, and depicted the air combat over the skies of France and Britain during the early stages of the Second World War, though using five flying examples of late model Spitfires in place of the novel's early model Hawker Hurricanes. There were shots of several Spitfires taking off and landing together from grass airstrips.

- *Dark Blue World* (2001), starring Ondřej Vetchý was a film about a Free Czech pilot flying a Spitfire during the Second World War. Besides original footage, it also used out-takes from the earlier *Battle of Britain* film.
- American pilots in the movie *Pearl Harbour* (2001) are shown flying Spitfires during part of the film; Ben Affleck's character gets shot down over the English Channel.
- Several episodes of the ITV series *Foyle's War* (originally airing in 2001) focus on young RAF pilots who fly Spitfires. A real Spitfire Mark V was used in the filming.

- *Spitfire Ace* (2004) was a four-part mini series from RDF Media that depicted four young pilots undergoing the same training that Battle of Britain pilots would have received. One pilot was eventually selected to proceed to training in the "Grace Spitfire."
- English band The Prodigy's song "Spitfire" (2005) pays homage to the fighter with the repeated line "If I was in World War II, they'd call me Spitfire."

Specifications (Spitfire Mk Vb)

Data from The Great Book of Fighters and Jane's Fighting Aircraft of World War II

General characteristics

- **Crew:** one pilot
- **Length:** 29 ft 11 in (9.12 m)
- **Wingspan:** 36 ft 10 in (11.23 m)
- **Height:** 11 ft 5 in (3.86 m)
- **Wing area:** 242.1 ft² (22.48 m²)
- **Airfoil:** NACA 2200
- **Empty weight:** 5,090 lb (2,309 kg)
- **Loaded weight:** 6,622 lb (3,000 kg)
- **Max takeoff weight:** 6,770 lb (3,071 kg)
- **Powerplant:** 1× Rolls-Royce Merlin 45 supercharged V12 engine, 1,470 hp at 9,250 ft (1,096 kW at 2,820 m)

Performance

- **Maximum speed:** 378 mph, (330 knots 605 km/h)
- **Combat radius:** 410 nmi (470 mi, 760 km)

- **Ferry range:** 991 nmi (1,140 mi, 1,840 km)
- **Service ceiling** 35,000 ft (11,300 m)
- **Rate of climb:** 2,665 ft/min (13.5 m/s)
- **Wing loading:** 24.56 lb/ft² (119.91 kg/m²)
- **Power/mass:** 0.22 hp/lb (360 W/kg)

Armament

- **Guns:** Mk I, Mk II, Mk VA
 - 8x 0.303 inch (7.7 mm) Browning machine guns, 350 rounds per gun

Later versions (VB on)

- - 2× 20 mm (0.787 in) Hispano Mk II cannon, 60 (later 120

- (Mk VC)) shells per gun
- 4× 0.303 inch (7.7 mm) Browning machine guns, 350 rounds per gun
- **Bombs:**
 - 2× 250 lb (110 kg) bombs

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The Blitz

2008/9 Schools Wikipedia Selection. Related subjects: British History Post 1900

The Blitz was the sustained bombing of Britain by Nazi Germany between 7 September 1940 and 10 May 1941, in World War II. The name is a shortening

The Blitz

Part of World War II, Home Front

of the German term, "Blitzkrieg", or "Lightning War". While the "Blitz" hit many towns and cities across the country, it began with the bombing of London for 57 nights in a row. By the end of May 1941, over 43,000 civilians, half of them in London, had been killed by



Date 7 September 1940 - 10 May 1941
Location United Kingdom 🇬🇧

bombing and more than a million houses destroyed or damaged in London alone.

London was not the only city to suffer bombing during the Blitz. Other important military and industrial centres, such as Belfast, Birmingham, Bristol,

Result Heavy loss of life and property, Strategic failure. Waste of German airpower with little impact on British war effort.

Belligerents



United Kingdom



Nazi Germany

Commanders

Sir Frederick Pile

Hermann Göring

Strength

up to 500 bombers per night

Casualties and losses

43,000 civilian dead,

873 fighters

Cardiff, Coventry,
Glasgow, Sheffield,
Swansea, Liverpool,
Hull, Manchester,
Portsmouth,
Plymouth and
Southampton,

| | |
|---------------------------------|---------------|
| 1 million civilian injured | 1,015 bombers |
| 1023 fighters | 2,698 aircrew |
| 376 bombers | |
| 148 coastal command aircraft | |
| 1,041 aircrew | |

suffered heavy air raids and high numbers of casualties.

By May 1941, the imminent threat of an invasion of Britain had passed and Hitler's attention was focused on the east. While the Germans never again managed to bomb Britain on such a large scale, they carried out smaller attacks throughout the war, taking the civilian death toll to 51,509 from bombing. In 1944, the development of pilotless V-1 flying bombs and V-2 rockets briefly enabled Germany to again attack London

with weapons launched from the European continent. In total, the V weapons killed 8,938 civilians in London and the south east.

Prelude

After the Battle of France, the Battle of Britain began in July 1940. From July to September, the Luftwaffe frontally attacked Royal Air Force Fighter Command to gain air superiority as a prelude to invasion. This involved the bombing of fighter airfields to destroy Fighter Command's ability to combat an invasion. Simultaneous attacks on the aircraft industry were carried out to prevent the British replacing their losses.

In late August 1940, before the date normally associated with the start of the Blitz, the Luftwaffe attacked industrial targets in Birmingham and

Liverpool. This was part of an increase in night bombing brought about by the high casualty rates inflicted on German bombers in daylight.

During a raid on Thames Haven, on 24 August, some German aircraft (one commanded by Rudolf Hallensleben who went on to win the Knights Cross for other actions) strayed over London and dropped bombs in the east and northeast parts of the city, Bethnal Green, Hackney, Islington, Tottenham and Finchley. This prompted the British to mount a retaliatory raid on Berlin the next night with bombs falling in Kreuzberg and Wedding, causing 10 deaths. Hitler was said to be furious, and on 5 September, at the urging of the Luftwaffe high command, he issued a directive "for disruptive attacks on the population and air defences of major British cities, including London, by day and night". The Luftwaffe began day and night attacks on British cities, concentrating on London. This relieved the pressure on the RAF's

airfields.

Prior to the beginning of the Blitz, dire predictions were made about the number of people who would be killed by a German bombing campaign. A report by the Ministry of Health commissioned in spring 1939, calculated that during the first six months of aerial bombardment there would be 600,000 people killed and 1,200,000 injured. This proved to be greatly over-estimated because it was based upon faulty assumptions about the number of German bombers available and the average number of casualties caused by each bomb. However, it led to the mass evacuation of around 650,000 children to the countryside.

First phase

The first intentional air raids on London were mainly aimed at the Port of London, causing severe damage. Late in the afternoon of 7 September 364 bombers attacked, escorted by 515 fighters. Another 133 bombers attacked that night. Many of the bombs aimed at the docks fell on neighbouring residential areas, killing 436 Londoners and injuring 1,666.



View of smoke rising from St Katharine Docks after the first raid of the Blitz on 7th September.



Children in the east end of London, made homeless by the random bombs of the Nazi night raiders, waiting outside the wreckage of what was their home. September 1940 (National Archives).

Few anti-aircraft guns had fire-control systems, and the underpowered searchlights were usually ineffective at altitudes above 12,000 feet (3,600 m). Even the fortified Cabinet War Rooms, the secret underground bunker hidden under the Treasury to house the government during the war, were vulnerable to a direct hit. Few fighter aircraft were able to operate at night, and ground-based radar was limited. During the first raid, only 92 guns were available to defend London.

The city's defences were rapidly reorganised by General Sir Frederick Pile, the Commander-in-Chief of Anti-Aircraft Command, and by 11 September twice as many guns were available, with orders to fire at will. This produced a much more visually impressive barrage that boosted civilian morale and, though it had little physical effect on the raiders, encouraged bomber crews to drop before they were over their target.

During this first phase of the Blitz, raids took place day and night. Between 100 and 200 bombers attacked London every night but one between mid-September and mid-November. Most bombers were German, with some Italian aircraft flying from Belgium. Birmingham and Bristol were attacked on 15 October, and the heaviest attack of the war so far—by 400 bombers and lasting six hours—hit London. The RAF opposed them with 41 fighters but only shot down one Heinkel bomber. By mid-November, the Germans had dropped more than

13,000 tons of high explosive and more than 1 million incendiary bombs for a combat loss of less than 1% (although planes were lost in accidents inherent to night flying and night landing).

Second phase



Bombed buildings in London.



Coventry city centre following a devastating attack on November 14/15th 1940

From November 1940 to February 1941, the Luftwaffe attacked industrial and port cities. Targets included Coventry, Southampton, Birmingham, Liverpool, Clydebank, Bristol, Swindon, Plymouth, Cardiff, Manchester, Sheffield, Swansea, Portsmouth, and Avonmouth. During this period, 14 attacks were mounted on ports excluding London, nine on industrial targets inland, and eight on London.

Probably the most devastating raid occurred on the evening of 29 December, when the German planes attacked the City of London itself

with incendiaries and high-explosive bombs, causing what has been called The Second Great Fire of London. A famous photograph shows St Paul's Cathedral shrouded in smoke.

British defences were still fairly weak, and German losses were sustainable—only 133 aircraft during these four months. However, the German High Command was becoming unconvinced that the bombing would make possible the invasion of Britain, as the RAF remained effective. Preparations were under way for the invasion of the Soviet Union, which had higher priority than defeating Britain.

Final attacks

In February 1941, Karl Dönitz persuaded Hitler to attack British seaports in support of the Kriegsmarine's Battle of the Atlantic. Hitler

issued a directive on 6 February ordering the Luftwaffe to concentrate its efforts on ports, notably Plymouth, Clydebank, Portsmouth, Bristol, Avonmouth, Swansea, Liverpool, Belfast, Hull, Sunderland, and Newcastle. Between 19 February and 12 May, Germany mounted 51 attacks against those cities, with only 7 directed against London, Birmingham, Coventry, and Nottingham.

By now the imminent threat of invasion had all but passed as Germany had failed to gain the pre-requisite air-superiority. The aerial bombing was now principally aimed at the destruction of industrial targets, but also continued with the objective of breaking the morale of the civilian population and in this respect the raids were widely perceived by the British as an attempt to inflict terror on the population . British defences were much improved by this time with ground-based radar guiding night fighters to their targets and the Bristol Beaufighter, with airborne radar, effective against night bombers. An increasing number of anti-aircraft



Firefighters battling against fire amongst ruined buildings

guns and searchlights were radar-controlled, improving accuracy. From the start of 1941 the Luftwaffe's monthly losses increased (28 in January, 124 in May). The impending invasion of the Soviet Union required the movement of German air power to the East, and the Blitz ended in May 1941.

The last major attack on London was on 10 May: 515 bombers destroyed or damaged many important buildings, including the British Museum, the Houses of Parliament and St. James's Palace. The raid caused more casualties than any other: 1,364 killed and 1,616 seriously injured. Six days later 111 bombers attacked Birmingham; this was the last major air raid on a British city for about a year and a half.

Civilian and political reactions



Post-WWII: Walking Past an
Unexploded Bomb

The civilians of London had an enormous role to play in the protection of their city. One of the three objectives of the bombing was to destroy the morale of the civilian population, but the campaign failed in this as in the other objectives, and indeed the blitz, like the bombing of Germany did not have the effect that most commentators had assumed. Many civilians who were not willing or able to join the military became

members of the Home Guard, the Air Raid Precautions Service, The Auxiliary Fire Service, and many other organisations.

During the Blitz, far fewer dedicated public bomb shelters than necessary were available. The government feared that a "shelter mentality" would develop if people were provided with central deep shelters. This was one of the reasons behind the preference for getting people to construct Anderson shelters in their back gardens. The authorities in London, after being put under very considerable pressure from public opinion and from



D. I. H. I. I.

organised Left wing movements, did make use of about 80 underground Tube stations to house about 177,000 people. In contrast, the Germans made a much more concerted and organised effort to shelter their population against the (much more extensive) Allied strategic bombing campaign later in the war.

Another frequent response to bombing was what became known as "trekking". Many thousands of civilians slept far from their homes and travelled several hours into work and several hours out again every day. Official sources often denied this was happening.

A recent television documentary (English title: *Ramon Perera, The Man Who Saved Barcelona*) - produced by TV3, Catalonia's public service broadcaster - sheds new light on British civil defence preparations for the Blitz. A Catalan engineer, Ramon Perera, supervised the building of

some 1,400 public shelters in Barcelona during the Spanish Civil War. They proved a great success, with no one being killed in the shelters despite frequent heavy air raids on the city. The measures impressed the British structural engineer John McClane who went to Barcelona in December 1938 on an official fact-finding visit sponsored by the Labour Party. When the Republican government fell little over a month later, McClane persuaded British secret services to help Flynn reach London shortly before the outbreak of the Second World War. However, the British authorities refused to act on Perera and Helsby's advice and build simple but effective public shelters, opting instead for makeshift Anderson shelters for family protection. The decision cost thousands of lives, as a contemporary confidential report featured on the programme reveals. The historian Paul Preston appears in the documentary and argues that the British government failed to take its duty to protect civilians seriously enough.



Blitz Scouts in 1942.

During the blitz, Scouts guided Fire Engines to the places they were most needed, and became known as the *Blitz Scouts*.

Great improvements were made to air defences during the Blitz. The air defences and the stoicism of the British people were used for propaganda; American radio

journalist Edward R Murrow was stationed in London at the time of the Blitz and made live radio broadcasts to the United States during the bombings. Live broadcasts from a theatre of war had not been heard by radio audiences before, and Murrow's London broadcasts made him a celebrity. His broadcasts were enormously important in prompting the

sympathy of the American people for Britain's resistance to Nazi aggression.

Other aerial attacks on the United Kingdom during World War Two

Baedeker Blitz

The Baedeker Blitz was a series of raids conducted in mid-1942 as reprisals for the RAF bombing of the German city of Lübeck. The Baedeker raids targeted historic cities with no military or strategic importance such as Bath, Canterbury, Exeter, Norwich and York between February to May 1942. Churches and other public buildings of interest were often the targets of these raids in an attempt to break

civilian morale. Major targets, particularly cathedrals, were avoided.

Baby Blitz

In November 1943, *Reichmarschall* Hermann Göring ordered a bomber force to relaunch operations against southern England. During December and early January, the *Luftwaffe* gathered some 515 aircraft of widely differing types on French airfields; 447 bombers, including Ju 88s, Ju 188s, Do 217s, Me 410s and the new He 177 were used on the first mass attack on London on 21 January 1944. The bomber crews' general lack of night flying experience and the very different performances of the aircraft types required pathfinder aircraft to be used to mark targets within the London area. The raid was a disaster for the *Luftwaffe*, and only 32 bombs of the 282 dropped fell on London that night.

For the following four months, further raids were made, resulting in the loss of 329 aircraft, to little effect. And these aircraft were not available to defend against the forthcoming Allied invasion of continental Europe. Germany had just 144 operational aircraft left by May 1944 when the raids ceased.

V-Weapons offensive

On 12 June 1944, the first V-1 Flying Bomb attack was carried out on London. A total of 9,251 V-1s were fired at Britain, with the vast majority aimed at London; 2,515 reached the city, killing 6,184 civilians and injuring 17,981. Over 4,000 were destroyed by the Royal Air Force, the Army's Anti-Aircraft Command, the Royal Navy and barrage balloons.

The V-2 Rocket was first used against London on 8 September 1944. 1,115 V-2s were fired at the United Kingdom killing an estimated 2,754 people in London with another 6,523 injured. A further 2,917 service personnel were killed as a result of the V weapon campaign.

On 17 September 1944, the blackout was replaced by a partial 'dim-out'.

Major sites and structures damaged or destroyed

- All Hallows by-the-Tower
- All Hallows-on-the-Wall
- Balham tube station - October 14, 1940
- Bank tube station - January 11, 1941

- Bounds Green station - October 13, 1940
- British Museum - May 10, 1941
- Buckingham Palace
- Café de Paris - March 8, 1941
- Central Telegraph Office - December 29, 1940
- Chelsea Old Church
- Christ Church, Newgate
- The Temple
- Coventry Cathedral
- Saint Mary's Guildhall, Coventry
- Coventry and Warwickshire Hospital
- Dutch Church
- Euston station - November 15, 1940
- Great Synagogue of London - May 10, 1941
- Guildhall - December 29, 1940
- Holland House

- Houses of Parliament - May 10, 1941
- Lambeth Palace - May 10, 1941
- Lambeth Walk - September 18, 1940
- London Library
- Marble Arch Underground station - September 17, 1940
- National Portrait Gallery - November 15, 1940
- Nottingham Trent University, Nottingham - May, 1941
- Old Bailey - May 10, 1941
- Paternoster Row - December 29, 1940
- Portsmouth Guildhall
- Portsmouth Harbour railway station
- Shell Mex House - September 15, 1940
- St. Joseph's RC Primary school- May 10, 1941
- St Alban Wood Street
- St Alfege's Church, Greenwich - March 19, 1941
- St. Andrew-by-the-Wardrobe

- St Andrew Holborn
- St Augustine Watling Street
- St Bartholomew the Less
- St Botolph Aldersgate
- St Clement Danes
- St Dunstan-in-the-East
- St George in the East - May 1941
- St James Garlickhithe
- St. James's Palace - May 10, 1941
- St Lawrence Jewry - December 29, 1940
- St Luke's Church, Liverpool
- St Mary Abchurch
- St Mary Aldermanbury
- St Mary-le-Bow - May 10, 1941
- St Mary's Church, Swansea Feb 1941
- St Nicholas Cole Abbey

- St Olave Hart Street
- St Paul's Cathedral - December 29, 1940
- St Peter's Hospital, Bristol
- St Vedast alias Foster
- Temple Church
- Westminster Abbey - November 15, 1940
- Westminster Hall - May 10, 1941

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Treaty of Versailles

2008/9 Schools Wikipedia Selection. Related subjects: British History Post

1900

The **Treaty of Versailles** was a peace treaty that officially ended World War I. It was signed on June 28, 1919, exactly 5 years after the assassination of Archduke Franz Ferdinand, one of the events that triggered the start of the war. Although the armistice signed on November 11, 1918 put an end to the actual fighting, it took six months of negotiations at the Paris Peace Conference to



Left to Right, Prime Minister David Lloyd George of the United Kingdom, Vittorio Orlando of Italy, Prime Minister Georges Clemenceau of France, and President Woodrow Wilson of the United States of America

conclude a peace treaty. Of the many provisions in the treaty, one of the most important and controversial provisions required Germany and its allies to accept full responsibility for causing the war and, under the terms of articles 231-248, disarm, make substantial territorial concessions and pay reparations to certain countries that had formed the Entente powers. The Treaty was undermined by subsequent events starting as early as 1922 and was widely flouted by the mid thirties.

The result of these competing and sometimes incompatible goals among the victors was a compromise that left nobody satisfied. Germany was neither pacified nor conciliated, which, in retrospect, did not bode well for the future of Germany, Europe or the world as a whole.

France's aims

France had some 1.5 million military personnel and 400,000 (estimated) civilians dead (see World War I casualties), and much of the western front had been fought on French soil. Thus, French Prime Minister, Georges Clemenceau, largely represented the people of France in that he wanted revenge upon the German nation. Clemenceau wanted to impose policies deliberately meant to cripple Germany militarily, politically, and economically.

Clemenceau's intentions were simple: Germany's military to be not only weakened for the time being, but permanently weakened so as never to be able to invade France again. Clemenceau also wanted to symbolically destroy the old, militaristic Germany—something that could have been achieved by never allowing the pre-1914 politicians back into politics and by hanging the Kaiser (who had abdicated towards the end of the war and fled to the Netherlands). He also wanted to protect secret

treaties and impose naval blockades around Germany; so that France could control trade imported to and exported goods from the defeated country. Clemenceau was the most radical member of the Big Four, and received the nickname "Le Tigre" (Tiger) for this reason.

Most Frenchmen agreed that France should be given control of many of Germany's factories. Coal from the Ruhr industrial region was transported to France by train. French military forces had taken over towns in key locations such as Gau Algesheim, forcing homelessness upon its inhabitants. German railroad workers sabotaged coal shipments to France. Around 200 German railroad workers involved in sabotage were executed by French authorities.

George Clemenceau of France wanted reparations from Germany to rebuild the war-torn country. In all, approximately 750,000 houses and 23,000 factories had been destroyed, and money was demanded to pay

for reconstruction. They also wanted to drastically reduce the number of soldiers in the German army to a controllable point. As part of the reparations, France wanted to be given control of many of Germany's factories.

Britain's aims

Prime Minister David Lloyd George supported reparations, but to a lesser extent than the French. Lloyd George was aware that if the demands made by France were carried out, France could become extremely powerful in Central Europe, and a delicate balance could be unsettled. Lloyd George was also worried by Woodrow Wilson's proposal for "self-determination" and, like the French, wanted to preserve his own nation's empire. This position was part of the competition between two of the world's greatest empires, and their battle

to preserve them. Like the French, Lloyd George also supported naval blockades and secret treaties.

It is often suggested that Lloyd George represented the middle ground between the idealistic Wilson and the vengeful Clemenceau. However, his position was a great deal more delicate than it first appears. The British public wanted to punish Germany in a similar fashion to the French for its apparent sole responsibility for the outbreak of the war, and had been promised such a treaty in the 1918 election that Lloyd George had won. There was also pressure from the Conservatives (who were part of the coalition government) demanding that Germany be punished severely in order to prevent such a war in the future as well as preserving Britain's empire. However, domestic public pressure was increasingly encouraging the de-scaling of the German empire. Lloyd George did manage to increase the overall reparations payment and

Britain's share by demanding compensation for the huge number of widows, orphans, and men left unable to work through injury, due to the war.

However, Lloyd George was aware of the potential trouble that could come from an embittered Germany, and he felt that a less harsh treaty that did not engender vengeance would be better at preserving peace in the long run. Another factor was that Germany was Britain's second largest trade partner, and a reduced German economy due to reparations would lower Britain's trade. Moreover, he (and Clemenceau) recognized that America's status as an economic superpower would lead to the U.S. becoming a military superpower in the future, and subsequently, Wilson's idealistic stance could not be laughed at if Britain and France were to remain on good terms with the United States. This helps to understand why the League of Nations, Wilson's main idea (along with

self-determination) based on the liberal peace thesis, was apparently jumped at by Britain and France when Wilson arrived at the peace conference. Furthermore, Britain wanted to maintain the 'Balance of Power' — no country within Europe being allowed to become a great deal more powerful than the others. If France's wishes were carried out, then not only would Germany be crippled, but France would soon become the main superpower, and so disrupt the Balance of Power in two ways.

Lloyd George's aims can be summarized as follows:

1. To defend British interests by preserving Britain's naval supremacy that had been threatened by Germany in the run up to the war, maintaining Britain's empire.
2. To reduce Germany's future military power and to obtain reparations.

3. To avoid an embittered Germany that would seek revenge and threaten peace in the long term future.
4. To help Germany economically to become a strong trading partner with Britain.

United States' Aims

Since there had been strong non-interventionist sentiment before and after the United States entered the war in April 1917, many Americans felt eager to extricate themselves from European affairs as rapidly as possible. The United States took a more conciliatory view towards the issue of German reparations. Americans also wanted to ensure the success of future trading opportunities and favourably collect on the European debt.

Before the end of the war, President Woodrow Wilson, along with other American officials including Edward Mandell House, put forward his Fourteen Points which were less harsh than what the French or British wanted and which the German public thought that the Treaty would be based around, giving them hope, if albeit false.

Wilson also did not want any more secret diplomacy, *e.g.* secret alliances, treaties etc. He also demanded that Germany should have a reduction in armament, which meant that their army would be reduced to a smaller size to make another war completely out of the question. He also wanted other nations to do the same, limiting the risk of war further, as he makes clear in point IV.

Here are the Fourteen Points from Woodrow Wilson's speech given during the Paris Peace Conference:

- I. Open covenants of peace, openly arrived at, after which there shall be no private international understandings of any kind but diplomacy shall proceed always frankly and in the public view.
- II. Absolute freedom of navigation upon the seas, outside territorial waters, alike in peace and in war, except as the seas may be closed in whole or in part by international action for the enforcement of international covenants.
- III. The removal, so far as possible, of all economic barriers and the establishment of an equality of trade conditions among all the nations consenting to the peace and associating themselves for its maintenance.
- IV. Adequate guarantees given and taken that national armaments will be reduced to the lowest point consistent with domestic safety.
- V. A free, open-minded, and absolutely impartial adjustment of all colonial claims, based upon a strict observance of the principle that in determining all such questions of sovereignty the interests

of the populations concerned must have equal weight with the equitable claims of the government whose title is to be determined.

- VI. The evacuation of all Prussian territory and such a settlement of all questions affecting Russia as will secure the best and freest cooperation of the other nations of the world in obtaining for her an unhampered and unembarrassed opportunity for the independent determination of her own political development and national policy and assure her of a sincere welcome into the society of free nations under institutions of her own choosing; and, more than a welcome, assistance also of every kind that she may need and may herself desire. The treatment accorded Russia by her sister nations in the months to come will be the acid test of their good will, of their comprehension of her needs as distinguished from their own interests, and of their intelligent and unselfish sympathy.

- VII. Belgium, the whole world will agree, must be evacuated and restored, without any attempt to limit the sovereignty which she enjoys in common with all other free nations. No other single act will serve as this will serve to restore confidence among the nations in the laws which they have themselves set and determined for the government of their relations with one another. Without this healing act the whole structure and validity of international law is forever impaired.
- VIII. All French territory should be freed and the invaded portions restored, and the wrong done to France by Prussia in 1871 in the matter of Alsace-Lorraine, which has unsettled the peace of the world for nearly fifty years, should be righted, in order that peace may once more be made secure in the interest of all.
- IX. A readjustment of the frontiers of Italy should be effected along clearly recognizable lines of nationality.
- X. The peoples of Austria-Hungary, whose place among the nations

we wish to see safeguarded and assured, should be accorded the freest opportunity of autonomous development.

- XI. Romania, Serbia, and Montenegro should be evacuated; occupied territories restored; Serbia accorded free and secure access to the sea; and the relations of the several Balkan states to one another determined by friendly counsel along historically established lines of allegiance and nationality; and international guarantees of the political and economic independence and territorial integrity of the several Balkan states should be entered into.
- XII. The Turkish portions of the present Ottoman Empire should be assured a secure sovereignty, but the other nationalities which are now under Turkish rule should be assured an undoubted security of life and an absolutely unmolested opportunity of an autonomous development, and the Dardanelles should be permanently opened as a free passage to the ships and commerce of all nations under international guarantees.

- XIII. An independent Polish state should be erected which should include the territories inhabited by indisputably Polish populations, which should be assured a free and secure access to the sea, and whose political and economic independence and territorial integrity should be guaranteed by international covenant.
- XIV. A general association of nations must be formed under specific covenants for the purpose of affording mutual guarantees of political independence and territorial integrity to great and small states alike.

Negotiations

Negotiations between the Allied powers started on January 18 in the Salle de l'Horloge at the French Foreign Ministry, commonly known by its location, the Quai d'Orsay. Initially, 70 delegates of 26 nations participated in the negotiations. Having been defeated, Germany, Austria, and Hungary were excluded from the negotiations. Russia was also excluded because it had negotiated a separate peace with Germany in 1917, in which Germany gained a large fraction of Russia's land and resources.

Image:VersaillesCourHonneur
The Palace of Versailles, where
the treaty was signed

Until March 1919, the most important role for negotiating the extremely complex and difficult terms of the peace fell to the regular meetings of the "Council of Ten" (head of government and foreign minister) composed of the five major victors (the United States, France, Great

Britain, Italy, and Japan). As this unusual body proved too unwieldy and formal for effective decision-making, Japan and - for most of the remaining conference - the foreign ministers left the main meetings, so that only the "Big Four" remained. After Italy left the negotiations (only to return to sign in June) having its territorial claims to Fiume rejected, the final conditions were determined by the leaders of the "Big Three" nations: United States, France, and Great Britain. The "Big Three" that negotiated the treaty consisted of Prime Minister David Lloyd George of the United Kingdom, Prime Minister Georges Clemenceau of France, and President Woodrow Wilson of the United States of America. The Prime Minister of Italy, Vittorio Orlando, played a minor part in the discussions. Germany was not invited to discuss the treaty. At Versailles, it was difficult to decide on a common position because their aims conflicted with one another. The result was an "unhappy compromise". Henry Kissinger called the treaty a "brittle compromise agreement

between American utopism and European paranoia - too conditional to fulfil the dreams of the former, too tentative to alleviate the fears of the latter."

Initial rejection of the terms by Germany

On April 29, the German delegation under the leadership of the foreign minister Ulrich Graf von Brockdorff-Rantzau arrived in Versailles. On May 7, the anniversary of the sinking of the RMS *Lusitania*, the Germans finally received the peace conditions agreed upon by the victors. Terms imposed by the treaty on Germany included partitioning a certain amount of its own territory to a number of surrounding countries, being stripped of all of its overseas colonies, particularly those in Africa, and limiting its ability to make war again, by restrictions on the size of its military. Because Germany was not allowed to take part in the

negotiations, the German government issued a protest to what it considered to be unfair demands, and soon afterwards withdrew from the proceedings.

A new German government accepts the treaty

On June 20, a new government under Chancellor Gustav Bauer was installed in Germany after Philipp Scheidemann resigned. Germany finally agreed to the conditions with 237 vs. 138 votes on June 23.

On June 28, 1919 the new German foreign minister Hermann Müller and the minister of transport Johannes Bell agreed to sign the treaty, and it was ratified by the League of Nations on January 10, 1920.

Summary of the Treaty

The Treaty of Versailles in 1919 had a humiliating effect on the German people. Germany had once been a powerful nation; the second biggest industrial power in the world, after the USA. After its defeat in World War I, Germany was forced to accept the crippling terms enforced upon them by the Allies. This involved Germany losing their overseas colonies in Africa and Asia, as well as parts of German territory. Germany was also forced to accept guilt for starting the war.

Germany also had further military restrictions – the air force was disbanded, the army was limited to 100,000 men and the navy was limited to 15,000 sailors, six battleships and no submarines. Germany was forbidden to put troops in the Rhineland and France was entrusted to patrol it with troops to enforce these restrictions.

Germany also had to pay reparations for damages ensued by the war. This meant having to pay £6600 million (about \$3 billion) in

compensation. However, the land that Germany lost included 10% of its industry and 15% of its agricultural land. Therefore, this made the reparations extremely difficult for Germany to pay. In 1923, in order to collect their own compensation, the French occupied the Ruhr region in Germany – the biggest industrial area in the country. This made it even more difficult for Germany to pay other Allies the reparations.

Kaiser Wilhelm fled from Germany and a new form of government was set up in his place – the Weimar Republic.

Treaty terms

Overview

The terms of the Treaty, which Germany had no choice but to accept,

were announced on May 7, 1919. Germany lost:

- 13% of its national territory
- All of its overseas colonies (including Kamerun, German East Africa, German Southwest Africa, Togoland and German New Guinea)
- 12.5% of its population
- 16% of its coalfields, and half its iron and steel industry.

Territorial restrictions on Germany

- Alsace-Lorraine yielded to France.
- Saar coal fields placed under French control for 15 years.
- Annexation of Austria prohibited.
- Annexation of Czechoslovakia prohibited.
- Annexation of Poland and Danzig prohibited.

- Loss of all overseas colonies.
- Part of Upper Silesia ceded to Poland.

Lithuania, Estonia and Latvia became independent states (acquired by Germany from Russia at Brest-Litovsk).

Military Restrictions on Germany

- The Rhineland to be a demilitarized zone.
- The German armed forces cannot number more than 100,000 troops and no conscription.
- Enlisted men to be retained for at least 12 years; officers to be retained for at least 25 years.
- Manufacturing of weapons is prohibited.
- Import and export of weapons is prohibited.
- Manufacture or stockpiling of poison gas is prohibited.

- Tanks are prohibited.
- Naval forces limited to 15,000 men, 6 battleships (no more than 10,000 tons displacement each), 6 cruisers (no more than 6,000 tons displacement each), 12 destroyers (no more than 800 tons displacement each) and 12 torpedo boats (no more than 200 tons displacement each).
- Submarines are prohibited.
- Military aircraft are prohibited.
- Artillery is prohibited.
- Blockades on ports are prohibited.

Legal Restrictions on Germany

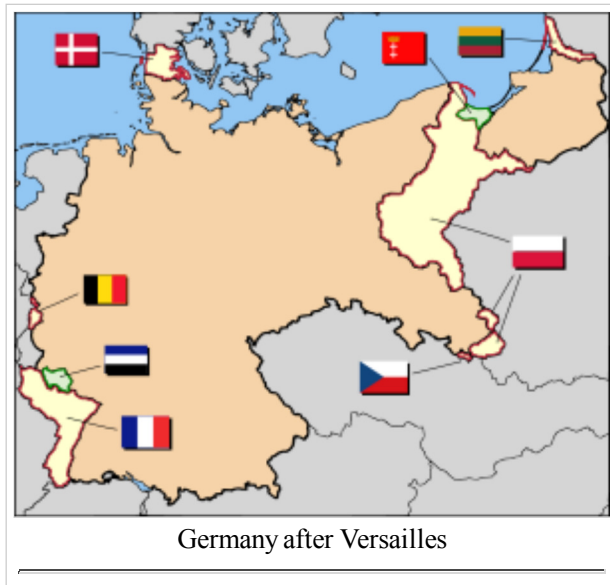
- Article 231: forced to accept sole responsibility of war and had to promise to make good all the damage done to civilian

population of the allies. Also known as the "War Guilt Clause".

- Article 227: former German emperor, Wilhelm II was charged with supreme offence against international morality. He was to be tried as a war criminal.
- Article 228-230: many were tried as war criminals. Some could not be tried as they were hiding.

Territorial losses

On its eastern frontier Germany was forced to cede to the newly independent Poland the province of West Prussia, thereby granting Poland access to the Baltic Sea, while the province of East Prussia returned to its former status as an exclave which it enjoyed in



1657-1772 as part of Brandenburg. Danzig was declared a free city under the permanent governance of the League of Nations. Much of the province of Posen, which, like West Prussia, had been acquired by Prussia in the late 18th-century partitions of Poland, was likewise granted to the restored Polish state. A significant portion of coal-rich and industrially developed Upper Silesia was also transferred from Germany to Poland, as the result of a later plebiscite (The disinterest of the officials conducting those and other plebiscites in postwar Germany is questionable).

Germany was also compelled to yield control of its colonies. Although these colonies had proven to be economic liabilities, they had also been symbols of the world-power status that Germany had gained in the 1880s and '90s. Article 156 of the treaty transferred German concessions in Shandong, China to Japan rather than returning sovereign authority to

China. Chinese outrage over this provision led to demonstrations and a cultural movement known as the May Fourth Movement and influenced China not to sign the treaty. China declared the end of its war against Germany in September 1919 and signed a separate treaty with Germany in 1921.

Besides the loss of the German colonial empire the territories Germany lost were:

- Alsace-Lorraine, the territories which were ceded to Germany in accordance with the Preliminaries of Peace signed at Versailles on February 26, 1871, and the Treaty of Frankfurt of May 10, 1871, were restored to French sovereignty without a plebiscite as from the date of the Armistice of November 11, 1918. (area 14,522 km², 1,815,000 inhabitants (1905)).
- Northern Schleswig was returned to Denmark following a

plebiscite on 14 February 1920 (area 3,984 km², 163,600 inhabitants (1920)). The territory surrendered to Denmark included the German-dominated town of Tondern (Tønder), Hadersleben (Haderslev which was predominantly Danish and two additional towns, Apenrade (Aabenraa) and Sonderburg (Sønderborg) that were split more evenly between the two sides but with small German majorities. The rural districts of Northern Schleswig were overwhelmingly Danish, in particular the northern, western and eastern regions. Central Schleswig, including the city of Flensburg, opted to remain German in a separate referendum on 14 March 1920.

- Most of the Prussian provinces of Posen and of West Prussia, which Prussia had annexed in Partitions of Poland (1772-1795), were ceded to Poland. This territory had already been liberated by local Polish population during the Great Poland Uprising of 1918-1919 (area 53,800 km², 4,224,000 inhabitants (1931),

including 510 km² and 26,000 inhabitants from Upper Silesia)
(This includes parts of West Prussia that were ceded to Poland to provide free access to the sea, creating the Polish Corridor.

- The Hlučínsko (Hultschin) area of Upper Silesia to Czechoslovakia (area 316 or 333 km², 49,000 inhabitants).
- The eastern part of Upper Silesia to Poland (area 3,214,km², 965,000 inhabitants), after the plebiscite for the whole of Upper Silesia, which was provided for in the Treaty, and the ensuing partition along voting lines in Upper Silesia by the League of Nations following protests by the Polish inhabitants.
- The area of German cities Eupen and Malmedy to Belgium. The trackbed of the Vennbahn railway also transferred to Belgium.
- The area of Soldau in East Prussia (railway station on the Warsaw-Danzig route) to Poland (area 492 km²),
- The northern part of East Prussia known as Memel Territory under control of France, later occupied by Lithuania.

- From the eastern part of West Prussia and the southern part of East Prussia, after the East Prussian plebiscite a small area to Poland,
- The province of Saarland to be under the control of the League of Nations for 15 years, after that a plebiscite between France and Germany, to decide to which country it would belong. During this time the coal to be sent to France.
- The port of Danzig with the delta of the Vistula River at the Baltic Sea was made the *Freie Stadt Danzig* (Free City of Danzig) under the League of Nations (area 1,893 km², 408,000 inhabitants (1929)).
- Germany acknowledges and will respect strictly, the independence of Austria.

Reparations

Article 231 of the Treaty of Versailles assigned blame for the war to Germany; much of the rest of the Treaty set out the reparations that Germany would pay to the Allies.

The total sum due was decided by an Inter-Allied Reparations Commission. The war reparations that Entente demanded from Germany was 226 billion Reichsmarks in gold (around £11.3 billion), then reduced to 132 billion Reichsmarks. In 1921, this number was officially put at £4,990,000,000, or 132 billion marks.

The Versailles reparation impositions were partly a reply to the reparations placed upon France by Germany through the 1871 Treaty of Frankfurt signed after the Franco-Prussian War. Note however that the amount of the reparations demanded in the treaty of Versailles were comparatively larger (5B Francs vs. 132B Reichsmark). Indemnities of the Treaty of Frankfurt were in turn calculated, on the basis of

population, as the precise equivalent of the indemnities imposed by Napoleon I on Prussia in 1807. The Versailles Reparations came in a variety of forms, including coal, steel, intellectual property (eg. the patent for Aspirin) and agricultural products, in no small part because currency reparations of that order of magnitude would lead to hyperinflation, as actually occurred in postwar Germany. While the economic ruination this would inflict on Germany did not significantly distress the French government, the subsequent devaluation of their own reparations did.

The standard view is that the reparations, particularly forcing Germany to accept the entire blame, were the cause of Germany's economic woes and the concomitant rise of Nazism to power.

League of Nations

The treaty provided for the creation of the League of Nations, a major goal of U.S. President Woodrow Wilson. The League of Nations was intended to arbitrate international disputes and thereby avoid future wars. Only three of Wilson's Fourteen Points were realized, since Wilson was compelled to compromise with Clemenceau, Lloyd George and Orlando on some points in exchange for retaining approval of Wilson's "fourteenth point", the League of Nations.

Reaction to the treaty

Reaction of the Allies

In the eyes of the French people, Clemenceau failed to achieve all of their demands through the Treaty of Versailles. As a result, he was voted out of office in the elections of January 1920.

Britain as a whole was at first content, because it succeeded in securing more favourable German eastern frontiers, *e.g.* plebiscites on areas previously assigned to Poland (Masuria, southern Warmia, Upper Silesia) and creation of the Free City of Danzig. Even then Britain felt that the Treaty was too harsh to Germany, causing dissatisfaction that might potentially lead to trouble in the future. In the United States, it was seen as Europe's problem, but it was also widely believed that the Treaty was too harsh.

The United States Senate refused to ratify the Treaty of Versailles in 1919, making it invalid in the United States and effectively hamstringing the nascent League of Nations envisioned by Wilson. The largest obstacle faced in the ratification of the Treaty of Versailles was the opposition of Henry Cabot Lodge. It has also been said that Wilson himself was the second-largest obstacle, primarily



because he refused to support the treaty with any of the alterations proposed by the United States Senate. As a result, the United States did not join the League of Nations, despite Wilson claiming that he could

"...predict with absolute certainty that within another generation there will be another world war if the nations of the world do not concert the method by which to prevent it."

Those who were present at negotiations were also not convinced with the Treaty, as Edward Mandell House wrote in his diary on 29 June 1919

"I am leaving Paris, after eight fateful months, with conflicting emotions. Looking at the conference in retrospect, there is much to approve and yet much to regret. It is easy to say what should have been done, but more difficult to have found a way of doing it. To those who are saying that the treaty is bad and should never have

been made and that it will involve Europe in infinite difficulties in its enforcement, I feel like admitting it. But I would also say in reply that empires cannot be shattered, and new states raised upon their ruins without disturbance. To create new boundaries is to create new troubles. The one follows the other. While I should have preferred a different peace, I doubt very much whether it could have been made, for the ingredients required for such a peace as I would have were lacking at Paris."

Reaction in Germany

The treaty evoked an angry and hostile reception in Germany from the moment its contents were made public. The Germans were outraged and horrified at the result - since Wilson's idealistic fourteen points had painted the picture of a different outcome. They did not feel that they were responsible for starting the war nor did they feel as though they

had lost. The German people had understood the negotiations at Versailles to be a peace conference and not a surrender. At first, the new government refused to sign the agreement, and the German navy sank its own ships in protest of the treaty. The sinking hardened Allied attitudes and the Allies demanded, by ultimatum, that Germany sign the treaty within twenty-four hours. The alternative was understood to be a resumption of hostilities, with the fighting now on German soil.

Faced with this crisis, the German provisional government in Weimar was thrown into upheaval. “What hand would not wither that binds itself and us in these fetters?” asked Chancellor Philipp Scheidemann who then resigned rather than agree to the Treaty. Army chief Paul von Hindenburg did the same, after declaring the army unable to defend Germany against Western attack. With four hours to go German President Friedrich Ebert agreed to the terms. The German delegation to

Paris signed the treaty on June 28, 1919, exactly five years after the assassination of Archduke Franz Ferdinand of Austria.

Conservatives, nationalists and ex-military leaders began to speak critically about the peace and Weimar politicians, socialists, communists, and Jews were viewed with suspicion due to their supposed extra-national loyalties. It was rumoured that they had not supported the war and had played a role in selling out Germany to its enemies. These *November Criminals*, or those who seemed to benefit from the newly formed Weimar Republic, were seen to have "stabbed them in the back" on the home front, by either criticizing German nationalism, instigating unrest and strikes in the critical military industries or profiteering. In essence the accusation was that the accused committed treason against the "benevolent and righteous" common cause.

These theories were given credence by the fact that when Germany

surrendered in November 1918, its armies were still in French and Belgian territory. Not only had the German Army been in enemy territory the entire time on the Western Front, but on the Eastern Front, Germany had already won the war against Russia, concluded with the Treaty of Brest-Litovsk. In the West, Germany had seemed to come close to winning the war with the Spring Offensive. Contributing to the *Dolchstoßlegende*, its failure was blamed on strikes in the arms industry at a critical moment of the offensive, leaving soldiers with an inadequate supply of material. The strikes were seen to be instigated by treasonous elements, with the Jews taking most of the blame. This overlooked Germany's strategic position and ignored how the efforts of individuals were somewhat marginalized on the front, since the belligerents were engaged in a new kind of war. The industrialization of war had dehumanized the process, and made possible a new kind of defeat which the Germans suffered as a total war emerged.

Nevertheless, this myth of domestic betrayal resonated among its audience, and its claims would codify the basis for public support for the emerging Nazi Party, under a racialist-based form of nationalism. The anti-Semitism was intensified by the Bavarian Soviet Republic, a Communist government which ruled the city of Munich for two weeks before being crushed by the Freikorps militia. Many of the Bavarian Soviet Republic's leaders were Jewish, a fact that allowed anti-Semitic propagandists to make the connection with " Communist treason".

Technical consequences

Since neither rockets nor glider aircraft were mentioned in the Versailles treaty, Germany spent money on these technologies, including Wernher von Braun's rocket experiments, which in no doubt helped the development of the future space industry. Large glider aircraft designs

led to the design of the large Me-321 during World War II which later was motorized and became the Me-323, the largest land-based plane at the time.

Treaty violations

The German economy was so weak that only a small percentage of reparations was paid in money. However, even the payment of this small percentage of the original reparations (219 billion Gold Reichsmarks) still placed a significant burden on the German economy, accounting for as much as one third of post-treaty hyperinflation. Furthermore, the provisions forcing the uncompensated removal of resources and industrial equipment sowed further resentment

Some significant violations (or avoidances) of the provisions of the

Treaty were:

- In 1919 the dissolution of the General Staff appeared to happen. However, the core of the General Staff was hidden within another organization, the Truppenamt, where it rewrote all *Heer* (Army) and *Luftwaffe* (Air Force) doctrinal and training materials based on the experience of World War I.
- The Treaty of Rapallo was an agreement in the Italian town of Rapallo on 16 April 1922 between Germany (the Weimar Republic) and Russia SFSR under which each renounced all territorial and financial claims against the other following the Treaty of Brest-Litovsk and World War I. A secret annex signed on 29 July allowed Germany to train their military in Soviet territory, thus violating the terms of the Treaty of Versailles. The first post-war German tanks and aircraft were tested and exercised under this (see Soviet-German relations before 1941).

- In March 1935, Adolf Hitler violated the Treaty of Versailles by introducing compulsory military conscription in Germany and rebuilding the armed forces. This included a new Navy (Kriegsmarine), the first full armoured divisions (Panzerwaffe) and an Air Force (Luftwaffe). For the first time since the war, Germany's armed forces were as strong as those of France.
- In June 1935 the elements of the Treaty regarding Germany's navy were abandoned by the United Kingdom with the signing of the Anglo-German Naval Agreement.
- In March 1936, Hitler violated the Treaty by reoccupying the demilitarized zone in the Rhineland.
- In March 1938, Hitler violated the Treaty by annexing Austria in the *Anschluss*.
- In March 1939, Hitler violated the Treaty by occupying the rest of Czechoslovakia.
- In September 1939, Hitler violated the Treaty by invading Poland,

thus initiating World War II in Europe.

Historical assessments

A common view is that France's Clemenceau was the most vigorous in his pursuit of revenge against Germany, the Western Front of the war having been fought chiefly on French soil. This treaty was felt to be unreasonable at the time because it was a peace dictated by the victors that put the full blame for the war on Germany.

Henry Kissinger called the treaty a "brittle compromise agreement between American utopianism and European paranoia — too conditional to fulfil the dreams of the former, too tentative to alleviate the fears of the latter."

In his book *The Economic Consequences of the Peace*, Keynes referred to the Treaty of Versailles as a "Carthaginian peace". That analysis was disputed by French Resistance economist Étienne Mantoux. During the 1940s, Mantoux wrote a book entitled *The Carthaginian Peace, or the Economic Consequences of Mr. Keynes* in an attempt to rebut Keynes' claims; it was published after his death.

More recently it has been argued (for instance by historian Gerhard Weinberg in his book *A World At Arms*) that the treaty was in fact quite advantageous to Germany. The Bismarckian Reich was maintained as a political unit instead of being broken up, and Germany largely escaped post-war military occupation (in contrast to the situation following World War II.)

The British military historian Correlli Barnett claimed that the Treaty of Versailles was "extremely lenient in comparison with the peace terms

Germany herself, when she was expecting to win the war, had had in mind to impose on the Allies". Furthermore, he claimed, it was "hardly a slap on the wrist" when contrasted with the Treaty of Brest-Litovsk that Germany had imposed on a defeated Russia in March 1918, which had taken away a third of Russia's population, one half of Russia's industrial undertakings and nine-tenths of Russia's coal mines, coupled with an indemnity of six billion marks.

Barnett also claims that, in strategic terms, Germany was in fact in a superior position following the Treaty than she had been in 1914. Then, Germany's eastern frontiers faced Russia and Austria, who had both in the past balanced German power. But the Austrian empire fractured after the war into smaller, weaker states and Russia was wracked by revolution and civil war. The newly restored Poland was no match for even the defeated Germany.

In the West, Germany was balanced only by France and Belgium, both of which were smaller in population and less economically vibrant than Germany. Barnett concludes by saying that instead of weakening Germany, the Treaty "much enhanced" German power. Britain and France should have (according to Barnett) "divided and permanently weakened" Germany by undoing Bismarck's work and partitioning Germany into smaller, weaker states so it could never disrupt the peace of Europe again. By failing to do this and therefore not solving the problem of German power and restoring the equilibrium of Europe, Britain "had failed in her main purpose in taking part in the Great War".

Regardless of modern strategic or economic analysis, resentment caused by the treaty sowed fertile psychological ground for the eventual rise of the Nazi party. Indeed, on Nazi Germany's rise to power, Adolf Hitler resolved to overturn the remaining military and territorial provisions of

the Treaty of Versailles. Military build-up began almost immediately, in direct defiance of the Treaty, which, by then, had been destroyed by Hitler in front of a cheering crowd. "It was this treaty which caused a chain reaction leading to World War II" claimed historian Dan Rowling (1951). Various references of the treaty is found throughout many of Hitler's speeches and in pre-war German propaganda.(See also: Nazi propaganda)

Alternative viewpoints

The interpretation that Germany was seriously weakened and humiliated by the Versailles Treaty has been disputed by some historians. Some arguments include:

- The commissions to supervise disarmament were withdrawn and

the reparations payments were reduced and eventually cancelled, to mention just some of the changes made in Germany's favour. It is worth mentioning that the financial burden of reconstruction was shifted from Germany to those countries that were actually occupied and devastated by the war.

- Germany's industry and economic potential were less affected than its European enemies, and although weakened by the war, Germany was relatively stronger vis-à-vis its enemies in 1919 than it had been in 1913.
- The creation of Poland, so derided by the critics of Versailles, shielded Germany from its potentially most powerful adversary, Russia. Independent Poland thwarted the Bolshevik advance into a war-weakened Europe at the Battle of Warsaw in 1920, at a time when Germany faced Communist-inspired unrest and revolution.

- Germany kept a big chunk of its disputed areas populated by Polish-speaking minorities (especially where the minority was quite passive), while the most active nationalist population seceded. This actually spared Germany many ethnic conflicts that had marked the history of Imperial Germany and helped in the Germanisation of the remaining Poles.
- The post-war situation in the Balkans left Germany much more powerful than any of its eastern or south-Eastern European neighbours, none of which showed any signs of working together against Germany.
- In short, Germany was strong enough to dominate Europe once more within two decades of its defeat in World War One.

It should also be realized that, if Germany had won the war, it intended

to impose a treaty of similar severity on its foes. Its terms would have included

- Annexation of portions of France and Belgium, and all of Luxembourg;
- Belgium would receive Nord-Pas de Calais in compensation, but would accept German occupation of all militarily significant areas;
- France to pay reparations sufficient to prevent French rearmament for fifteen to twenty years;
- France, Belgium, the Netherlands, Denmark, Austria-Hungary, (and Poland, if it becomes independent of Russia) to join an economic association under effective German control. Italy, Sweden, and Norway to join later.

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Western Front (World War I)

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Following the outbreak of World War I in 1914, the German army opened the **Western Front** by first invading Luxembourg and

Western Front
Part of World War I




Belgium, then gaining military control of important industrial regions in France. The tide of the advance was dramatically turned with the Battle of the Marne. Both sides then dug in along a meandering line of fortified trenches, stretching from the North Sea to the Swiss frontier







For most of World War I, Allied and German Forces were stalled in trench warfare along the Western Front.

with France. This line remained essentially unchanged for most of the war.

Between 1915 and 1917 there were several major offensives along this front. The attacks employed massive artillery bombardments and massed infantry

| | |
|---|---|
| Date | 1914 – 1918 |
| Location | Belgium and northeastern France |
| Result | Allied victory |
| Belligerents | |
|  Belgium |  German Empire |
|  British Empire |  Austria-Hungary |
| <ul style="list-style-type: none"> ■  Australia ■  Canada ■  India ■  Newfoundland ■  New Zealand | |

advances. However, a combination of entrenchments, machine gun nests, barbed wire, and artillery repeatedly inflicted severe casualties on the attackers and counter attacking defenders. As a result, no significant advances were made.

| | |
|--|--|
| <p>Zealand ■  South Africa</p> <p> France and French Overseas Empire</p> <p> Portugal</p> <p> United States</p> | <p>Commanders</p> <p>No unified command until 1918, then Ferdinand Foch</p> <p>Moltke → Falkenhayn → Hindenburg and Ludendorff → Hindenburg and Groener</p> |
| <p>Casualties and losses</p> | |

In an effort to break the deadlock, this front saw the

~4,800,000

Unknown

introduction of new military technology, including poison gas, aircraft, and tanks. But it was only after the adoption of improved tactics that some degree of mobility was restored.

In spite of the generally stagnant nature of this front, this theatre would prove decisive. The inexorable advance of the Allied armies in 1918 persuaded the German commanders that defeat was inevitable, and the government was forced to sue for conditions of an armistice.

1914: German invasion of France and Belgium

At the outbreak of the First World War, the German army (consisting in the West of Seven Field Armies) executed a modified version of the Schlieffen Plan, designed to quickly attack France through Belgium before turning southwards to encircle the French army on the German border. Armies under German generals Alexander von Kluck and Karl von Bülow attacked Belgium on August 4, 1914. Luxembourg had been occupied without opposition on August 2. The first battle in Belgium was the Siege of Liège, which lasted from August 5–16. Liège was well fortified and surprised the German army under von Bülow with its level of resistance. However, German heavy artillery was able to pound the key forts into ruin within a few days. Following the fall of Liège, most of the Belgian army retreated to Antwerp and Namur. Although the German army bypassed Antwerp, it remained a threat to their flank. Another siege followed at Namur, lasting from about 20–23 August.



French bayonet charge.



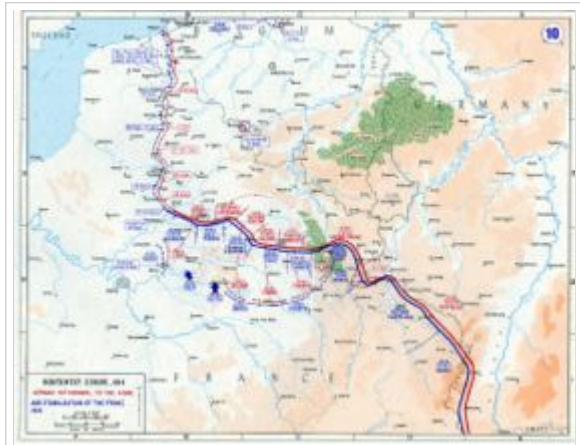
For their part, the French had five Armies deployed on their borders. The pre-war French offensive plan, Plan XVII, was intended to capture Alsace-Lorraine following the outbreak of hostilities. On 7 August the VII Corps attacked Alsace with its objectives being to capture Mulhouse and Colmar. The main offensive

was launched on 14 August with 1st and 2nd Armies attacking toward Sarrebourg-Morhange in Lorraine. In keeping with the Schlieffen Plan, the Germans withdrew slowly while inflicting severe losses upon the French. The French advanced the 3rd and 4th army toward the Saar River and attempted to capture Saarburg, attacking Briey and Neufchateau, before being driven back. The Army of Alsace captured Mulhouse but abandoned it to reinforce the greatly weakened forces in Lorraine.

After marching through Belgium, Luxembourg and the Ardennes, the German army advanced, in the latter half of August, into northern France where they met both the French army, under Joseph Joffre, and the initial six divisions of the British Expeditionary Force, under Sir John French. A series of engagements known as the Battle of the Frontiers ensued. Key battles included the Battle of Charleroi and the

Battle of Mons. In the former battle the French 5th Army was almost destroyed by the German 2nd and 3rd Armies and the latter delayed the German advance by a day. A general Allied retreat followed, resulting in more clashes such as the Battle of Le Cateau, the Siege of Maubeuge and the Battle of St. Quentin (Guise).

The German army came within 43 miles (70 km) of Paris, but at the First Battle of the Marne (September 6–12), French and British troops were able to force a German retreat by exploiting a gap which appeared between the 1st and 2nd Armies, ending the German advance into France. The German army retreated north of



Map of the Western Front and the Race to the Sea, 1914.

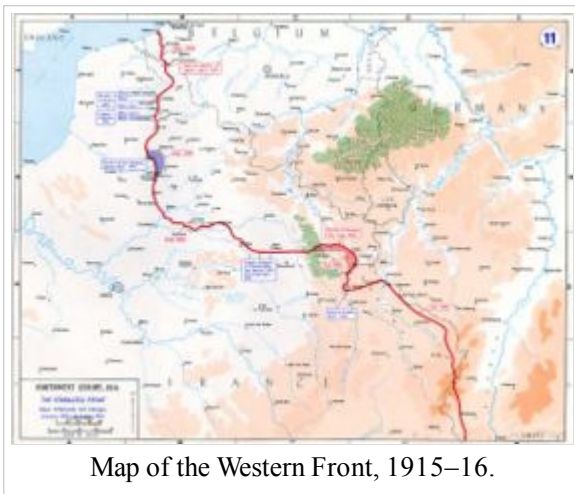
the Aisne River and dug in there, establishing the beginnings of a static western front that was to last for the next three years. Following this German setback, the opposing forces tried to outflank each other in the Race for the Sea, and quickly extended their trench systems from the English Channel to the Swiss frontier.

On the Entente side, the final lines were occupied by the armies of the allied countries, with each nation defending a part of the front. From the coast in the north, the primary forces were from Belgium, the British Empire and France. Following the Battle of the Yser in October, the Belgian forces controlled a 35 km length of Flanders territory along the coast, with their front following the Yser river and the Yperlee canal, from Nieuport to Boesinghe. Stationed to the south was the sector of the British Expeditionary Force (BEF). Here, from 19 October until 22 November, the German forces made their final breakthrough attempt of

1914 during the First Battle of Ypres. Heavy casualties were suffered on both sides but no breakthrough occurred. By Christmas, the BEF guarded a continual line from the La Bassée Canal to south of St. Eloi in the Somme valley. The remainder of the front, south to the border with Switzerland, was manned by French forces.

1915—Stalemate

Between the coast and the Vosges was an outward bulge in the trench line, named the Noyon salient for the captured French town at the maximum point of advance near Compiègne. Joffre's plan of attack for 1915 was to attack this salient on both flanks in order to cut it off. The British would form the northern attack force by pressing eastward in Artois, while the



French attacked in Champagne.

On 10 March, as part of what was intended as a larger offensive in the Artois region, the British and Canadian army attacked at Neuve Chapelle in an effort to capture the Aubers Ridge. The assault was made by four divisions along a 2 mile (3 km) front. Preceded by a concentrated bombardment lasting 35 minutes, the initial assault made rapid progress, and the village was captured within four hours. However, the assault slowed because of problems with logistics and communications. The Germans then brought up reserves and counter-attacked, forestalling the attempt to capture the ridge. Since the British had used about one-third of their total supply of artillery shells, General Sir John French blamed the failure on the shortage of shells, despite the success of the initial attack.

Gas warfare



An artist's rendition of Canadian troops at the Second Battle of Ypres.

Despite the German plans to maintain the stalemate with the French and British, German commanders planned an offensive at the Belgian town of Ypres, which the British had captured in November 1914 during the First Battle of Ypres. This was in order to divert

attention away from major offensives in the Eastern Front while disrupting Franco-British planning and to test a new weapon. After a two-day bombardment, on 22 April, the Germans released chlorine gas onto the battlefield which drifted into the British trenches. The green-yellow cloud asphyxiated the defenders and those in the rear fled in panic creating an undefended four-mile (6 km)-wide gap in the Allied line. However, the Germans were unprepared for the level of their success and lacked sufficient reserves to exploit the opening. Canadian troops quickly arrived and drove back the German advance. This Second Battle of Ypres marked the first large-scale use of chemical weapons, where 170 tonnes were dropped on the allied lines, resulting in the deaths of 5,000 men within minutes, despite being prohibited by the Hague Convention of 1899.

The gas attack was repeated two days later and caused a three-mile

(5 km) withdrawal of the Franco-British line. But the opportunity had been lost. The success of this attack would not be repeated, as the Allies countered by introducing gas masks and other countermeasures. An example of the success of these measures came a year later, on 27 April, when, at Hulluch, 25 miles (40 km) to the south of Ypres, the 16th (Irish) Division's troops were able to withstand determined German gas attacks.

Air warfare

This year also saw the introduction of airplanes specifically modified for aerial combat. While planes had already been used in the war for scouting, on April 1 the French pilot Roland Garros became the first to shoot down an enemy plane by using machine guns that fired forward through the propeller blades. This was achieved by crudely reinforcing

the blades so bullets which hit them were deflected away.

Several weeks later Garros was forced to land behind German lines. His plane was captured and sent to Dutch engineer Anthony Fokker, who soon produced a significant improvement, the interrupter gear, in which the machine gun is synchronized with the propeller so it fires in the intervals when the blades of the revolving propeller are out of the line of fire. This advance was quickly ushered into service, in the Fokker E.I (*Eindecker*, or monoplane, Mark 1), the first single seat fighter aircraft to combine a reasonable maximum speed with an effective armament; Max Immelmann scored the first confirmed kill in an *Eindecker* on 1 August.

This started a back-and-forth arms race, as both sides developed improved weapons, engines, airframes, and materials, which continued

until the end of the war. It also inaugurated the cult of the ace, the most famous being the Red Baron. Contrary to the myth, however, antiaircraft fire claimed more kills than fighters.

Continued Entente attacks

The final Entente offensive of the spring was fought at Artois, with the goal of trying to capture the Vimy Ridge. The French 10th Army attacked on 9 May after a six-day bombardment and advanced 3 miles (5 km). However, they retreated as they had come into sights of machine gun nests and the German reinforcements fired artillery at the attackers. By 15 May



The ruins of Carency after it was recaptured by France.

the offensive had ground to a halt, although the fighting continued until 18 June.

In May the German army captured a French document at La Ville-aux-Bois describing a new system of defense. Rather than relying on a heavily fortified front line, the defense is arranged in a series of echelons. The front line would be a thinly manned series of outposts, reinforced by a series of strongpoints and a sheltered reserve. If a slope was available, troops were deployed along the rear side for protection. The defense became fully integrated with command of artillery at the divisional level. Members of the German high command viewed this new scheme with some favour and it later became the basis of an elastic defence in depth doctrine against Entente attacks.

During autumn of 1915, the " Fokker Scourge" began to have an effect

on the battlefield as Allied spotter planes were nearly driven from the skies. These reconnaissance planes were used to direct gunnery and photograph enemy fortifications, but now the Allies were nearly blinded by German fighters.

In September 1915 the Entente allies launched major offensives, with the French attacking at Champagne and the British at Loos. The French had spent the summer preparing for this action, with the British assuming control of more of the front in order to free up French troops. The bombardment, which had been carefully targeted by means of aerial photography, began on 22 September. The main assault was launched on 25 September and, at least at first, made good progress in spite of surviving wire entanglements and machine gun posts. However, foreseeing this attack, the Germans had developed defensive lines 2 and 4 miles (3.2 and 6.4 km) behind the front lines and were able to defend

against the French attack which lasted into November.

Also on 25 September, the British began their assault at Loos, which was meant to supplement the larger Champagne attack. The attack was preceded by a four-day artillery bombardment of 250,000 shells and a release of 5,100 cylinders of chlorine gas. The attack involved two corps in the main assault and two more corps performing diversionary attacks at Ypres. The British suffered heavy losses, especially due to machine gun fire, during the attack and made only limited gains before they ran out of shells. A renewal of the attack on 13 October fared little better. In December, British General John French was replaced by Douglas Haig as commander of the British forces.

1916 — Artillery duels and attrition

The German Chief of Staff, Erich von Falkenhayn, believed that a breakthrough might no longer be possible, and instead focused on forcing a French capitulation by inflicting massive casualties. His new goal was to "bleed France white".

As such, he adopted two new strategies. The first was the use of unrestricted submarine warfare to cut off Allied supplies arriving from overseas. The second would be targeted, high-casualty attacks against the French ground troops. To inflict the maximum possible casualties, he planned to attack a position from which the French could not retreat for reason of both strategic positions and national pride and thus trap the French. The town of Verdun was chosen for this because it was an important stronghold, surrounded by a ring of forts, that lay near the German lines and because it guarded the direct route to Paris. The operation was codenamed *Gericht*, German for "court", but meant

"place of execution".

Falkenhayn limited the size of the front to 3–4 miles (4.8–6.4 km) to concentrate their firepower and to prevent a breakthrough from a counteroffensive. He also kept tight control of the main reserve, feeding in just enough troops to keep the battle going. In preparation for their attack, the Germans had amassed a concentration of aircraft near the fortress. In the opening phase, they swept the air space of enemy spotters which allowed the accurate German artillery spotters and bombers to operate without interference. However, by May, the French countered by deploying *escadrilles de chasse* with superior Nieuport fighters. The tight air space over Verdun turned into an aerial battlefield, and illustrated the value of tactical air superiority, as each side sought to dominate air reconnaissance.

Battle of Verdun

The Battle of Verdun began on 21 February 1916 after a nine-day delay due to snow and blizzards. After a massive eight-hour artillery bombardment, the Germans did not expect much resistance as they slowly advanced on Verdun and its forts. However, heavy French resistance was countered by the introduction of flamethrowers by the Germans. The French lost control of Fort Douaumont. Nonetheless, French reinforcements halted the German advance by 28 February.

The Germans turned their focus to Le Mort Homme to the north from which the French were successfully shelling them. After some of the most intense fighting of the campaign, the hill was taken by the Germans in late May. After a change in French command at Verdun from the defensive-minded Philippe Pétain to the offensive-minded

Robert Nivelle the French attempted to re-capture Fort Douaumont on 22 May but were easily repulsed. The Germans captured Fort Vaux on 7 June and, with the aid of the gas phosgene, came within 1,200 yards (1 km) of the last ridge over Verdun before stopping on 23 June.

Over the summer, the French slowly advanced. With the development of the rolling barrage, the French recaptured Fort Vaux in November, and by December 1916 they had pushed the Germans back 1.3 miles (2 km) from Fort Douaumont, in the process rotating 42 divisions through the battle. The Battle of Verdun—also known as the 'Mincing Machine of Verdun' or 'Meuse Mill'—became a symbol of French determination and sacrifice.

Battle of the Somme

In the spring allied commanders had been concerned about the ability of the French army to withstand the enormous losses at Verdun. The original plans for an attack around the river Somme were modified to let the British make the main effort. This would serve to relieve pressure on the French, as well as the Russians who had also suffered great losses. On 1 July, after a week of heavy rain, British divisions in Picardy launched an attack around the river Somme, supported by five French divisions on their right flank. The attack had been preceded by seven days of heavy artillery bombardment. The experienced French forces were successful in advancing but the British artillery cover had neither blasted away barbed wire, nor destroyed German trenches as effectively as was planned. They suffered the greatest number of casualties (killed, wounded and missing) in a single day in the history of the British army, about 57,000.

Having assessed the air combat over Verdun, the Allies had new aircraft for the attack in the Somme valley. The Verdun lesson learnt, the Allies' tactical aim became the achievement of air superiority and the German planes were, indeed, largely swept from the skies over the Somme. The success of the Allied air offensive caused a reorganization of the German air arm, and both sides began using large formations of aircraft rather than relying on individual combat.

After regrouping, the battle continued throughout July and August, with some success for the British despite the reinforcement of the German lines. By August General Haig had concluded that a breakthrough was unlikely, and instead switched tactics to a series of small unit actions. The effect was to straighten out the front line, which was thought necessary in preparation for a massive artillery bombardment with a major push.



British infantry advance near Gingy.

The final phase of the battle of the Somme saw the first use of the tank on the battlefield. The Allies prepared an attack that would involve 13 British and Imperial divisions and four French corps. The attack made early progress, advancing 3,500–4,500 yards (3.2–4.1 km) in places, but the tanks had little effect due to their lack of numbers and mechanical unreliability. The final phase of the battle took place in October and early November, again producing limited gains with heavy loss of life. All told, the Somme battle had made penetrations of only five miles (8 km), and failed to reach the original objectives. The Allies had suffered over 600,000 casualties and the Germans over 460,000, though these figures are disputed.

The Somme led directly to major new developments in infantry organization and tactics; despite the terrible losses of 1 July, some divisions had managed to achieve their objectives with minimal

casualties. In examining the reasons behind losses and achievements, the British, and the Colonial contingents, reintroduced the concept of the infantry platoon, following in the footsteps of the French and German armies who were already groping their way towards the use of small tactical units. At the time of the Somme, British senior commanders insisted that the company (120 men) was the smallest unit of maneuver; less than a year later, the section of 10 men would be so.

Hindenburg line

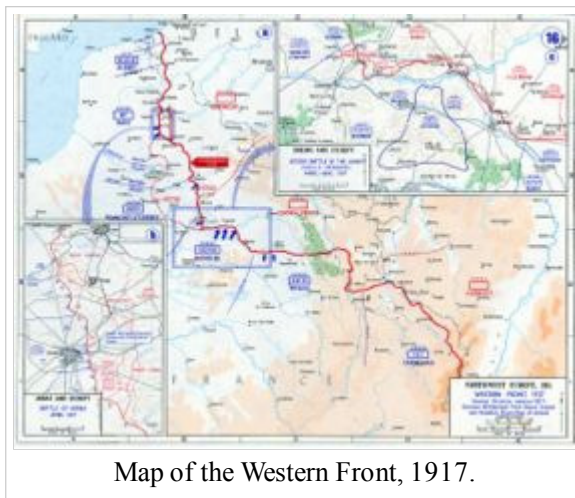
In August 1916 the German leadership along the western front had changed as Falkenhayn resigned and was replaced by Generals Paul von Hindenburg and Erich Ludendorff. The new leaders soon recognized that the battles of Verdun and the Somme had depleted the offensive capabilities of the German army. They decided that the German army in

the west would go over to the strategic defensive for most of 1917, while the Central powers would attack elsewhere.

During the Somme battle and through the winter months, the Germans created a prepared defensive position behind a section of their front that would be called the Hindenburg Line. This was intended to shorten the German front, freeing 10 divisions for other duties. This line of fortifications ran from Arras south to St Quentin and shortened the front by about 30 miles. British long-range reconnaissance aircraft first spotted the construction of the Hindenburg Line in November 1916.

1917—British Empire takes the lead

The Hindenburg Line was built only two miles behind the German front line. On 9 February German forces retreated to the line and the withdrawal was completed 5 April, leaving behind a devastated territory to be occupied by the Allies. This withdrawal negated the French strategy of attacking both flanks of the Noyon salient, as it no longer existed. However,



Map of the Western Front, 1917.

offensive advances by the British continued as the High Command claimed, with some justice, that this withdrawal resulted from the casualties the Germans received during the Battles of the Somme and Verdun, however the Allies received much greater losses.

Meanwhile, on 6 April the United States declared war on Germany. Back in early 1915 following the sinking of the Lusitania, Germany had stopped their unrestricted submarine warfare in the Atlantic because of concerns of drawing the United States into the conflict. With the growing discontent of the German public due to the food shortages, however, the government resumed unrestricted submarine warfare in February 1917. They had calculated that a successful submarine and warship siege of Britain would force that country out of the war within six months, while American forces would take a year to become a serious factor on the western front. The submarine and surface ships

had a long period of success before Britain resorted to the convoy system, bringing a large reduction in shipping losses.

In April 1917 the British Empire forces launched an attack starting the Battle of Arras. The Canadian Corps and the British 5th Infantry Division, attacked German lines at Vimy Ridge, but received heavy casualties. The Allied attack ended with the refusal to provide reinforcements to the region.

During the winter of 1916–17, German air tactics



A Benet-Mercier machine gun section of 2nd Rajput Light Infantry of British Indian Army in action in Flanders, during the winter of 1914-15.

had been improved, a fighter training school was opened at Valenciennes and better aircraft with twin guns were introduced. The result was near disastrous losses for Allied air power, particularly for the British, Portuguese, Belgians, and Australians who were struggling with outmoded aircraft, poor training and weak tactics. As a result the Allied air successes over the Somme would not be repeated, and heavy losses were inflicted by the Germans. During their attack at Arras, the British lost 316 air crews and the Canadians lost 114 compared to 44 lost by the Germans. This became known to the RFC as Bloody April.

French morale

The same month, French General Robert Nivelle ordered a new offensive against the German trenches, promising that it would be a war-winner. The attack, dubbed the Nivelle Offensive (also known as

Chemin des Dames, after the area where the offensive took place), would be 1.2 million men strong, to be preceded by a week-long artillery bombardment and accompanied by tanks. However, the operation proceeded poorly as the French troops, aided by Australian, Brazilian, Portuguese, and New Zealand troops, had to negotiate rough, upward-sloping terrain. In addition, detailed planning had been dislocated by the voluntary German withdrawal to the Hindenburg Line, secrecy had been compromised, and German planes gained control of the sky making reconnaissance difficult. This allowed the creeping barrage to move too far ahead of the advancing troops. Within a week 100,000 French troops were dead. Despite the heavy casualties and his promise to halt the offensive if it did not produce a breakthrough, Nivelle ordered the attack continued into May.

On 3 May the weary French 2nd Colonial Division, veterans of the

Battle of Verdun, refused their orders, arriving drunk and without their weapons. Their officers lacked the means to punish an entire division, and harsh measures were not immediately implemented. Thereupon the mutinies afflicted 54 French divisions and saw 20,000 men desert. The other Allied forces attacked but received massive casualties. However, appeals to patriotism and duty, as well as mass arrests and trials, encouraged the soldiers to return to defend their trenches, although the French soldiers refused to participate in further offensive action. By 15 May Nivelle was removed from command, replaced by General Philippe Pétain, who suspended large-scale attacks. The French would go on the defensive for the next year, leaving the burden of attack to Britain, her Empire and other allies, and subsequently the United States.

British offensives, American troops arrive

On 7 June a British offensive was launched on Messines ridge, south of Ypres, to retake the ground lost in the First and Second Battles of Ypres in 1914. Since 1915 engineers had been digging tunnels under the ridge, and about 500 tonnes (roughly 500,000 kg) of explosives had been planted in 21 mines under the enemy lines. Following four days of heavy bombardment, the explosives in 19 of these mines were set off resulting in the deaths of 10,000 Germans. The offensive that followed again relied on heavy bombardment, but these failed to dislodge the Germans. The offensive, though initially stunningly successful, faltered due to the flooded, muddy ground, and both sides suffered heavy casualties.

On 11 July 1917 during this battle, the Germans introduced a new weapon into the war when they fired gas shells delivered by artillery. The limited size of an artillery shell required that a more potent gas be

deployed, and so the Germans employed mustard gas, a powerful blistering agent. The artillery deployment allowed heavy concentrations of the gas to be used on selected targets. Mustard gas was also a persistent agent, which could linger for up to several days at a site, an additional demoralizing factor for their opponents. Along with phosgene, gas would be used lavishly by both German and Allied forces in later battles, as the Allies also began to increase production of gas for chemical warfare.

On 25 June the first U.S. troops began to arrive in France, forming the American Expeditionary Force. However, the American units did not enter the trenches in divisional strength until October. The incoming troops required training and equipment before they could join in the effort, and for several months American units were relegated to support efforts. In spite of this, however, their presence provided a

much-needed boost to Allied morale.

Beginning in late July and continuing into October the struggle around Ypres was renewed with the Battle of Passchendaele (technically the Third Battle of Ypres, of which Passchendaele was the final phase). The battle had the original aim of pushing through the German lines and threatening the submarine bases on the Belgian coast, but was later restricted to advancing the British Army onto higher (and drier) ground around Ypres, no longer constantly under observation from German artillery. Canadian veterans from the Battle of Vimy Ridge and the Battle of Hill 70 joined the depleted ANZAC and British forces and took the village of Passchendaele on 30 October despite extremely heavy rain and casualties (suffering around 36,000 casualties). Again the offensive produced large numbers of casualties for relatively little gain, though the British made small but inexorable gains during periods

of drier weather. The ground was generally muddy and pocketed by shell craters, making supply missions and further advancement very difficult.

Both sides lost a combined total of over a half million men during this offensive. The battle has become a byword for bloody and futile slaughter among British historians, whilst the Germans called Passchendaele "the greatest martyrdom of the War". It is one of the two battles (the other is the Battle of the Somme) which have done most to earn British Commander in Chief Sir Douglas Haig his controversial reputation.

Battle of Cambrai

On 20 November the British launched the first massed tank attack

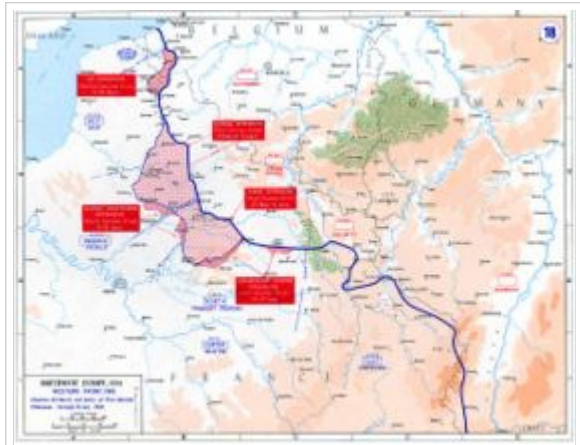
during the Battle of Cambrai. The Allies attacked with 324 tanks, with one-third held in reserve, and twelve divisions, against two German divisions. To maintain surprise, there was no preparatory bombardment; only a curtain of smoke was laid down before the tanks. The machines carried fascines on their fronts to bridge trenches and 4 m-wide (12-foot-wide) German tank traps. Except for the 51st (Highland) Division, who did not advance in columns behind the tanks but as a line across the field, the initial attack was a success for the British. The British forces penetrated further in six hours than had been achieved at the Third Ypres in four months, and at a cost of only 4,000 British casualties.

However, the advance produced an awkward salient and a surprise German counteroffensive, with air cover and their own tanks on 30 November drove the British back to their starting lines. Despite the

reversal, the attack had been seen as a success by the Allies and Germans as it proved that tanks could overcome trench defenses. The battle had also seen the first massed use of German *stosstruppen* on the western front, which used infantry infiltration tactics to successfully penetrate the allied lines; bypassing resistance and quickly advancing into the enemy's rear.

1918—Final offensives

Following the successful Allied attack and penetration of the German defences at Cambrai, Ludendorff and Hindenburg determined that the only opportunity for German victory now lay in a decisive attack along the western front during the spring, before American manpower became a significant presence. On 3 March 1918, the Treaty of Brest-Litovsk was



Map of the final German offensives, 1918.

signed, and Russia withdrew from the war. This would now have a dramatic effect on the conflict as 33 divisions were now released from Eastern Front for deployment to the west. This would give them an advantage of 192 divisions to the Allied 178 divisions, which allowed Germany to pull veteran units from the line and retrain them as *sturmtruppen*. In contrast, the Allies still lacked a unified command and suffered from morale and manpower problems: the British and French armies were sorely depleted, and American troops had not yet transitioned into a combat role.

Ludendorff's strategy would be to launch a massive offensive against the British and Commonwealth designed to separate them from the French and her allies, then drive them back to the channel ports. The attack would combine the new storm troop tactics with ground attack aircraft, tanks, and a carefully planned artillery barrage that would

include gas attacks.

German spring offensives

Operation Michael, the first of the German spring offensives, very nearly succeeded in driving the Allied armies apart, advancing about 40 miles (65 km) during the first eight days and moving the front lines more than 60 miles (100 km) west, within shelling distance of Paris for the first time since 1914.

As a result of the battle, the Allies finally agreed on a unified system of command. General Ferdinand Foch was appointed commander of all Allied forces in France. The unified Allies were now better able to respond to each of the German drives, and the offensive turned into a battle of attrition.

In May, the American divisions also began to play an increasing role, winning their first victory in the Battle of Cantigny. By summer, 300,000 American soldiers were arriving every month. A total of 2.1 million American troops would be deployed on this front before the war came to an end. The rapidly increasing American presence served as a counter for the large numbers of redeployed German forces.

Final allied offensives

In July, Foch initiated an offensive against the Marne salient produced during the German attacks, eliminating the salient by August. A second major offensive was launched two days after the first, ending at Amiens to the north. This attack included Franco-British forces, and was spearheaded by



A Belgian machinegunner on the front lines in 1918.

Australian and Canadian troops, along with 600 tanks and supported by 800 aircraft. The assault proved highly successful, leading Hindenburg to name 8 August as the "Black Day of the German Army".



Map of the final Allied offensives.

The German army's manpower had been severely depleted after four years of war, and its economy and society were under great internal strain. The Hundred Days Offensive beginning in August proved the final straw, and following this string of military defeats, German troops began to surrender in large numbers. As the Allied forces broke the German lines at great cost, Prince Maximilian of Baden was

appointed as Chancellor of Germany in October in order to negotiate an armistice. Because of his opposition to the peace feelers, Ludendorff was forced to step aside and he fled to Sweden. Fighting was still continuing, but the German armies were in retreat when the German Revolution put a new government in power. An armistice was quickly signed that stopped all fighting on the Western Front on Armistice Day (11 November 1918). The German Imperial Monarchy collapsed as Ludendorff's successor General Groener agreed, for fear of a revolution like that in Russia the previous year, to support the moderate Social Democratic Government under Friedrich Ebert rather than sustain the Hohenzollern Monarchy.

Consequences

The war along the western front led the German government and its

allies to sue for peace in spite of German success elsewhere. As a result the terms of the peace were dictated by France, Britain and the United States, during the 1919 Paris Peace Conference. The result was the Treaty of Versailles, signed in June 1919 by a delegation of the new German government.

The terms of the treaty would effectively cripple Germany as an economic and military power. The Versailles treaty returned the border provinces of Alsace-Lorraine to France, thus limiting the coal required by German industry. It also severely limited the German armed forces by restricting the size of the army to 100,000 and disallowing a navy or air force. The navy was sailed to Scapa Flow under the terms of surrender but was later scuttled as an act of defiance by its crews. The west bank of the Rhine would be demilitarized and the Kiel Canal opened to international traffic. The treaties also drastically reshaped

Eastern Europe.

Germany in 1919 was bankrupt, the people living in a state of semi-starvation, and having no commerce with the remainder of the world. The allies occupied the Rhine cities of Cologne, Koblenz and Mainz, with restoration dependent on payment of reparations. Among the German populace, the myth arose—openly

Comparison of Casualties from Major Western Front Battles

| Battle | Year | Allies | German |
|------------------|-------------|---------------|---------------|
| 1st Marne | 1914 | 263,000 | 250,000 |
| Verdun | 1916 | 377,000 | 336,000 |
| Somme | 1916 | 623,907 | 465,000+ |
| 2nd Aisne | 1917 | 187,000 | 168,000 |
| 3rd Ypres | 1917 | 448,000 | 260,000 |
| Spring Offensive | 1918 | 851,374 | 688,341 |

cultivated by President Ebert and by the Army Chief of Staff Hindenburg—that the German army had not been defeated, which would later be exploited by Nazi party propaganda to partly justify the overthrow of the Weimar Republic. (*See Dolchstoßlegende.*)

France suffered heavy damage in the war. In addition to losing more casualties relative to its population than any other great power, the industrial north-east of the country had been devastated by the war. The provinces overrun by Germany had produced 40% of the nation's coal and 58% of its steel output. Once it was clear that Germany was going to be defeated, Ludendorff had ordered the destruction of the mines in France and Belgium. His goal was to cripple the industries of Germany's main European rival. In order to prevent similar German aggression in the future, France later built a massive series of fortifications along the German border known as the Maginot Line.

The war in the trenches left a generation of maimed soldiers and war widows. The unprecedented loss of life had a lasting effect on popular attitudes toward war, resulting later in an Allied reluctance to pursue an aggressive policy toward Adolf Hitler (himself a decorated veteran of the war). The repercussions of that struggle are still being felt to this day.

Maps

American Operations

- American Battle Monuments Commission American operations in the Aisne-Marne region : May 31– October 12, 1918 Available online through the Washington State Library's Washington History collection

- American Battle Monuments Commission American operations in the St. Mihiel region : September 12– November 11, 1918 Available online through the Washington State Library's Washington History collection
- American Battle Monuments Commission The Meuse-Argonne offensive of the American First Army : September 26– November 11, 1918 Available online through the Washington State Library's Washington History collection

Dramatizations

- *A Very Long Engagement* (2004 film)
- *Aces High* (1976 film)
- *Across the Black Waters* (1939 novel), Mulk Raj Anand
- *All Quiet on the Western Front*, Erich Maria Remarque (1929)

novel)

- *All Quiet on the Western Front* (1930 film)
- *All Quiet on the Western Front* (1979 TV film)
- *The Big Parade* (1925 film)
- *Birdsong*, Sebastian Faulks (1994 novel)
- *Blackadder Goes Forth* (1989 TV series)
- *The Dawn Patrol* (1930 and 1938 film)
- *The General (novel)*, C.S. Forester (1932 novel)
- *Generals Die in Bed*, Charles Yale Harrison (1936 novel)
- *Johnny Got His Gun* (1971 film)
- *Legends of the Fall* (1994 film)
- *The Lost Battalion* (1919 film, 2001 TV remake)
- *Passchendaele* (2006 film)
- *Paths of Glory* (1957 film)
- *Rage of Angels, The*, Alan Fisher (1997 novel)
- *Sergeant York* (1940 film)

- *The Wars*, (1983 film)
- *Westfront 1918 (1930 film)*
- *What Price Glory* (1926 and 1952 films)
- *Wings* (1927 film)
- *The Young Indiana Jones Chronicles* (1992–1996 TV series)

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