The Churchillian

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The Magazine of the National Churchill Museum

Churchill in the Nuclear Age

Churchill, Science and the Bomb · Scientific Weaponry
The Bomb and the future

MESSAGE FROM THE EXECUTIVE DIRECTOR

Rob Havers at US Capital with Roger Daltry from British rock and roll band legend The Who

Hello from Fulton and welcome to another edition of *The Churchillian*. At this time of year, a time of reflection on life in general, it's always good to look back and assess the year in retrospect and what a busy year it was! A wonderful Enid and R. Crosby Kemper Lecture, delivered by eminent Cambridge Professor Peter Clark was matched by a record crowd in attendance and marvelous reviews of Peter's lecture and his willingness to engage with all he encountered during his time in Fulton. Hard on the heels of this bumper weekend we presented the Churchill Medal to Westminster alumnus, St. Louis businessman, former US Ambassador to Belgium, Stephen Brauer and longtime 'Churchillian'. This event was an unprecedented success both in terms of the actual evening as well as for the funds raised in support of the National Churchill Museum's strategic plan. These funds saw a quick, initial, deployment in the culmination of a long held ambition fully to install a more sophisticated heating and air conditioning provision in our temporary gallery space. This, a necessary prerequisite to bolster our array of exhibition offerings, is a vital step forward for our institution.

We continue to emphasize our role as America's National Churchill Museum on a much broader stage with our active participation in the planning committee for the commemoration of the 50th Anniversary of Churchill's death in 2015. This committee, and associated plans, will mark this date in an appropriate fashion looking back to 1965 but also forward as Churchill's memory and legacy is cemented in the wider public consciousness. The committee is chaired by Professor Sir David Cannadine, our Kemper Lecturer from 2012, and this group is in good hands with him at the helm. With the wider Churchill world in our minds, new Senior Fellow Jean-Paul Montupet and I were delighted to be present at the dedication the new Churchill bust in the Capitol in Washington DC. More details and photographs can be found on page 28.

As ever I hope you find this edition of *The Churchillian* stimulating and insightful. In a seemingly unstable world it is of course well worth reminding ourselves that twas ever thus and the articles in this issue speak to that time when 'the bomb' was a topic of concern and consternation, security for some and confidence for others.

As this year ends we, of course, look forward to next year, and the 100th anniversary of the outbreak of The Great War. We look forward too to the 2014 Kemper Lecture and I am delighted to announce, as a well as our Kemper Lecturer Paul Reid that we will welcome special guest Randolph Churchill, son of the late Winston Churchill who will join us for a very special Churchill Fellows' dinner in advance of the Lecture.

I wish you all a very Happy Christmas and look forward to seeing you in the New Year!

Dr. Rob Havers
Executive Director,
National Churchill Museum

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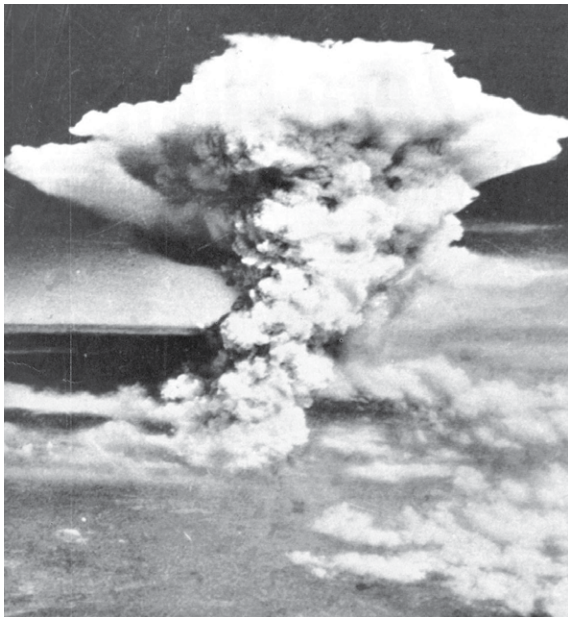

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The National Churchill Museum is located on the Westminster College campus in Fulton, Missouri, and designated by Congress as America's National Churchill Museum. 573-592-5369, www.nationalchurchillmuseum.org

Cover: Intaglio print by Sarah Churchill and Curtis Hooper, part of a series issued in the 1970s, reproduced by kind permission of Lady Soames.

Churchill, Science and the Bomb

Richard M. Langworth

"We knew the world would not be the same. A few people laughed…A few people cried… Most people were silent. I remembered the line from the Hindu scripture the *Bhagavad Gita*....'Now I am become death, the destroyer of worlds.' I suppose we all thought that, one way or another."

The speaker was J. Robert Oppenheimer, head of the Secret Weapons Laboratory at Los Alamos. The date was July 16, 1945, culmination of the Manhattan Project: the successful first test of the atomic bomb.

When *Time* magazine named Churchill "Man of the Half-Century" in 1950, it was widely assumed that, nobody of his stature having since emerged, *Time* would name him Person of the Century in 2000. Before *Time* gave its accolade to Albert Einstein, when editor Walter Isaacson asked for comment, I offered him three facts: 1) Churchill wrote "Shall We All Commit Suicide?," warning of a possible nuclear holocaust, fifteen years before Einstein sent his famous letters to President Roosevelt warning of the same possibility. 2) Einstein suggested that the world was far more likely to come to grief from bad politics than bad physics. 3) Somewhere along the line, around 1940-41, Winston Churchill, by refusing to stand down when no one else was standing, saved civilisation.

Notwithstanding that Churchill was proclaimed Person of the Century by most authorities, *Time's* choice was a disappointment. Churchill is forever seen by casual thinkers as a man of war, who had his moment in 1940 and faded away. Few recall his early warnings of "a bomb no bigger than an orange," or his late, lonely campaign for a "final settlement" with the Soviets in the 1950s, as the hydrogen bomb emerged and the terror of imminent extinction flickered.

Hardly for the first time, this issue reminds us that Churchill, far more than the defiant war leader, was a thinker who considered "Things That Matter"—and still matter in our own time. I believe he is so frequently remembered, quoted, misquoted and referenced today because we believe he really stood for something. He exemplified certain critical human possibilities that are always worth bringing to the attention of thoughtful people, who mean to perpetuate what he held dear: respect of country, the

fraternal relationship of the Great Democracies and English-speaking Peoples, their common heritage of law, language and literature; and above all their love of liberty.

Churchill was far from a scientist, as Antoine Capet tells us in the following article. But he had a scientist's curiosity. He made sure he was advised by experts not only eminent but able to explain technical matters in terms he could grapple with. The first of these was Frederick Lindemann, a leading subject in Dr. Capet's piece, and Graham Farmelo's new book, *Churchill's Bomb*, reviewed herein by Erica Chenoweth. But there were many others whom Churchill listened to, and he never automatically accepted everything any one of them recommended. He looked around. He kept his options open. He never risked ignoring a threat, even when Lindemann himself dismissed it.

And isn't this rare among politicians—the ability to buck the strongest opinions of their favorite advisers? Churchill was not a leader who just went with the flow, questioning little. He questioned everything. He argued and cajoled. He thought for himself, particularly over the greatest secret weapon of them all. He regarded the bomb as no less the destroyer of worlds than Oppenheimer. But he refused to accept it with fatalistic apathy. He preferred, and tried, to do something about it.

★★★★★

Somehow we survived it all. We survived because the most dangerous political movement in history pulled back from unleashing the calamity Churchill feared at Fulton. It pulled back, John Kennedy said, because in the end both sides shared something: "Our most basic common link is that we all inhabit this planet. We all breathe the same air. We all cherish our children's future. And we are all mortal."

The decades that followed saw fresh tyrants come and go, but Kennedy's common link, fragile and wavering sometimes, still held. Even the worst of them, Mao and Khruschev and Kim Jon Il, were not suicidal.

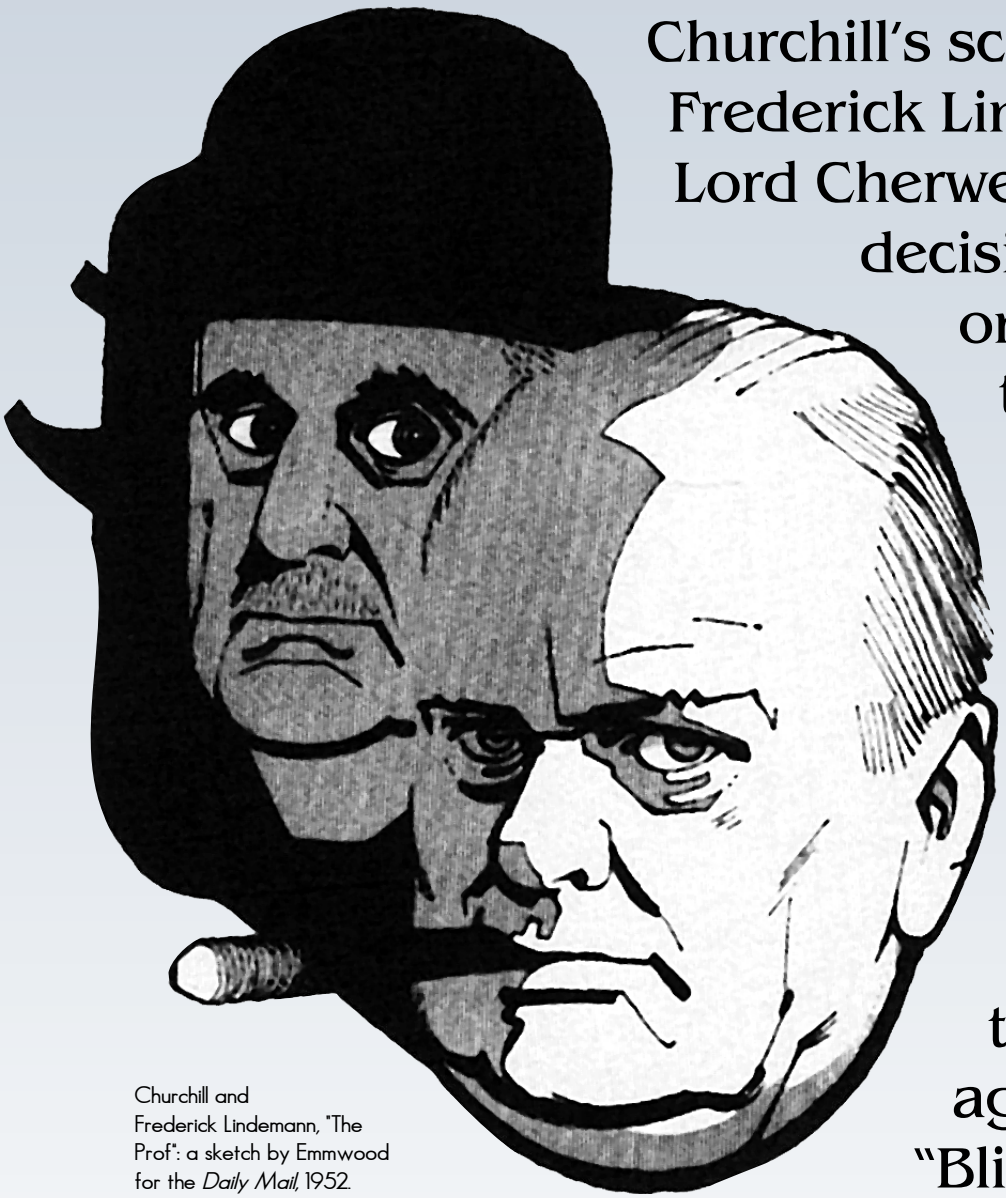
"But that's the point," argues Charles Krauthammer, whose *Things That Matter* we also review herein. "We're now at the dawn of an era in which an extreme and fanatical religious ideology, undeterred by the usual calculations of prudence and self-preservation, is wielding state power and will soon be wielding nuclear power….This atavistic love of blood and death, and indeed, self-immolation in the name of God may not be new—medieval Europe had an abundance of millennial Christian sects—but until now it has never had the means to carry out its apocalyptic ends."

The nuclear deterrent, Churchill said in 1955, "does not cover the case of lunatics or dictators in the mood of Hitler when he found himself in his final dug-out. That is a blank." Thirty years earlier he wrote: "Death stands at attention, obedient, expectant, ready to serve, ready to shear away the peoples en masse; ready, if called on, to pulverize, without hope of repair, what is left of civilisation. He awaits only the word of command. He awaits it from a frail, bewildered being, long his victim, now—for one occasion only—his Master."

Lady Soames always reminds us that we must never ask the question, "What would Churchill do?" because we have no way of telling. She always replies, when someone ventures to answer that question: "How do you know?"

We *don't* know. Her father is not here to consider the options and make his judgments, based on his wealth of experience from Omdurman to Hiroshima. We are. We are not as well equipped to decide. But we may learn from his criteria.

Scientific Weaponry : How Churchill Encouraged the "Boffins" and Defied the "Blimps"



Churchill and Frederick Lindemann, "The Prof": a sketch by Emmwood for the *Daily Mail*, 1952.

Churchill's scientific adviser, Frederick Lindeman, Lord Cherwell, was of decisive influence on Churchill's thought about weapons of war—and his leading ally in the incessant, mostly successful, battle of the "Boffins" against the "Blimps."

ANTOINE CAPET

Dr. Capet is Professor of British Studies at the University of Rouen, France. This article is derived from a longer paper delivered at the Science and Technology in Contemporary Britain Summer Conference, Institute of Contemporary British History, King's College, London, July 2013, available to readers by email.

In his "Finest Hour" speech of June 18, 1940, Churchill speaks of "a new Dark Age, made more sinister, and perhaps more protracted, by the lights of perverted science." Churchill had a passion for war, but his interest in applied science, particularly when applied to weapons, is not as well known. He did not always rejoice in technological progress. In his 1930 autobiography, for example, he deplored the replacement of close combat by technological weaponry: "War, which used to be cruel and magnificent, has now become cruel and squalid."

Yet Churchill was an eminently practical man. If new weapons could be developed, it was the duty of responsible leaders to make sure their countries had them before potential enemies. Thus he supported creation of the Fleet Air Arm when First Lord of the Admiralty 1911-15 and furthered research for what became the tank, which was resisted by military authorities as hopeless. That was one of his early experiences of conflict between the "Blimps" and the "Boffins," as they were called later. The "Blimps" were the generals and admirals who thought conventionally, based on wars past. The "Boffins," with whom Churchill came increasingly to associate, were scientists engaged in back-room research on new weapons or defences against them.

Early Warnings

After World War I, Churchill's interest in weapon science led him to contemplate the consequences of splitting the atom, first achieved by Sir Ernest Rutherford in 1917. Churchill first expressed the potential dangers in a 1924 magazine article, "Shall We All Commit Suicide?":

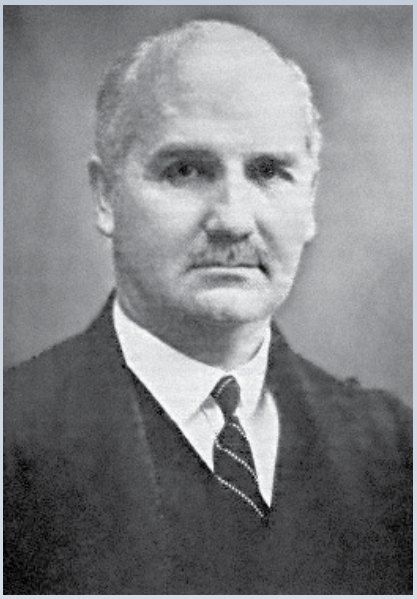
> Then there are Explosives. Have we reached the end? Has Science turned its last page on them? May there not be methods of using explosive energy incomparably more intense than anything heretofore discovered? Might not a bomb no bigger than an orange be found to possess a secret power to destroy a whole block of buildings—nay to concentrate the force of a thousand tons of cordite and blast a township at a stroke?

He returned to the theme in 1931, in a *Strand Magazine* article entitled "Fifty Years Hence":

> Nuclear energy is incomparably greater than the molecular energy which we use today....There is no question among scientists that this gigantic source of energy exists. What is lacking is the match to set the bonfire alight, or it may be the detonator to cause the dynamite to explode. The Scientists are looking for this….Could not explosives even of the existing type be guided automatically in flying machines by wireless or other rays, without a human pilot, in ceaseless procession on a hostile city, arsenal, camp, or dockyard?

His latter prediction—what would come to be known as guided missiles—was owed to H.G. Wells, with whom Churchill disagreed politically but read avidly. "Wells the magician, the seer," he wrote, "saw quite clearly, nay in meticulous detail, all that flying meant, as soon as the first man could fly. He visualised and portrayed hateful developments…like the bombing of undefended cities and wholesale slaughter of men, women and children."

The operative word in that quotation is "undefended." Churchill was alarmed by the absence of effective means to protect cities from air bombardment. While acknowledging that Baldwin's famous pronouncement in November 1932, "the bomber will always get through," was currently true, Churchill was sure science could find a defence. And here we may perceive his close association with the Boffins, chief among which was Frederick Lindeman (1886-1957), whom Churchill called "the Prof."



Churchill's devotion to "The Prof," deeply repaid, vouchsafed their long relationship in peace and war. (Wikimedia Commons)

Churchill met Lindeman in 1921 at the Duke of Westminster's country house and was immediately impressed. A physicist of repute, Lindeman was a wealthy man at ease in the high society Churchill also frequented. His father was an Alsatian who had emigrated to Britain when Alsace became German in 1871. His mother was an American of part-Russian origin. Frederick was born in Germany, and his parents sent him to a German Gymnasium, which they thought best suited to his early aptitude for mathematics. He took his Ph.D. in Physics in Berlin in 1910.

Back in England just before war broke out in 1914, Lindeman joined the Royal Aircraft Factory at Farnborough, where he experimented at the peril of his life. Discovering a scientific explanation for the phenomenon of aircraft "spin," he learned to fly and

"I knew nothing about science, but I knew something of scientists, and had had much practice as a Minister in handling things I did not understand."
—Churchill, 1948

Sir Henry Tizard (1885-1959) began as a friend and colleague of Lindemann, ended an opponent, and even resigned out of differences with the Prof, but rejoined the argument over bomber allocation. (Imperial War Museum)

Russell Victor Jones was 28 when he was summoned to explain his ominous discovery about German radio beams before the leadership of the war at Downing Street. (Wikimedia Commons)

deliberately caused his plane to spin out of control, proving his theory with scientific measurements. After the war he was elected Professor of Experimental Philosophy (Physics) at Oxford and rose rapidly in the academic world. The great centre for Physics was then the Cavendish Laboratory at Cambridge; Lindemann strove to create a credible challenge in the Clarendon Laboratory at Oxford.

Lindemann's Qualities

As Churchill saw it, the Prof possessed two incomparable virtues: he was able to explain highly complicated scientific questions concisely in plain English; and he shared Churchill's concern over Britain's vulnerability to air attack. At the risk of oversimplifying, we might say that Churchill's 1930s campaign to abandon Baldwin's passive resignation to aerial bombing took two forms: the gathering of statistics on the true state of German and British rearmament; and supporting urgent research on the detection of enemy aircraft.

In 1934-35, when the government appointed a committee to promote development of "radio detecting and ranging" (RADAR), Churchill made sure that Lindemann was among its members. Conflict soon developed, especially between the Prof and his friend and colleague Sir Henry Tizard. With all his virtues Lindemann had a serious fault: the inability to admit he might be wrong. And here he *was* wrong. Tizard and the others believed radar was the only practical solution to detecting enemy aircraft. Lindemann wanted to explore aerial mines and infra-red technology.

The clash of opinions and personalities led to Lindemann's exclusion, which in a way reflected Churchill's own conflict with his unimaginative Conservative friends. Paradoxically Churchill's trust in Lindemann's judgment was reinforced, since the Prof was by then a prominent member of Churchill's entourage, almost part of the family circle.

Small wonder that Churchill, when Chamberlain made him First Lord of the Admiralty in September 1939, should have appointed Lindemann "personal adviser to the First Lord on scientific development." These were the exact words of the official announcement, which added: "the appointment will be temporary and unpaid." The Prof was duly released from his Oxford duties and totally immersed in the "Wizard War," to which Churchill would devote a whole chapter in his memoirs. Whether Churchill knew that the word "wizard" was connected with science in Old English (*Wissenschaft* in modern German) is impossible to say, but he candidly explains his approach: "I knew nothing about science, but I knew something of scientists, and had had much practice as a Minister in handling things I did not understand."

World War II's Wizard Weapons

The best example of "wizardry" came in Spring 1940 after Churchill became Prime Minister—when, naturally, he kept the Prof as his scientific adviser:

> In June I received a painful shock. Professor Lindemann reported to me that he believed the Germans were preparing a device by means of which they would be able to bomb by day or night whatever the weather. It now appeared that the Germans had developed a radio beam which, like an invisible searchlight, would guide the bombers with considerable precision to their target….No longer, therefore, had we only to fear the moonlight nights, in which at any rate our fighters could see as well as the enemy,

but we must even expect the heaviest attacks to be delivered in cloud and fog….Lindemann told me also that there was a way of bending the beam if we acted at once, but that I must see some of the scientists, particularly the Deputy Director of Intelligence Research at the Air Ministry, Dr. R.V. Jones, a former pupil of his at Oxford.

Russell Victor Jones, then only 28, received an invitation to come to the Cabinet Room to expound before Churchill. He thought it was a practical joke. He was soon disabused of this notion. Appearing before a group including the P.M., Sir Archibald Sinclair (Secretary of State for Air), Lord Beaverbrook (Minister of Aircraft Production), Air Chief Marshal Sir Philip Joubert de la Ferté (Commander-in-Chief Coastal Command), Sir Robert Watson-Watt (father of British radar), and others including Lindemann and Tizard, he was asked to tell what he knew.

"For twenty minutes or more," Churchill recounted, "he spoke in quiet tones, unrolling his chain of circumstantial evidence, the like of which for its convincing fascination was never surpassed by tales of Sherlock Holmes or Monsieur Lecoq [the detective in Émile Gaboriau's stories]. When Mr. Jones had finished, there was a general air of incredulity."

Tizard, probably out of spite for Lindemann and his protégé, led the skeptics. But Churchill could not run the risk. After many obstructions by the "Blimps," an experiment was organized which showed a German beam, the "*Knickebein*" (German for "curtsy"), already in place for an attack on Derby, where the Rolls-Royce factory built Merlin engines for Spitfires and Hurricanes. Jones and Lindemann were vindicated. Tizard later resigned because of ongoing

R.V. Jones explained the presence of Knickebein transmitters directing German bombers, already in place for a raid on Derby, East Midlands, where Rolls-Royce was building Merlin fighter aircraft engines. (Wikimedia Commons)

"Frederick Lindemann was not the evil genius or *éminence grise* his many opponents reported him to be. It is true that he had Churchill's ear—but only when his advice did not go against Churchill's instinct."

battles with Lindemann, whereupon he moved to Magdalen College, Oxford but remained an unofficial influence on government policy.

"The battle of the beams" and "high-frequency war," in Churchill's words, were only beginning. He gives a long list of measures and counter-measures taken on both sides, with arcane code names: "X-apparatus" (later "Y-apparatus" or "Smeller," a form of radar which equipped British bombers); "Gee" (the British version of the *Knickebein*); H2S (a navigational instrument); "Starfish" (decoy fires which confused German pathfinders); "unrotated projectile" (a small rocket to equip anti-aircraft batteries). In almost each case the Prof was instrumental in indicating where the solution might lie—or knew the right person in the appropriate research laboratory.

A good example is the "proximity fuse," which allowed a shell or bomb to detonate near the aerial target without actually having to strike it. Its importance was revealed when the first pilotless planes or flying bombs (V1s) were launched against London. Before long, Churchill tells us, six out of seven V1s were being destroyed before reaching London, notably by the shells with proximity fuses. After the war,

the joint inventor of the proximity fuse paid tribute to Lindemann: "There is no doubt that it was thanks to Lord Cherwell that the slow progress which had hitherto hampered this invention was accelerated."

Clearly Churchill loved the high-tech gadgetry, especially when the results proved that he had been right to encourage applied scientific research which might benefit the war effort. Like the Prof, he no doubt perceived every victory of the Boffins over the Blimps as a personal triumph. In a revealing passage in his memoirs, he pays tribute to General Sir Frederick Pile, in charge of "Ack-Ack," the anti-aircraft ground defences: "an officer of great distinction…who was singularly free from the distaste of novel devices so often found in professional soldiers."

The Prof's Faults

Lindemann was not infallible. In fact he made a number of bad mistakes. Three stand out among his wartime proposals. The first involves a radar jamming device codenamed "Window," based on a principle developed before the war by R.V. Jones: specially cut pieces of aluminium foil which, dropped from airplanes, would confuse enemy radar and render it almost useless. By 1942 the system was operational, but Lindemann opposed its introduction on the grounds that the Germans would quickly understand how it worked and use it against British radars when bombing England.

In its infancy when the war began, radar (radio detecting and ranging) was highly sophisticated at the end and played its decisive role in affairs.

In a way, Lindemann was the perfect Utilitarian. Like Jeremy Bentham, father of Utilitarianism, he weighed the costs and expected benefits of every measure. Window, he was sure, would cost more in civilian lives than its benefits (even though he was a great believer in massive air raids over Germany). But Churchill did not always follow his advice, and authorized Window for a raid on Hamburg on July 24, 1943. The result was spectacular: losses were only a quarter of what they had been on previous raids. Of course by mid-1943, the Germans were no longer launching massive air raids, so the device was of little use to them. Their effort was now directed at building the miracle weapons Hitler said would win the war: the V1 flying bomb (ultimately defeated by the proximity fuse) and the V2 rocket.

Lindemann also went hopelessly wrong on the V2 which, when the British heard about it, he declared impractical. Here several strands in his personality emerged. The first was his irreducible self-confidence. Once he had pronounced against the feasibility of something he never budged from his position. Second was his utilitarianism and rationalism. An expert in statistics, he presumably thought the Germans were also. Surely they had calculated how to kill the maximum number of British civilians at the minimum cost? Just as surely, that had to be the bomber raids, not complex and expensive rockets. Of course Hitler was not altogether rational. Fundamentally, technically and financially Lindemann was right, but he seriously discounted the psychological aspects.

The V2 argument involved Churchill in a conflict of loyalties.

▲ Alwyn Crow, inventor of the unrotated projectile, a critical part of anti-aircraft batteries, supported Lindemann in discounting the seriousness of the V2 rocket. (National Portrait Gallery)

▼ Duncan Sandys, Churchill's son-in-law, was nominated by the Chiefs of Staff to explore the V2 rocket threat because the Chiefs thought a member of the Churchill family would be best able to resist the doubtful Lndemann. (LondonRemembers.com)

In April 1943, the Chiefs of Staff had persuaded him to take the threat seriously and to appoint an official to investigate and report on the rocket. They nominated his son-in-law, Duncan Sandys, Joint Parliamentary Secretary at the Ministry of Supply, probably thinking a member of the family would counterbalance Lindemann's influence. Sandys duly produced photographs of the weapon; Lindemann said they were decoys, and dismissed Sandys as an amateur.

Again Churchill would take no chances. As he reportedly said at a meeting of the War Cabinet Defence Committee, including Sandys and Lindemann: Unless it could be shown that scientifically a rocket was impossible, they "could hardly ignore the existence of unexplained facts." The P.M. was backed by Herbert Morrison, Minister for Home Security. By the end of 1943, except for Jones and Alwyn Crow (inventor of the unrotated projectile), Lindemann was almost alone in pooh-poohing what he called "all this gossip," still insisting that the V2 as technologically impossible.

Both sides were at once right and wrong. Crow, Jones and Lindemann based their scepticism on physics. Ten tons of high explosives (the payload estimated by Sandys) would require a rocket weighing 70 to 80 tons. How, they asked, could such a monster even take off? But Sandys's premise was false. The V2s which first struck London on September 8, 1944 carried the same payload as the V1s—one ton of explosives—and weighed only 13 tons. Yet Lindemann had told Churchill that a lighter weapon made no sense either, since German aircraft could now carry bombs weighing 2½ tons.

It made no sense until it fell on London. Sandys, Churchill, Morrison and the Chiefs of Staff had been right to believe the V2 was a serious threat, even though they overestimated the explosives it would carry. Lindemann had been wrong in doubting the rocket's practicality.

▲ Churchill observes the first American-built aircraft arrive under terms of the Lend-Lease Bill, signed into law by Roosevelt on March 11, 1941.

▼ "Bomber" Harris, determined head of Bomber Command, opposed what he called "slide-rule warfare," which was not calculated to win him points with the pro-Boffin Prime Minister.

Churchill was nothing if not loyal to his friends. In a chapter in his memoirs entitled "The Pilotless War," he deprecates the German rockets and praises Lindemann's clear-sightedness, basing his conclusion on the later testimony of Albert Speer, Hitler's architect and close associate, who said "twenty flying bombs could have been made for the cost of one rocket." This, Churchill writes, confirms "the views Lord Cherwell had so often expressed before the event." Considering his interest in new weaponry his words are uncharacteristically myopic: "It was fortunate that the Germans spent so much effort on rockets instead of bombers."

Frederick Lindemann was not the evil genius or *éminence grise* his many opponents reported him to be. It is true that he had Churchill's ear—but only when his advice did not go against Churchill's instinct. As John Colville later wrote in his published diaries, *The Fringes of Power*, Churchill

> always retained unswerving independence of thought…. Many people made the mistake of thinking that somebody—it might be General Ismay or Professor Lindemann—for whom the Prime Minister had the utmost respect and affection, would be able to "get something through." Unless the Prime Minister was himself impressed by the argument, pressure by others seldom had any effect.

The Area Bombing Debate

Finally, there is the extremely complex question of "area bombing" and the best use of bombers equipped with H2S, the navigational instrument in which Lindemann played an ambiguous role. Let us begin with the view shared by both Churchill (at least early on, after the Blitz) and Lindemann (with no qualms), that the German population had to be made to suffer. As Churchill famously put it in his broadcast of April 27, 1941: "There are less than 70,000,000 malignant

Teheran, 1943. Stalin, left, considered neither the bomber offensive nor the Italian campaign a "second front." (Behind Stalin are Molotov and Harriman; FDR is chatting with Sarah Churchill, flanked by Anthony Eden).

Huns, some of whom are curable and others killable."

Lindemann certainly believed that massive bombing would weaken both the Germans' resolve and their ability to go on producing war equipment. Like Churchill he did necessarily believe in "indiscriminate bombing," but was sure that mathematics and physics would show how to obtain the most destructive results.

The Prof's view was often denounced by "Bomber" Harris, head of Bomber Command, as "the slide-rule approach to warfare." But Lindemann was not alone in his beliefs. We have already met Jones, Crow and Tizard. Two other scientists involved in the bombing campaign controversy were Solly Zuckerman, a rising zoologist who worked at the Ministry of Home Security; and John Desmond Bernal, a physicist at the same Ministry.

In August 1941, Lindemann opened the necessary Whitehall doors for Zuckerman and Bernal to undertake a scientific survey of the damage caused by bombing in Britain. The idea was to extrapolate the findings and apply them to the German case. The survey centered on Birmingham and Hull, two heavily bombed cities where records of bombings were precise. On March 30, 1942, Lindemann attached his interpretation to the Zuckerman/Bernal preliminary report, now sometimes referred to as his "de-housing paper":

> Careful analysis of the effects of raids on Birmingham, Hull and elsewhere have shown that on average one ton of bombs dropped on a built-up area demolishes 20-40 dwellings and turns 100-200 people out of house and home. We know from our experience that we can count on nearly 14 operational sorties per bomber produced. The average lift [bomb payload] of the bombers we are going to produce over the next fifteen months will be about 3 tons. It follows that each of these bombers will in its lifetime drop about 40 tons of bombs. If these are dropped on built-up areas they will make 4000-8000 people homeless [each].

So far, the figures were purely factual, but Lindemann continued with more speculative calculations: "In 1938 over 22 million Germans lived in 58 towns of over 100,000 inhabitants, which, with modern equipment, should be easy to find and hit."

Here, of course, he was neglecting the effect of "Flak," the German anti-aircraft defences, which dissuaded bombers from approaching too near their targets, even targets that were "easy to find and hit." This vitiated the Prof's calculation that "even if half the total load of 10,000 bombers" was dropped on those towns, the "great majority" of their inhabitants would be homeless (if not dead).

We now know that in the event these 58 towns were not razed to the ground. But there were more mistakes to come in the next section of the minute, where Lindemann wandered on psychological grounds:

> Investigation seems to show that having one's house demolished is most damaging to morale. People seem to mind it more than having their friends or even their relatives killed. At Hull signs of strain were evident though only one-tenth of the houses were demolished. On the above figures we should be able to do ten times as much harm to each of the principal 58 German towns. There seems little doubt that this would break the spirit of the people.

The central issue was whether the bombing offensive should concentrate on Germany (the province of Bomber Command) or the U-boat menace in the Western Approaches (the province

"Like all physicists of his caliber and generation, Lindemann perfectly understood the theory behind the atom bomb. Like most of them, he took an interest in the research involved in transforming the theoretical potential of a nuclear explosion into a practical device….By August 1941 Lindemann was convinced that an atomic bomb was practical."

of Coastal Command, under Sir Philip Joubert de la Ferté.) Which would lead to the most efficient use of the bombers under construction?

Churchill took Lindemann's extrapolation very seriously—but as usual he considered other sources. Patrick Blackett, who later (1948) won the Nobel Prize in Physics, joined Tizard in dismissing Lindemann's figures as fantastic. "I think you have got your facts wrong," Tizard wrote to Lindemann—possibly the worst insult that you can imagine for a scientist.

Blackett started all over again from the available statistics, arguing that Lindemann's projected destruction was at least six times too high. Unexpectedly biting the hand that had fed them, Zuckerman and Bernal agreed, saying the Prof had been too quick in deducing from their interim report that massive bombing would destroy German morale. Their final report, published on April 18, 1942, argued that there had been no evidence for that in Birmingham and Hull.

It was a wonderful row by serious people, all devoted to Churchill and the war but pulling in opposite directions. Underlying it was the rivalry between Bomber Command and Coastal Command. Blackett, for instance, was known for his principled opposition to bombing civilians (and, it must be mentioned, his profound dislike of Lindemann). Tizard, who also disliked Lindemann, was a great believer in attacking the U-boats, now made easier by H2S, which enabled aircraft to detect the presence of submarines recharging their batteries at night on the surface. And Bernal was a supporter of Tizard.

Churchill, at the top, decided to have it both ways: bombers were allocated to both Commands. Admittedly, Bomber Command had a slight priority, if only to placate Stalin, who was loudly denouncing Britain's lack of enthusiasm for a Second Front—bombing Germany was the only "front" Churchill then had to offer him. Likewise, the British public wanted retaliation after German air raids. But the planes allocated to Coastal Command were sufficient to rid the Western Approaches of U-boats by the end of 1943.

Lindemann lost this battle, failing to convince Churchill that Bomber Command have absolute priority. Paradoxically, his role in the development of H2S enabled Coastal Command to pursue its U-boat offensive with impressive results. The postwar Official History apportioned praise equally: "Cherwell did for Bomber Command what Tizard did for Fighter Command—he gave it the scientific means of becoming an effective instrument of war."

The Original Nuclear Proliferation

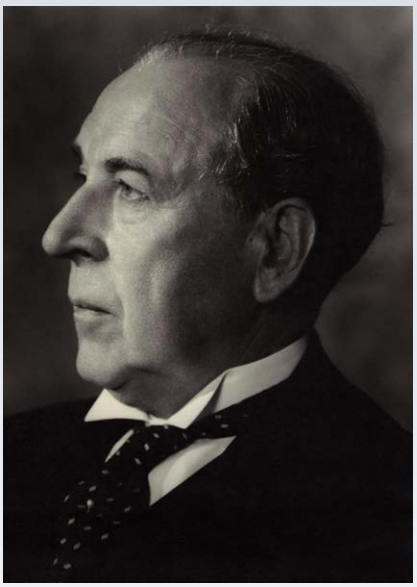
One failure in Lindemann's functions as Churchill's scientific adviser was perfectly honourable:

Solly Zuckerman, later Baron Zuckerman, was a zoologist who proved useful to the Boffins by studying the effects of bombing on British cities. He is pictured here at Tobruk, 1943. (Wikimedia Commons)

J.D. Bernal, a physicist at the Ministry of Home Security, co-wrote Zuckerman's bombing report and disagreed completely with the spin Lindemann put on it. (Oregon State Library)

German-born Professor Franz Simon (who later became Sir Francis), joined Lindemann at Clarendon investigating the weaponry potential of Uranium 235. (Wikimedia Commons)

The Danish physicicist Niels Bohr failed to convince Churchill to share atomic secrets with the Russians. WSC: "I do not like the man with his hair all over his head." (Wikimedia Commons)



Churchill named John Anderson, later Viscount Waverley, head of the Directorate of Tube Alloys, the British atomic bomb project. By mid-1942 Andersn reported that production of a bomb was beyond Britain's wartime capabilities. (National Portrait Gallery)

he failed to persuade Churchill to prevent proliferation of nuclear weapons by sharing British research with the Americans. As events proved, however, Churchill had little choice in the matter.

"However much I trust my neighbour and depend on him, I am very much averse to putting myself completely at his mercy. I would not, therefore, press the Americans to undertake this work; I would just continue exchanging information and get into production over here without raising the question of whether they should do it or not."
—Lindemann to Churchill, August 1941

Like all physicists of his calibre and generation, Lindemann perfectly understood the theory behind the atom bomb. Like most of them, he took an interest in the research involved in transforming the theoretical potential of a nuclear explosion into a practical device. As early as May 1940, he invited German-born Professor Franz Simon—later anglicized into Sir Francis Simon—to join his Clarendon Laboratory with a view to experimenting with Uranium 235. By August 1941 Lindemann was convinced that an atomic bomb was practical.

As usual when he formed a firm opinion, he immediately minuted Churchill, proposing that the government generously support all the research being currently pursued under the aegis of the Ministry of Aircraft Production. Typically, he summed up a complex question in language Churchill could understand:

> Natural uranium consists of two components chemically so excessively similar that they are extremely difficult to separate from one another. It is the rarer component which according to all physical theory will in its pure form explode with extreme violence if brought together in quantities of 20 pounds or so. The difficulty is to extract this rarer component from its admixture of 99% of the commoner….A process has been devised by which it seems almost certain that this can be done, but it is an extremely elaborate and costly process involving repeated enrichment of the rarer component in something like 70,000 stages. Nevertheless it seems feasible.

Why should Britain pursue such a weapon? Here Lindemann was leaving the purely scientific field, and entering the political. Scientists, he said, were doubtful of success within two years. But he was "quite clear that we must go forward. *It would be unforgivable if we let the Germans develop a process ahead of us* by means of which they could defeat us in war, or reverse the verdict after they had been defeated." (Italics the author's.) Unforgivable indeed.

Next Lindemann considered inter-Allied cooperation:

> Whoever possesses such a plant should be able to dictate terms to the rest of the world. However much I trust my neighbour and depend on him, I am very much averse to putting myself completely at his mercy. I would not, therefore, press the Americans to undertake this work; I would just continue exchanging information and get into production over here without

raising the question of whether they should do it or not.

Churchill immediately took the necessary steps to accelerate research in Britain, appointing Sir John Anderson, then Lord President of the Council, as head of the appropriate working group, labelled the "Directorate of Tube Alloys." Lindemann sat on its advisory council, the only Cabinet minister who could understand the scientific dimension. But the Prime Minister was unable to follow Lindemann's advice about proliferation. In mid-1942 Anderson told Churchill that Britain did not have the massive resources needed to develop an atomic bomb: "…the production plant will have to be on such a huge scale that its erection in this country will be out of the question during the war. Even the erection and operation of a pilot plant would cause major dislocation in war production."

In 1943 the British government decided instead to participate in the Manhattan project, giving all the information it had to the United States. Again Anderson wrote to Churchill, with Lindemann's approval, proposing to let the Russians into the secret with a view to establishing an international body which would forestall the danger of nuclear proliferation. But here Churchill balked.

Anderson and Lindemann believed that they had found a powerful advocate in Niels Bohr, the nuclear physicist who had escaped from occupied Denmark and found his way to London in 1944. Lindemann took Bohr to see Churchill and express his fears of a nuclear race, but the meeting went awry. "I did not like the man," Churchill told Lindemann, "when you showed him to me, with his hair all over his head."

Churchill had no time for idealists, let alone pacifists, especially when the potential of new weapons was involved. Apparently Bohr had taken the high ground by citing ethical principles, which always irritated Churchill. By 1944, Churchill was firmly convinced that the development of the bomb should remain an Anglo-American undertaking—and should remain secret. Churchill of course naively believed that the Americans would share production techniques with British scientists—unlike Lindemann, who never had any illusions in that respect.

"The Locomotive of History"

Linking all this to the theme of the Conference and putting it in the perspective of science and technology in 20th century Britain, we can say that there were three great elements for which the Second World War acted as "the locomotive of History," to take up Trotsky's famous phrase.

The first is what is now called "avionics": a portmanteau word for aviation and electronics. Here we know with certainty that the Boffins, backed by Churchill and the War Cabinet, played a major role in brushing aside the Blimps and putting British technology at the forefront—a position which it kept.

The second is nuclear weapons, which, if we are to believe Sir John Anderson's experts, were too costly in raw materials and skilled manpower for Britain to develop in wartime without seriously impairing the conventional war effort. But this was only a delayed start, because the United Kingdom did build an atomic bomb in 1952: the third country to do so.

The third breakthrough, where British science and technology were almost totally absent during the war, was that of rocketry. It is interesting that a man of Lindemann's genius discounted the feasibility of building a large rocket in his lifetime. It so happens that the Prof died on July 2, 1957—three months before the orbiting of Russia's Sputnik, whose launch vehicle weighed some 250 tons. He didn't quite live to see it—and was therefore proven right after all. ❑

"By 1944, Churchill was firmly convinced that the development of the bomb should remain an Anglo-American undertaking—and should remain secret. Churchill of course naively believed that the Americans would share production techniques with British scientists—unlike Lindemann, who never had any illusions in that respect."

Source Notes : In addition to Churchill's *The Second World War* (London: Heinemann, 1948-54), the main sources used and/or quoted are The Earl of Birkenhead, *The Prof in Two Worlds: The Official Life of Professor F.A. Lindeman, Viscount Cherwell* (London: Collins, 1961) ; Thomas Wilson, *Churchill and the Prof* (London: Cassel, 1995); and Adrian Fort, *The Life of Frederick Lindeman* (London: Jonathan Cape, 2003). This text was prepared before the publication of Graham Carmelo's *Churchill's Bomb* (reviewed on page 22).

The Bomb and the Future: Excerpts from Speeches and Conversations

Winston S. Churchill

"My God, what have we done." The explosion at Hiroshima, 6 August 1945. Eight days later Emperor Hirohito announced Japan's surrender. (U.S. Army Signal Corps)

In the aftermath of World War II Churchill was content, as he said at Fulton, that the bomb was American, copyright Los Alamos, 1945, solely owned by "a State and nation which we know will never use it except in the cause of right and freedom." But he knew this wouldn't last, and added: "...it may well be that in a few years this awful agency of destruction will be widespread and the catastrophe following from its use by several warring nations will not only bring to an end all that we call civilisation, but may possibly disintegrate the globe itself."

Once Russia had the bomb Churchill became preoccupied with seeking a "settlement," as he called it—never wanting to be too precise—of at least some differences with the former Soviet ally, to the consternation of Eisenhower, among others. At the 1953 Bermuda Conference he called for a "summit" with Stalin's successors.

We all have our views on the validity of that quest. Whether the USSR post-Stalin was a changed country or, as Eisenhower said, the same woman of the streets in a new dress, will forever be debated by historians. But there is no doubt that Churchill, who had recognised the nature of nuclear weapons before the rise of Hitler, knew the bomb was not, as Eisenhower held it, just another advance in weaponry. And his efforts to reach at least a peaceful stand-off were principled and noble.

All quotations are from speeches in the House of Commons, unless otherwise mentioned. Reprinted by kind permission of the Churchill Literary Trust, Curtis Brown Ltd., and Randolph S. Churchill.

1944-45: Dawn of the Nuclear Age

Another great war, especially an ideological war, fought as it would be not only on frontiers but in the heart of every land with weapons far more destructive than men have yet wielded, would spell the doom, perhaps for many centuries, of such civilization as we have been able to erect since history began to be written….We can only try our best, and if we cannot solve the problem we can at least make sure that it is faced in all its sombre magnitude while time remains.

—December 15, 1944

What was gunpowder? Trivial. What was electricity? Meaningless. This atomic bomb is the Second Coming in Wrath.

—July 22, 1945, Potsdam (Stimson Diary)

This revelation of the secrets of nature, long mercifully withheld from man, should arouse the most solemn reflections in the mind and conscience of every human being capable of comprehension. We must indeed pray that these awful agencies will be made to conduce to peace among the nations, and that instead of wreaking measureless havoc upon the entire globe they may become a perennial fountain of world prosperity.

—August 6, 1945 following the dropping of the first atomic bomb

On 17th July there came to us at Potsdam the eagerly-awaited news of the trial of the atomic bomb in the [New] Mexican desert. Success beyond all dreams crowded this sombre, magnificent venture of our American allies. The detailed reports…could leave no doubt in the minds of the very few who were informed, that we were in the presence of a new factor in human affairs, and possessed of powers which were irresistible….

The bomb brought peace, but men alone can keep that peace, and henceforward they will keep it under penalties which threaten the survival not only of civilization but of humanity itself….

I may say that I am in entire agreement with the President that the secrets of the atomic bomb should so far as possible not be imparted at the present time to any other country in the world. This is in no design or wish for arbitrary power, but for the common safety of the world.

—August 16, 1945

It would nevertheless be wrong and imprudent to entrust the secret knowledge or experience of the atomic bomb, which the United States, Great Britain and Canada now share, to the world organization, while it is still in its infancy. It would be criminal madness to cast it adrift in this still agitated and un-united world. No one in any country has slept less well in their beds because this knowledge, and the method and the raw materials to apply it, are at present largely retained in American hands. I do not believe we should all have slept so soundly had the positions been reversed and if some Communist or neo-Fascist State monopolized for the time being these dread agencies.…The dark ages may return—the Stone Age may return on the gleaming wings of science, and what might now shower immeasurable material blessings upon mankind may even bring about its total destruction. Beware I say; Time may be short.

—March 5, 1946, Westminster College, Fulton

Peace will not be preserved by pious sentiments expressed in terms of platitudes or by official grimaces and diplomatic correctitude, however desirable this may be from time to time. It will not be preserved by casting aside in dangerous years the panoply of warlike strength. There must be earnest thought. There must also be faithful perseverance and foresight. Greatheart must have his sword and armour to guard the pilgrims on their way. Above all, among the English-speaking Peoples, there must be the union of hearts based upon conviction and common ideals. That is what I offer. That is what I seek.

—March 8, 1946, General Assembly of Virginia, Richmond

It is better to have a world united than a world divided; but it is also better to have a world divided than a world destroyed. Nor does it follow that even in

a world divided there should not be equilibrium from which a further advance to unity might be attempted as the years pass by. Anything is better than this ceaseless degeneration of the heart of Europe. Europe will die of that.

—June 5, 1946

1947-49: Proliferation

We have had nothing else but wars since democracy took charge…[In the last two,] thirty million men were killed in battle. In the last one seven million were murdered in cold blood, mainly by the Germans. They made human slaughter-pens like the Chicago stockyards. Europe is a ruin. Many of her cities have been blown to pieces by bombs. Ten capitals in Eastern Europe are in Russian hands. They are Communists now, you know—Karl Marx and all that. It may well be that an even worse war is drawing near. A war of the East against the West. A war of liberal civilisation against the Mongol hordes. Far gone are the days of Queen Victoria and a settled world order. But, having gone through so much, we do not despair.

—1947, *The Dream.* Winston to his father's ghost, a short story

Skeletons with gleaming eyes and poisoned javelins glare at each other across the ashes and rubble heaps of what was once the august Roman Empire.… [shouldn't there be a place for] Europe, the Mother Continent and fountain source not only of the woes but of most of the glories of modern civilisation?

—January 17, 1947, "The Highroads of the Future," *Colliers*

Tyranny presents itself in various forms but it is always the same, whatever slogans it utters, whatever name it calls itself by, whatever liveries it wears. It is always the same and makes a demand on all free men to risk and do all in their power to withstand it.

—May 9, 1948, States-General, Amsterdam

The outstanding feature of the 20th century has been the enormous expansion in the numbers who are given the opportunity to share in the larger and more varied life which in previous periods was reserved for the few and for the very few….little did we guess that what has been called The Century of the Common Man would witness as its outstanding feature more common men killing each other with greater facilities than any other five centuries put together in the history of the world.

—March 31, 1949, Massachusetts Institute of Technology, Boston

1950-51: Man of the Half Century

Moralists may find it a melancholy thought that peace can find no nobler foundations than mutual terror.

—March 28, 1950

After the First War, when the victors had disarmed the Germans and their allies, no powerful organized army remained upon the scene except the French Army. After this war the armed might of Russia has emerged steadily.…The second difference, which arose out of the realization of the first, was that the United States, instead of retiring into isolation, instead of demanding full and prompt repayment of debts and disinteresting herself in Europe…has made the great counterpoise upon which the freedom and the future of our civilization depends.

—November 30, 1950. *Time* had just named Churchill "Man of the Half-Century"

The argument is now put forward that we must never use the atomic bomb until, or unless, it has been used against us first. In other words, you must never fire until you have been shot dead. That seems to me undoubtedly a silly thing to say and a still more imprudent position to adopt. Moreover, such a resolve would certainly bring war nearer.

—December 14, 1950

I do not hold that we should rearm in order to fight. I hold that we should rearm in order to parley.

—October 8, 1951, broadcast, London

Science, which now offers us a Golden Age with one hand, offers at the same time with the other hand the doom of all that we have built up inch by inch since the Stone Age. My faith is in the high progressive destiny of man. I do not believe we are to be flung back into abysmal darkness by those fearsome discoveries which human genius has made. Let us make sure that they are our servants but not our masters.

—October 23, 1951, Plymouth

1952: Britain Acquires the Bomb

What is the scene which unfolds before us tonight? It is certainly not what we had hoped to find after all our enemies had surrendered unconditionally and the great world instrument of the United Nations had been set up to make sure that the wars were ended. It is certainly not that. Peace does not sit untroubled in her vineyard. The harvests of new and boundless wealth which science stands ready to pour into the hands of all peoples, and of none perhaps more than the people of Canada, must be used for exertions to ward off from us the dangers and the unimaginable horrors of another world war.…

We have surmounted all the perils and endured all the agonies of the past. We shall provide against and thus prevail over the dangers and problems of the future, withhold no sacrifice, grudge no toil, seek no sordid gain, fear no foe. All will be well. We have, I believe, within us the life-strength and guiding light by which the tormented world around us may find the harbour of safety, after a storm-beaten voyage.

—January 14, 1952, Chateau Laurier, Ottawa

It is my belief that by accumulating deterrents of all kinds against aggression we shall, in fact, ward off the fearful catastrophe, the fears of which darken the life and mar the progress of all the peoples of the globe.

—January 17, 1952, third speech to the U.S. Congress, Washington

The report of a recent special survey showing that there is very little animal or bird life on Monte Bello Islands was one of the factors in the choice of the site for the test of the United Kingdom atomic weapon. I should add, however, that an expedition which went to the islands fifty years ago reported that giant rats, wild cats, and wallabies were seen, and these may have caused the Hon. Member some anxiety. However the officer who explored the islands recently says that he found only some lizards, two sea eagles and what looked like a canary sitting on a perch.

[Lt. Col. Lipton (Lab.) asked which governments had been invited to send observers to British atom bomb tests.]

It was after full consideration of all those points that I gave my somewhat comprehensive or rather exclusively comprehensive answer, "None, sir."

—May 21, 1952, Question Time

…a third World War is unlikely to happen [because] both sides know that it would begin with horrors of a kind and on a scale never dreamed of before by human beings.

—October 14, 1952

1953: Bermuda Conference and the Call for a "Summit"

What is called the cold war—which is not a legal term—continues. What we are faced with is not a violent jerk but a prolonged pull.

—March 3, 1953

…the world also needs patience. It needs a period of calm rather than vehement attempts to produce clear-cut solutions. There have been many periods when prompt and violent action might have averted calamities. This is not one of them. Even if we entered on a phase only of easement for five or ten years that might lead to something still better when it ended.

—October 10, 1953, Conservative Party Conference, Margate

When I was a schoolboy, I was not good at arithmetic, but I have since heard it said that certain mathematical quantities when they pass through

infinity change their signs from plus to minus—or the other way round. It may be that his rule may have a novel application, and that when the advance of destructive weapons enables everyone to kill everybody else, nobody will want to kill anyone at all…..

There is no doubt that if the human race are to have their dearest wish and be free from the dread of mass destruction, they could have, as an alternative, what many of them might prefer, namely, the swiftest expansion of material well-being that has ever been within their reach, or even within their dreams.

—November 3, 1953

When I meet [Stalin's successor] Malenkov we can build for peace.…Ike…doesn't think any good can come from talks with the Russians. But it will pay him to come along with us. I shall do what I can to persuade him. I might stay longer here than I meant, at any rate if I could persuade Ike to stay too.

—December 3, 1953, to Lord Moran, Bermuda

[U.S. Secretary of State John Foster Dulles says] nothing but evil can come out of meeting with Malenkov. Dulles is a terrible handicap. Ten years ago I could have dealt with him. Even as it is I have not been defeated by this bastard. I have been humiliated by my own decay.

—December 7, 1953, to Lord Moran, Bermuda

We are to gang up against them [the Soviets] without any reference to the "Locarno" idea. The statement about Europe ends with the challenge about a united Germany in EDC [European Defence Community] or NATO, for which Russia is to give up the Eastern Zone. Many people would think that we are deliberately riding for a fall. Perhaps we are [but we] cannot accept as justified or permanent the present division of Europe.

—December 7, 1953, to Anthony Eden, Bermuda

1954-55: Hydrogen Bomb and "Mutual Assured Destruction"

…the hydrogen bomb carries us into dimensions which have never before confronted practical human thought and have been confined to the realms of fancy and imagination.

—April 5, 1954

Then it may well be that we shall by a process of sublime irony have reached a stage in this story where safety will be the sturdy child of terror, and survival the twin brother of annihilation.…

The [nuclear] deterrent does not cover the case of lunatics or dictators in the mood of Hitler when he found himself in his final dug-out. That is a blank….

Major war of the future will differ, therefore, from anything we have known in the past, in this one significant respect, that each side, at the outset, will suffer what it dreads the most, the loss of everything that it has ever known of….

Which way shall we turn to save our lives and the future of the world? It does not matter so much to old people; they are going soon anyway; but I find it poignant to look at youth in all its activity and ardour and, most of all, to watch little children playing their merry games, and wonder what would lie before them if God wearied of mankind.

We live in a period, happily unique in human history, when the whole world is divided intellectually and to a large extent geographically between the creeds of communist discipline and individual freedom, and when at the same time, this mental and psychological division is accompanied by the possession by both sides of the obliterating weapons of the nuclear age.

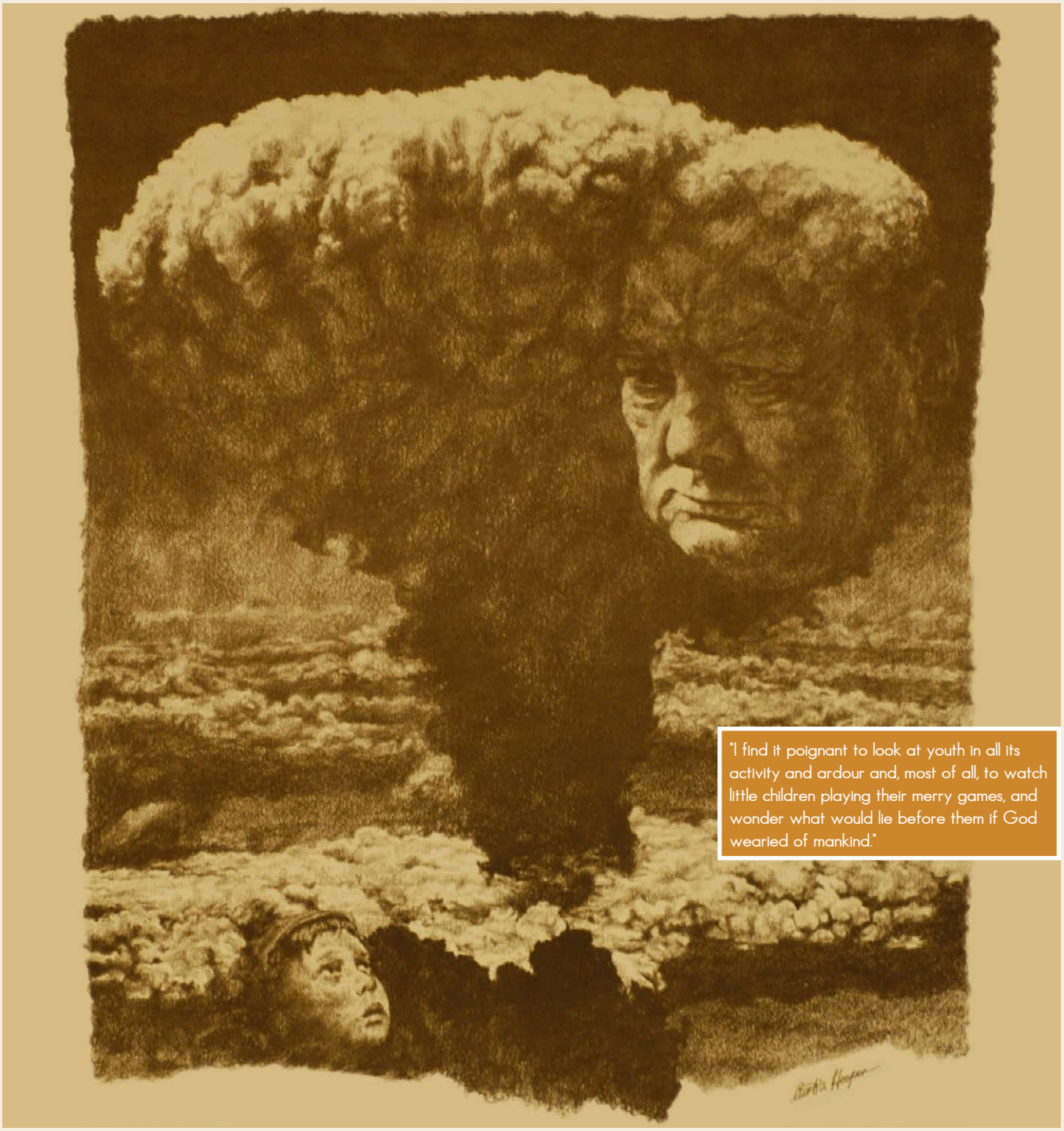
…when Mr. Sterling Cole, the chairman of the United States Congressional Committee, gave out a year ago—February 17, 1954—the first comprehensive review of the hydrogen bomb, the entire foundation of human affairs was revolutionized, and mankind placed in a situation both measureless and laden with doom.

—March 1, 1955, from his last major speech in the House of Commons

1956: Suez Crisis

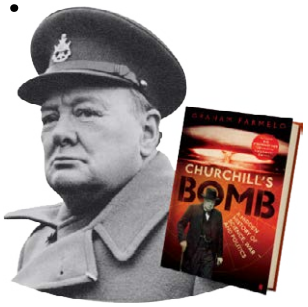
There is not much left for me to do in this world and I have neither the wish nor the strength to involve myself in the present political stress and turmoil. But I do believe, with unfaltering conviction, that the theme of the Anglo-American alliance is more important today than at any time since the war. You and I had some part in raising it to the plane on which it has stood. Whatever the arguments adduced here and in the United States for or against Anthony's action in Egypt, it will now be an act of folly, on which our whole civilisation may founder, to let events in the Middle East come between us.

—November 22, 1956, private letter to Eisenhower ❑



"I find it poignant to look at youth in all its activity and ardour and, most of all, to watch little children playing their merry games, and wonder what would lie before them if God wearied of mankind."

Scientists and Statesmen: Churchill and the Nuclear Age



Erica Chenoweth

Ms. Chenoweth, a fishery biologist for the state of Alaska, is co-editor of a new edition of Churchill's *Great Contemporaries* (ISI Books, 2012).

Graham Farmelo, *Churchill's Bomb: How the United States Overtook Britain in the First Nuclear Arms Race* Basic Books, 554 pages, $29.99.

In 1893, Winston Churchill was striving with "'back-to-the-wall' resolution" to pass the entrance exam to the Royal Military College at Sandhurst. In 1930, he recalled in his autobiography this first failed attempt: "… when one surveyed the battlefield, it was evident that the war could not be won without another army being brought into the line. Mathematics was the only resource available." Ten years later he was leading Britain in a global war in which the "meanings and rhythms" found in Math's "comical hieroglyphics" would lead to the invention of weapons capable of destroying entire civilizations.

Graham Farmelo's splendid book is the most readable treatise yet on nuclear scientists and their statesmen on both sides of the Atlantic during the Second World War. He asks why, though Churchill's scientists were the first to hand a "blueprint of a nuclear bomb" to their government in 1940 (136) and he was "the first national leader to approve the development of a nuclear weapon," the nuclear project became an American rather than a British venture (189).

His argument is compelling, but not incontrovertible; the prodigious industrial effort put forth by the Americans, able to "spend money like water" (236), was bound to surpass Britain's capabilities while Churchill strove to play a weak hand well. (See "The Start of Nuclear Proliferation" in Antoine Capet's foregoing article.)

From prologue to epilogue Winston Churchill is center stage. Spanning both his premierships, Farmelo's book does not neglect Churchill as a young man, unusually thoughtful about scientific progress and the development of advanced weaponry. He describes Churchill's delight in the filtering of scientific fact through the imagination of a favorite author and lifelong friend, H. G. Wells, and their many encounters. Churchill met his adviser on scientific matters, Frederick Lindemann, who also excelled in the art of explanation, in 1921. The fulcrum upon which Farmelo's thesis depends, "the Prof," for all his talents, is blamed for making "Churchill's pool of nuclear advice….too narrow and too shallow" (6) early in the war.

Round the great politician and his Prof swirl the usual international figures—Roosevelt, Truman, and Eisenhower, and Stalin, Malenkov, and Khrushchev—and the more unusual, those of the global scientific community. Churchill's rare contact with scientists, their committees, and their inventions makes this well-paced, multi-

layered, chronological account a fascinating read. Farmelo's narrative benefits from careful research, documented in voluminous endnotes and supplemented by an index useful to researchers and lay readers.

Farmelo adroitly weaves together international nuclear research and British and American diplomacy. He jumps from lab to lab, and from 10 Downing Street to the Oval Office, illuminating important developments and the personalities behind them. He includes no scientific jargon but does stress the significance of each discovery, particularly that of the neutron, and briefly mentions only one equation, $E=mc^2$.

Knowing the history and the leading scientists well, he often evokes a chuckle with a frank description or a fresh anecdote, offering welcome relief while remembering a time when "No one was quite sure of the contents of Hitler's arsenal" (111). The physicist Niels Bohr was "a man of words but he had . . . serious problems with them" (247), Ernest Rutherford had a "Falstaffian presence at the dinner table" (56), and Leó Szilárd loved to "shock lesser minds with his own boldness and ingenuity" (72). When Lindemann was created Lord Cherwell, after "the river that meanders past Christ Church Meadow in Oxford," British scientist Henry Tizard remarked that it was "a small and rather muddy stream" (176).

Farmelo discusses the feeling of betrayal among the scientists when one of their own became "the spy of the century" (346). While the wife of the leading British coordinator, James Chadwick, was complaining at a Los Alamos desert tea party of "the primitive nature of life in the United States" (276), American General Leslie Groves suspected that "the cunning British were trying to freeload on a venture funded entirely by American money" (218). The critical contribution of British physicists to the success of the Manhattan Project, however, is made clear.

The triangle of Churchill, Lindemann, and other British scientists is central. Farmelo admires the Prof's accomplishments and how he nourishes Churchill's energetic mind by "rendering a jumble of scientific ideas, statistics and opinion into a lucid conspectus" (65) but accuses the Prof of lacking depth and imagination, with particular blind spots in nuclear science. His colleagues were aware of this weakness; after Lindemann's brief visit to Los Alamos, even Oppenheimer told a colleague, "that guy will never understand a thing" (280).

Carried into ever-higher circles of political power, the Prof's friction with respected and administratively gifted scientists leads the reader to wonder at what cost to Britain the clash of egos came. Lindemann's skepticism about whether the "super weapon" could be built as fast "as the experts were claiming" (188), and his underestimation of the "awesome energy" (204) and monopolistic passion with which America would pursue the Manhattan Project, "led Churchill to make an uncharacteristically flat-footed response to the most powerful explosive his scientists devised" (146). Turbulence in their relations during the war did not weaken their bond, and Churchill later credited Lindemann with the idea for Churchill College, an institution dedicated to teaching technical subjects in Britain.

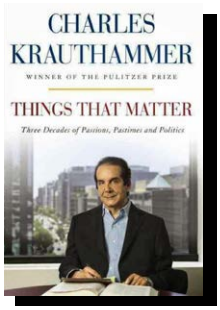
Before the Second World War, Churchill the writer knew more of atomic theory and its capacity to create nuclear weapons than other statesmen in Britain, largely owing to Lindemann. Although even in 1939 European experts did not believe the atomic bomb would appear, times changed, and in 1940 it took the eye of a nuclear physicist to recognize the implications of rapid developments. Churchill as politician, with Lindemann as his adviser, did not take advantage of Britain's early advantage over the Americans: he replied late to FDR's first and only offer of equal collaboration and was too busy to hear advice from outside his inner circle.

Farmelo notes Churchill's different reactions to the atomic bomb in the 1940s and the hydrogen bomb in the 1950s: the aging statesman's "final great diplomatic initiative" (3) sought to ease Cold War tensions, recognizing the threat of thermonuclear weapons more acutely than President Eisenhower did. One of his final acts as prime minister was to guarantee Britain had the weapon in its arsenal, so as never to have to use it. ❑

Churchill the Indispensable

Richard M. Langworth

Charles Krauthammer, *Things That Matter*, Crown Forum, 388 pages, $28.



The reader will ask: why am I plugging to a Churchill audience a set of essays by a political columnist? Answer: because many are not political, and reflect Churchillian thought. Moreover, the essay specifically about WSC may be one of the best summaries of the man I've ever read. By anybody. Anywhere.

Significantly, in a book of over nearly ninety columns and essays, the Churchill article ranks second—in Part I (entitled "Personal")—after a piece on the author's beloved brother. Churchill is a very personal subject to Mr. Krauthammer, who is always quoting him (accurately).

The late Meg Greenfield, longtime editorial page editor of *The Washington Post*, called Krauthammer's column "independent and hard to peg politically. It's a very tough column. There's no 'trendy' in it. You never know what is going to happen next." This reminds me of Churchill. By the way, they both switched parties. C.K. was once Walter Mondale's speechwriter. Churchill ended up a Tory, Krauthammer is a conservative, but it's risky to label either of them.

For instance, C.K. recently convinced me to abandon tradition and support a name change for the Washington Redskins: "It is simple decency to stop using a slur." Also, he roots for underdogs. We're both fanatical followers of the Washington Nationals. And being Nationals fans is no easy task. If you want easy, root for the Red Sox or Cardinals.

But why spend $28 (Amazon $16.80, Kindle $10.99) on a 388-page book less than 1% of which is specifically Churchill? Because there's a lot of other material that touches his saga: the Middle East, wars in Asia, bioethics (Churchill covered that in *Thoughts and Adventures*, and serious enquiries into the nature of the man and the universe, just like Sir Winston's writings.

Churchill-related columns include insults ("In Defense of the F-Word"), the "Joy of Losing" (that's something WSC knew about), how to define democracy (Churchill laid out questions, Krauthammer lays out Albania), the Holocaust, Zionism, Language, Leadership, the question of Germany's "collective guilt." There's plenty here to interest Churchillians.

"Things That Matter"—to the author as to Churchill—include: "the innocence of dogs, the cunning of cats, the elegance of nature, the wonders of

space…the difference between historical guilt and historical responsibility, fashions and follies…manners and habits, curiosities and conundrums social and ethical. Is a doctor ever permitted to kill a patient wishing to die? Why in the age of feminism do we still use the phrase 'woman and children'?" These are subjects, C.K. says, that "fill my days, some trouble my nights."

Churchill read H.G. Wells and wrote a piece asking, "Are There Men on the Moon?" Krauthammer studied Fermi and wonders: "With so many habitable planets out there, why in God's name have we ever heard a word from a single one of them?" Fermi's answer, as the author explains, is unsettling.

Unlike many pundits, C.K. laughs at himself and cultivates a sense of humor. He read Stephen Hawking's *A Brief History of Time* "as a public service—to reassure my readers that this most unread bestseller is indeed as inscrutable as they thought." Speaking of the attempts (Voyagers 1 and 2) to contact alien life forms, he mentions that the greetings they carry, on behalf of all mankind, are from (who else?) the UN Secretary-General, Kurt Waldheim…a Nazi. "Makes you wish that we'd immediately sent out a Voyager 3 beeping frantically: Please disregard all previous messages."

But you want to know what he says about Winston Churchill. He speaks of him frequently on the air, but this essay is from the run-up to *Time* magazine's "Person of the Century" sweepstakes in 1999. I've quoted it so often that I've almost memorized it. Krauthammer simply declares Churchill the only possible Person of the Century. Einstein (*Time*'s pick) was "the best mind" of the century, but if he hadn't invented all those theories, somebody else would have.

Churchill, on the other hand, was indispensable: "Take away Churchill in 1940…and Britain would have settled with Hitler—or worse. Nazism would have prevailed. Hitler would have achieved what no other tyrant, not even Napoleon, had ever achieved: mastery of Europe. Civilization would have descended into a darkness the likes of which it had never known."

I'm not going to spoil it by leaking any more. Here is the keynote: it comes at the end. We are asked: who are the heroes of the last century? C.K. provides a list, from the Greatest Generation to FDR, de Gaulle, Truman, John Paul, Reagan.... "But above all victory required one man without whom the fight would have been lost at the beginning. It required Winston Churchill."

True, if you're going to read C.K. it helps if you agree with him. (Whenever I don't have an answer to some current question I always joke that I have to read him first so I'll know what to think.) But look: I have very liberal friends who also read and admire him. So don't succumb to labels. He has his heroes, both left and right. Buy the book to enjoy eloquent writing, the precise layering of facts and logic, by a deeply caring man who applies serious brainpower to contemplating everything from "Borat" to the Cosmos.

One more, very Churchillian thing: there's no self-absorption, no self-pity. Churchill was thrown out in 1915 and 1945. He simply ignored it, rebuilt his life and career. "Never give in" and all that. Krauthammer dove into a swimming pool in his early twenties, conked his head, and has been in a wheelchair ever since. Since then he has become a psychiatrist, a syndicated columnist, a writer, a husband and father, a TV personality, a Pulitzer Prize winner. Now that's a "Churchilllian" performance. ❑

Churchill in the News

Churchill Centre (UK) presents its 2013 Sir Winston Churchill Award to HRH The Prince of Wales

HRH The Prince of Wales has been presented with the Sir Winston Churchill Award in the United Kingdom. The Sir Winston Churchill Award is given to those in public life who are displaying Churchillian qualities and traits by The Churchill Centre (UK).

The Churchill Centre (UK) exists to preserve and promote the legacy and achievements of Sir Winston Churchill, to inspire and encourage future generations to follow in his footsteps and develop the Churchillian traits of courage, public service, oratory and leadership.

In accepting the award The Prince of Wales said:

> "I am deeply touched, honoured and humbled because of this award. I will cherish the Oscar Nemon sculpture as it is one of the best 65th birthday presents I could have been given.

"I have very fond memories of Sir Winston and remember him when I was very young coming to visit The Queen at Clarence House and at Balmoral. I was brought up on countless stories of Sir Winston Churchill, particularly from my uncle Lord Mountbatten, which were very funny.

"What I have tried to do with my life since leaving the Navy can best be summed up by what Sir Winston said in 1908, 'what is the use of living if it be not to strive for noble

causes and make this muddled world a better place for those who will live in it when we are gone. How else can we put ourselves in harmonious relations with the great verities and constellations of the infinite and the eternal'.

"Thank you for doing me this great honour, I will treasure the bust and it will remind me above all else of one of the greatest of Englishmen."

The Rt Hon Sir John Major KG CH, who presented the award to The Prince of Wales, paid tribute to The Prince and said:

"The Sir Winston Churchill Award is given to those – in public life – who display Churchillian qualities. It is a tough measure.

"Sir Winston is probably – some would say certainly – the greatest Englishman in our long history. Great: not just because of his extraordinary achievements, but because of his capacity to hold his course when – as almost a lone voice – he was criticised …. only to be proved right in the end.

"Our recipient tonight has – over the years – faced his own criticism, his own setbacks, yet held firm to his own beliefs. That is the first of many reasons he is truly worthy of the Award made to him.

"He is never simply a "name on the letterhead". Nor does he just "turn up" at events. He takes a genuine and personal interest in every organisation with which he is involved – and every engagement he undertakes. Today, he actively presides over a group of charities that collectively form the largest multi-group charitable enterprise in the United Kingdom. These charities are active in a wide range of areas, and span every community throughout the UK. Collectively, they raise over £100 million each year in support of their charitable aims. It is an incredible legacy.

"Churchill wrote that: "Courage is rightly esteemed the first of human qualities because it is the quality which guarantees all others." There are many types of courage: physical courage, intellectual courage, moral courage. Throughout his long public life, our recipient has demonstrated them all."

The Rt Hon Nicholas Soames MP, Trustee of The Churchill Centre (UK) and grandson of Sir Winston, said:

"The British Royal Family sits at the heart of Whitehall and at the heart of our national life. My grandfather served six monarchs. I suspect that he appreciated more than most just how hard members of the Royal Family work, and how important that work is to our national interest and wellbeing. I know, from my own experience, that the current Prince of Wales is tireless in his work for this country, both through his official duties and through his incredible charitable work."

Guests to the award dinner included The Lady Soames and three generations of the Churchill family.

Dr. Rob Havers represented America's National Churchill Museum at the event. He will also serve on the organizing committee for the 2015 observance of the death of Sir Winston. Professor Sir David Cannadine, 2012 Kemper Lecturer, chairs the committee with a new global program to observe 2015 and celebrate Churchill's life and legacy. It includes plans to deliver Churchill resources into all secondary schools in the UK and high schools in the United States, Canada and Kuwait.

★ ★ ★ ★ ★ ★ ★ ★ ★ ★

The Other Other Club

Honored as the guest speaker, Dr. Rob Havers, addressed over 200 community leaders at the Other Other Club in Tulsa, Oklahoma as they celebrated Churchill's 139th birthday. The Other Other Club of Tulsa derives its title from the name taken by Winston Churchill and other kindred souls who took it upon themselves to form the "other club" in 1911 for irrepressible, outspoken conduct and unconventional political initiatives. Remarks focused on America's admiration for Churchill and emphasized his unflinching courage, steady resolve in the face of enormous adversity, strong leadership, staunch commitment to democratic principles, and sharp wit.

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The US Capitol Rotunda

Dr. Havers and Senior Fellow Jean-Paul Montupet were in the audience as a bust of Winston Churchill was unveiled at the US Capitol Rotunda. Special guests included Secretary of State John Kerry and Randolph Churchill.

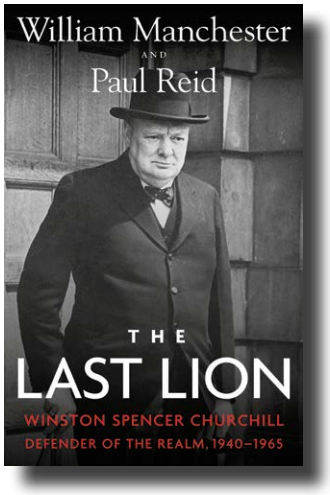
This is one of history's true love stories," said Speaker of the House John Boehner in his opening remarks, "between a great statesman and a nation he called the great republic. And we're here to bring it full circle."

The unveiling comes 50 years after Churchill was granted honorary US citizenship. The Churchill Centre donated the bust.

The 2014 Enid and R. Crosby
Kemper Lecture

Paul Reid, Author of the final installment of William Manchester's unfinished triology on Winston Churchill, will deliver the Kemper Lecture on Sunday, March 2, 2014, as part of the Churchill Weekend

March 1-2, 2014



Please mark your calendars early for this great Churchillian event!

MEET THE NEW MARKETING SPECIALIST OF THE NATIONAL CHURCHILL MUSEUM

Caroline Slavin
Marketing Specialist of the National Churchill Museum

Caroline Slavin from Brashear, Missouri, is the new Marketing Specialist at the National Churchill Museum on the campus of Westminster College.

"I'm excited to have the opportunity to promote the National Churchill Museum and highlight its staff, board members, volunteers, and visitors, " said Slavin. "I can't wait to share such a special place with the world."

Slavin will focus on online marketing for the Museum: creating and implementing an online marketing strategy, optimizing its social media accounts, and managing its overall web presence.

Previously, Slavin held the position of Interim Marketing Manager for Westminster College where she managed the College's websites, email campaigns and social media accounts. She holds a B.A. from Westminster College in English Literature.

Holiday festivities are in full swing at the National Churchill Museum. The 30th Annual Victorian Christmas kickoff, featuring the traditional Kettledrum Tea, was a huge success with a record-breaking number of visitors on opening day. Victorian Christmas merchandise will continue to be sold until the new year. You're sure to find something, whether you're looking for a new ornament for your tree, a Christmas present for kids to unwrap, or something unique for that person who has everything. We even have a special Doctor Who display for fans of our favorite Time Lord. Stop in and see us soon!

For more information about the Museum Store and the merchandise, please contact the Museum Store Manager Becky McCue at 573-592-5263 or email becky.mccue@churchillmemorial.org.

Summer visitors and Christopher Wren

Kit Freudenberg
Director of Development

This summer, Mr. and Mrs. John Monk from Texas visited the Museum and Westminster College specifically to view the Church of St. Mary, Aldermanbury, and our Christopher Wren pulpit. Their church had acquired a Wren pulpit from England and they were interested in our pulpit's restoration and presentation.

One of the most celebrated English architects in history, Sir Christopher Wren (1632-1723) is best known as the builder of St. Paul's Cathedral. He also oversaw the design and reconstruction of over 50 other churches after a great fire laid waste to the City of London in 1666. Only some twenty Wren pulpits survive in the world today, constructed of oak and pitched pine, the design of hexagonal piece features arched headed panels, ornamented with hand-carved swags and cherub heads.

The pulpit in the adjacent photograph was designed by Wren to grace the sanctuary of St. George's, Botolph Lane, and the first sermon preached from the pulpit in 1676. After St. George's Church was demolished on order of the crown in the early 20th century, the pulpit was moved to Christ Church, Fulham. It was later entrusted to a London firm specializing in historic church furnishings, with the stipulation that the pulpit only be sold to another church. Subsequently, it was acquired by Christ Congressional Church of Lufkin, Texas in 2011, which commissioned its professional restoration by British native, Mr. Peter Goodchilds, of Dallas, Texas.

Restorer Peter Goodchilds with a Wren pulpit to be installed at new Christ Congressional Church in Lufkin, Texas

The Wren pulpit here in the Church of St. Mary came from the Church of All Hallows, London, where it was installed in 1683. All Hallows also burned in the Great Fire of 1666 and was rebuilt by Wren. This pulpit was probably designed by him and executed under his direction, as it is in the Grinling Gibbons style, a craftsman whom Wren used extensively. The pulpit remained at the Church of All Hallows until the 1870s and moved to the Parish Church of St. Paul, Hammersmith, until 2002. It is a gift from the Diocese of London to the Church of St. Mary, Aldermanbury, in memory of September 11, 2001.

Wren pulpit graces the Church of St. Mary, Aldermanbury, here in Fulton, Missouri

We thank all those who donate to the Church Endowment Fund and support the maintenance and upkeep for historic treasures that have been entrusted to the Museum and Westminster College.

Liz Murphy
National Churchill Museum
Archivist/Curator

2014 Exhibition Schedule

2014 promises to be an exciting year for the Curatorial Department and the Museum's Exhibition Schedule. Below is a brief synopsis of the exhibitions coming to the Museum. For more information contact Liz Murphy at (573) 592-5626 or liz.murphy@churchillmemorial.org

1/13/2014-3/9/2014

Ronald Reagan and Margaret Thatcher: Their Special Relationship
Curated by Dr. James Cooper, Oxford Brookes, U.K.
The story of President Reagan and Prime Minister Thatcher is explored as they challenged the political landscape and moved forward their domestic and foreign policies. Photographs and items from the Ronald Reagan Presidential Museum and Library and his *Alma Mater*, Eureka College, will be displayed with local history and his breakout film, *King's Row*, based in Fulton, Missouri. Churchillian traits such as character, heritage, and determination guide you through this fascinating look at a special relationship between two world leaders not seen since President Roosevelt and Sir Winston Churchill.

Opening Reception: Saturday, January 17 from 1 pm – 3 pm
with special guest Dan Martin, artist, illustrator and political cartoonist for book signing
The Quotable Winston Churchill, Richard Mahoney, editor.

3/24/2014-5/25/2014

Fourteenth Annual Watercolor Missouri International
Curated by the Missouri Watercolor Society
For the last 14 years, more than 80 watercolors annually have graced the gallery walls. The pieces come to the Museum from all over the globe. This juried competition is one of the nation's top 15 watercolor exhibitions.

Award Reception: Sunday, April 6 from 1:00 pm - 3:00 pm

5/30/2014-7/20/2014

D-Day Normandy: Operation Overlord
From the U.S. Navy Art Museum
On the night of June 5, 1944, over 1,000 ships, the greatest armada ever to set sail, left the British isles, bound for the Coast of Normandy--its mission to liberate Europe. Operation Overlord had begun. For this exhibition, three artists have been selected: Mitchell Jamieson, Alexander Russo and Dwight Shepler. These painting by U.S. Navy's combat artists are the visions and images of the greatest amphibious operation ever launched—the invasion of Normandy and D-Day.

Opening Reception: Friday, June 6 from 5:30 pm - 7:00pm

8/4/2014-9/8/2014

The Great War
Curated by the National Churchill Museum and the Missouri State Museum
To honor the anniversaries of WWI, the National Churchill Museum will partner with the Missouri State Museum to bring WWI to life. Explore the experiences of trench warfare and artifacts from the First World War.

Opening Reception: Friday, August 8 from 5:30 pm- 7:00 pm

Mandy Plybon
Education & Public Programs Coordinator

School and Community Update

This past fall saw a new undergraduate course at Westminster College – 'HIS200A: Introduction to Museum Work.' Co-taught by myself and Liz Murphy, Museum Archivist/Curator, students were introduced to the many aspects of museology, including the areas of exhibit design, conservation, education, interpretation, and administration. For the bulk of the course, the National Churchill Museum was used as a lab and case study. The class visited two additional sites during the semester. The first trip was to the Missouri State Archives conservation lab for a behind the scenes tour of the archives and conservation lab. In October, we visited the Daniel Boone Home and Heritage Center. Here we experienced their guided house and grounds tour plus extra one-on-one time with their lead interpreter. As a recap for both trips, students wrote reviews combining personal experience with course readings.

Coursework culminated in a group online exhibit project. After much debate in class, the students chose 'Everyday Life in Victorian Britain' as their topic. We spent quite a bit of time discussing what segments to include in the exhibit. Ultimately, they chose fashion; technology/industrialization; family life; philosophy of education; politics; low-culture (culture of the 'every-day' man); economy; high culture (*bourgeoisie*); and, last but not least, Winston Churchill during Victorian Britain, incorporating his story throughout the segments.

The Introduction to Museum Work class field trip to the Daniel Boon Home and Heritage Center

Working in small teams, students picked their roles in the project selecting from exhibit design, education, marketing/social media, collections/curation, and development. Each role had its own set of responsibilities and assignments to complete the project. The final product is available at http://www.nationalchurchillmuseum.org/online-exhibits.html.

With new museum courses to further engage Westminster College students, it is an exciting time at the Museum. I am teaching another new another new course – 'HIS 300B: Museums and Education-Places of Learning' this spring. Along with Westminster's History Department, the Museum is working towards the development of a Museum Studies minor, including the future creation of two additional courses-'Museums and Collections' and 'Museums and Society.'

The Introduction to Museum Work class took a field to the MO State Archive's conservation lab

LETTERS TO *THE CHURCHILLIAN*

Email us any questions about Winston Churchill under the sun, and we'll get the answer from our panel of experts! Send your questions, comments and general musings to TheChurchillian@nationalchurchillmuseum.org.

"CHURCHILL AND BELLOC" (SPRING 2013)

I was interested to read that Churchill never faltered in his support of Belloc, with all his faults. Of course I did not know that they were friends and Belloc had the privilege of being invited to Chartwell. I do wonder how the electors of Salford voted in a recently-naturalised Frenchman at a time when rivalry with France remained intact. An impossible result today!

I was staggered to read that Belloc lost a son in each of the two World Wars; this must be a very uncommon case. Asquith lost one in WW1 and Eden one in WW2, but to lose two in the two wars! How he kept his indomitable Roman Catholic faith escapes me. Perhaps it was the old Judaeo-Christian belief that God was only testing him. Churchill the non-believer must have found this very difficult to understand.

Two corrections, if I may: (1) "Belloc believed that British civilization had peaked in the high Middle Ages, led by beneficent Catholic monarchs, Charles II and James II." Actually they reigned in the 17th century, long after the high Middle Ages. Churchill defending James II must have been an uphill task in 20th century Britain. (2) In note 11, it is Feske, not Fiske.

You made a great job of it. I wonder how many professional historians of 20th century Britain are aware of this empathy between the two great men.

—Antoine Capet, Professor of British Studies, University of Rouen, France

HITLER WARNINGS

What was the single most prescient warning Churchill made about Hitler? Do you have a quote my great friend Dambisa Moyo can use in her next book?

—Andrew Roberts, New York

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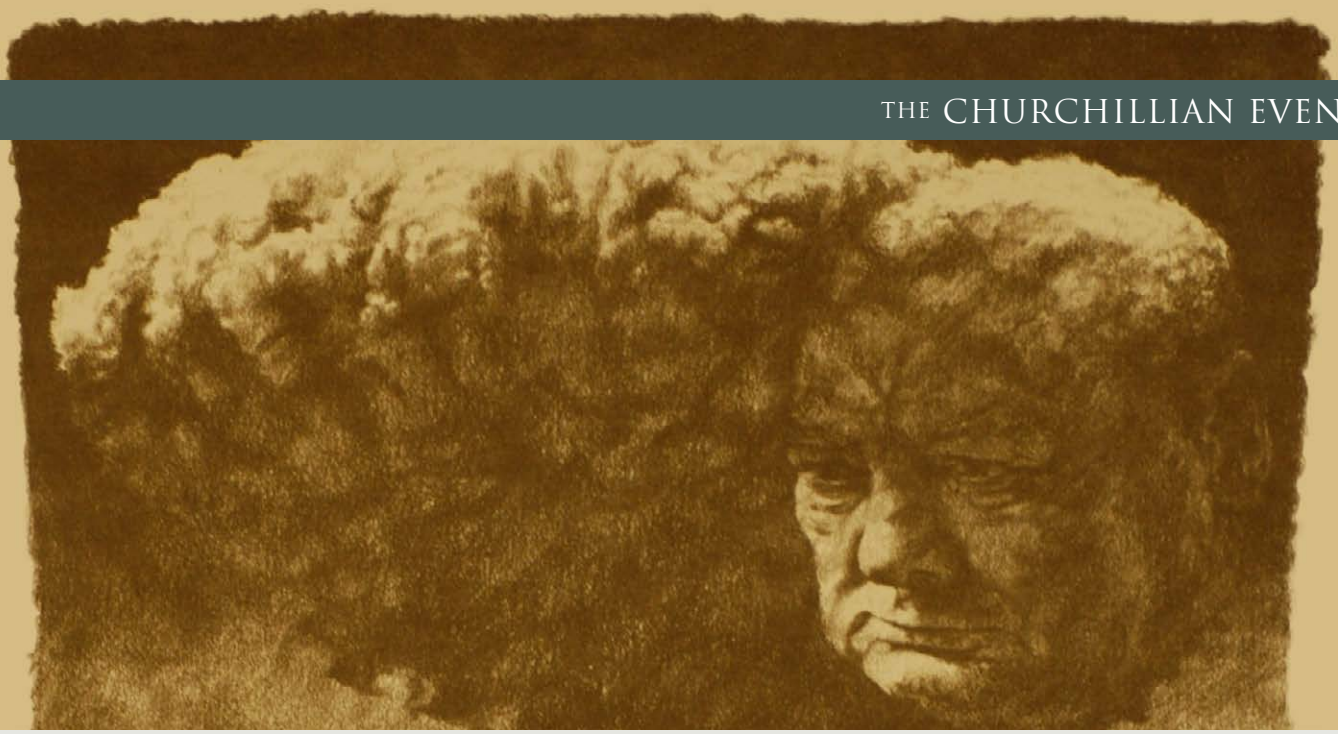
The first is from the House of Commons, November 23, 1932, two months before Hitler became Chancellor: "Now the demand is that Germany should be allowed to rearm. Do not delude yourselves. Do not let His Majesty's Government believe—I am sure they do not believe—that all that Germany is asking for is equal status.…All these bands of sturdy Teutonic youths, marching through the streets and roads of Germany, with the light of desire in their eyes to suffer for their Fatherland, are not looking for status. They are looking for weapons…."

Or, if it must be from after Hitler took charge, consider this Commons remark on November 28, 1934: "What is the great new fact which has broken in upon us during the last eighteen months? Germany is rearming. That is the great new fact which rivets the attention of every country in Europe, indeed in the world, and which throws almost all other issues into the background.…"

Equally important though a year later, from "Hitler and His Choice" in the *Strand Magazine* of November 1935 was a comment that has its applications to modern tyrants with whom we are presently negotiating: "Recently he [Hitler] has offered many words of reassurance, eagerly lapped up by those who have been so tragically wrong about Germany in the past. Only time can show, but, meanwhile, the great wheels revolve; the rifles, the cannon, the tanks, the shot and shell, the air-bombs, the poison-gas cylinders, the aeroplanes, the submarines, and now the beginnings of a fleet, flow in ever-broadening streams from the already largely war-mobilised arsenals and factories of Germany." (Of course the problem now is not tanks and submarines, but nuclear weapons.)

Two years later in the Commons on April 14, 1937: "We seem to be moving, drifting, steadily, against our will, against the will of every race and every people and every class, towards some hideous catastrophe. Everybody wishes to stop it, but they do not know how."

And, on March 24, 1938, not specifically about Hitler but definitely to the point, came this: "I have watched this famous island descending incontinently, fecklessly, the stairway which leads to a dark gulf. It is a fine broad stairway at the beginning, but after a bit, the carpet ends. A little further on there are only flagstones, and a little further on still, these break beneath your feet.…if mortal catastrophe should overtake the British Nation and the British Empire, historians a thousand years hence will still be baffled by the mystery of our affairs. They will never understand how it was that a victorious nation, with everything in hand, suffered themselves to be brought low, and to cast away all that they had gained by measureless sacrifice and absolute victory—gone with the wind!"



DECEMBER

1 **5th Annual Holiday Honor Tree**
Through January 2
On display in Museum entrance

2 **Holiday Tree Lighting & Children's Crafts**
4pm – 7pm Family activities
6:15 pm Tree lighting

JANUARY

13 **Ronald Reagan & Margaret Thatcher: Their Special Relationship**
January 13 – March 9
Opening Reception January 17 from 1 – 3 pm

21 **Winston Churchill Student Speech Competition**
Regional Competitions
January 21 - 30

FEBRUARY

17 **Winston Churchill Student Speech Competition**
State Competition

MARCH

1-2 **Churchill Weekend**

2 **Enid and R. Crosby Kemper Lecture By Paul Reid**
2pm

5 **67th Anniversary of Winston Churchill's "Iron Curtain" speech at Westminster College**

12 **Homeschool Day**
9am-4pm

24 **14th Annual Watercolor Missouri International**
March 24 – May 25
Award Reception April 6 from 1 – 3 pm

NATIONAL CHURCHILL MUSEUM

NATIONAL CHURCHILL MUSEUM
501 WESTMINSTER AVENUE
FULTON, MISSOURI 65251

★ Coming January 2014 New Exhibition: Ronald Reagan and Margaret Thatcher: Their Special Relationship ★

Ronald Reagan and Margaret Thatcher: Their Special Relationship is the story of two political outsiders - President Reagan and Prime Minister Thatcher – who challenged the political landscape to move forward domestic and foreign policies. Photographs, clothing and personal items from the Ronald Reagan Presidential Museum and Library and his Alma Mater, Eureka College, will be displayed. Churchillian traits such as character, heritage, and determination guide you through this fascinating look at a special relationship between two world leaders not seen since President Roosevelt and Sir Winston Churchill.

Ronald Reagan's 1940 breakout movie, *King's Row*, with Ann Sheridan and Bob Cummings was based on local Fulton, Missouri author Henry Belleman's book. Posters, costumes and film materials courtesy of local collectors will be displayed.

Curated by Dr. James Cooper, Kit Freudenberg and Elisabeth Murphy.