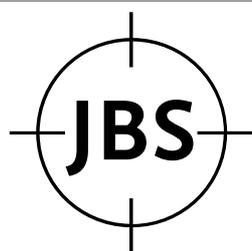


James Bond and the End of the World

ANDRÉ J. MILLARD

The creation of James Bond marked a significant change in Ian Fleming's view of technology. Once a technological enthusiast, a believer in the efficacy of new ideas, and a supporter of technological change, Fleming became disillusioned with science and scientists during his intelligence work in World War II. His famous character emerged at a time of dramatic and discomfoting post-war change in both Fleming's personal life – a marriage, a new home, a new job – and in his world. As he writes in *Casino Royale*, “[h]istory is moving pretty quickly these days” (1953, 164). The dystopian fears grew stronger in Fleming's fiction as the Cold War heated up, and his optimism for the future – as well as his health – declined. His villains grew more ambitious, the threat of technology in the wrong hands increased exponentially, and the end of the world grew closer with every novel – as one of his readers told him: “[y]ou are doing your bit to make the world a beastlier place” (qtd. in Fleming 2015, 128).

As the fictionalised Bond evolved into the filmic Bond, these dystopian themes grew stronger, and the technological threat became more potent, embracing terror weapons of mass destruction. Bond stood for human agency in negotiating technological change, and his inevitable triumph symbolised Fleming's belief in the resilience and ingenuity of the individual. So while the character of Bond changed very little, the malicious technology he faced grew in pace with the rapid advance of technology during the arms race that followed World War II. As a Cold War hero, Bond operated within the context of mutually as-



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sured destruction, and so perhaps it was inevitable that the Bond canon imagined the end of the world. When a real global threat emerged in 2020, it was not surprising that some commentators interpreted it within a Bondian framework: Covid-19 was seen as something that “a Bond enemy could try to unleash on the world” (Collins 2020, n.p.).

Fleming and his generation of well-educated, upwardly-mobile Englishmen entered the first years of the twentieth century when rapid technological change was transforming their world. This generation inherited “the absolute faith that men in the nineteenth century had in the beneficial effects of scientific, technological and industrial progress”, as John Ellis put it (1986, 32-33). And this progress made available (to those in the know) a wondrous stream of new machines: motor cars, aeroplanes, radios, motion picture cameras, and speed boats. Fleming was lucky enough to be among this affluent group, and was able to indulge his passion for speed and his love for all things mechanical. Although educated in the classics, Fleming exhibited a practical, mechanical bent, and was quick to adopt the technology that was changing his first profession as a journalist – telephones, typewriters, and cameras – as well as the steam-turbine powered ships, reliable touring cars, and affordable air travel that facilitated his yearnings to be a world traveller. Fleming was a technological enthusiast – one who not only marveled at the complexity and beauty of new machines, but was also one who convinced that they had the power to change history. He told his wife’s brother that he was “only interested in tomorrow” (qtd. in Fleming 2015, 7).

During his preparation to take the Foreign Service exams in the 1920s, Fleming read up on subjects not normally taught at English schools: social history, anthropology, and the history of science and technology. When he had made a little money through banking deals in the early 1930s, he enlarged his book-buying hobby into a plan to build a library of technical and intellectual developments since 1800: “the milestones of human progress” as he put it (qtd. in Pearson 1966, 71). His book-buyer Percy Muir started with Darwin’s *The Origin of Species* and Nils Bohr’s *Quantum Theory*, and then extended to books about motor cars, miners’ lamps, zippers, and tuberculosis. Fleming poured money into his library and by 1939 could claim that the “Fleming Collection” was “one of the foremost collections of scientific and political thought in the world” (Pearson 1966, 72). Collecting rare books was a hobby, but Fleming also recognised that information about science was useful in the fields of finance and journalism. He believed that technology made things happen, a sentiment shared by his generation who saw innovation as driving force of social, economic, and political change. His friend William Stephenson said that “Fleming was always fascinated

by gadgets” (1976, 297), and as a young man he was convinced of the influence of technology on history.

Yet at the same time Fleming was also a traditionalist, one whose position in the social hierarchy led him to publicly support the old hierarchy and values during a time when they were coming under some stress. He explained his resignation from the Royal Military College in 1927, which effectively ended his military career, thus: “I didn’t become a soldier after passing out from Sandhurst because they suddenly decided to mechanize the Army and a lot of my friends and I decided that we did not want to be glorified garage hands – no more polo, no more pig sticking and all that jazz” (qtd. in Lycett 1995, 28). This was sheer bravado as Fleming was a poor horseman, did not play polo, and described his experience in Sandhurst’s Cavalry School as “horrible” (ibid., 21). In fact, Fleming and his alter ego Bond rather enjoyed hanging out in garages, befriending garage hands and valuing their technical knowledge.

Fleming’s associates noted that he had a fondness for men of mechanical ability. His friendship with the maverick inventor Sidney Cotton during the War is a case in point. Fleming’s biographer Andrew Lycett writes that “Cotton became the first in a line of practical inventors befriended by Ian” (1966, 106). They met for brain-storming sessions while Fleming worked in Naval Intelligence and as Cotton explained his latest gadget, Fleming would respond with “Amazing, Sidney, amazing” (ibid., 107). Fleming had great respect for Amherst Villiers, who he described as “an engineer of the highest quality” (qtd. in Pearson 1966, 336), the designer of the superchargers for Tim Birkin’s racing Bentleys in the 1930s. In *Casino Royale*, Bond drives a 4½ litre Bentley with a Villiers supercharger.

Fleming was born too late to see the full horrors of World War I in person, but old enough to appreciate the price paid: his father Valentine Fleming was killed on the Western Front in 1917. The horrors of modern warfare put an end to late-nineteenth century technological optimism and placed the post-war decades under the ever-darkening shadow of total war waged with strategic bombers, submarines, and poison gas. Despite dire predictions for the next world war, Fleming’s enthusiasm for technology, especially fast cars and boats, was undiminished. He enthusiastically joined in the struggle against Bolshevism in the 1920s and 1930s, which represented a more immediate threat to British hegemony than enemy airships and submarines. But an aspiring writer could not ignore a popular culture increasingly reflecting anxieties of technology out of control.

Dystopian predictions about the end of the world probably began with H.G. Wells and books like *War of the Worlds*. George Orwell noticed this new trend of weapons of mass destruction in the popular culture of the 1920s: “[t]he one theme that is really new is the scientific one. Death rays, Martians, invisible men, helicopters and interplanetary rockets” (qtd. in Carey 2002, 201). The death ray moved from fiction to fact in the 1920s when several individuals claimed to have developed high-energy particle or electromagnetic beams strong enough to cause injury. These quasi-scientific predictions, combined with the imagination of pulp fiction and serialised films, produced an alarming and apparently well-informed vision of the end of the world. Fleming had grown up with literary villains empowered with futuristic technology, such as Fu Manchu, Fritz Lang’s Dr. Mabuse, or Flash Gordon’s Ming the Merciless. In the serial films of the 1930s, heroes like Buck Rogers and Flash Gordon have to contend with poison gas and biological weapons in addition to zombies and bombs. It is no coincidence that much of the business of villainy in these 1930s and 1940s films was taken up thirty years later in the Bond films. The giant spider crawling over the hero, the trapdoors that drop the unsuspecting to a spectacular death, and the deadly poison-gas assassination weapons had all been filmed well before Bond encountered them.

We do not know if Fleming was a fan of Buck Rodgers or Flash Gordon, but he did see Fritz Lang’s *Metropolis* (1927) and it certainly made an impression on him. In probably the most prescient film ever made about the threat of future technology, *Metropolis* produced an unforgettable vision of a future run by massive steam-fired machines, giant crankshafts, and control boards of dials and switches. In one of the film’s most expressive scenes, this giant machine turns into the mythic monster god Moloch who devours the workers. In a letter to the film producer Alexander Korda of 1952, Fleming proposed “an expansion of a film story I’ve had in my mind since the war – a straight thriller [...] involving the destruction of London by a super V-2, allowing for some wonderful film settings in the old *Metropolis* idiom” (qtd. in Lycett 1995, 250).

One thread runs through all Fleming’s film ideas: a weapon of mass destruction falls into the wrong hands and threatens global destruction. In “The Living Daylights” (1962), Bond has to protect an agent coming across the Berlin Wall with the most valuable secrets: “loaded with stuff. Atomic and Rockets”, as M informs him (82). In a letter to his literary agent William Plomer, Fleming distilled his novels as “Bond & Blondes & Bombs” (qtd. in Lycett 1995, 364). Atomic bombs and intercontinental ballistic missiles mark the end of Fleming’s technological enthusiasm. His experience in World War II brought him into contact

with some of the dangerous new military technologies developed by Hitler's scientists. From V-2 ballistic missiles to deadly poisonous gases, the Nazis had transformed warfare, and threatened what Winston Churchill called "a new dark age made more sinister [...] by the lights of perverted science" (qtd. in Stewart 2007, 59).

Science and scientists, especially those with German accents, do not fare well in the Bond canon. Half-German scientist Dr. Julius No intends to torture Bond as an experiment: "the facts will be noted [...] Your deaths will have served the purposes of science" (Fleming 1958, 148). Auric Goldfinger is a chemist and Ernst Stavro Blofeld studied engineering. Scientific research is rarely altruistic in Fleming's novels; as Bond notes of the Piz Gloria clinic in *On Her Majesty's Secret Service*: "[m]alignity must somewhere lie behind the benign, clinical front of this maddeningly innocent research outfit!" (Fleming 1963, 157).

When Fleming sat down to write the first Bond books, the threat of atomic weapons was very real in the United Kingdom which, unlike the United States, was in range of Soviet missiles during the 1950s. There was also a spirited public debate about whether the country was to build its own atomic weapons. As a writer who kept pace with the advance of science, Fleming was of one mind with Winston Churchill, who spent many years worrying about the apocalyptic arc of nuclear bomb research and development. The inexorable process of technological innovation, which took the airplane from fragile novelty to vehicle of mass destruction in Fleming's lifetime, increased his paranoia about the atomic threat, as witnessed in *Thunderball*: "only the prototypes had been difficult [...] like machine guns or tanks. Today these were everybody's bows and arrows. Tomorrow, or the day after, the bows and arrows would be atomic bombs [...] soon every criminal scientist with a chemical set and some scrap iron would be doing it" (Fleming 1961, 81).

At the very moment when Fleming started to write about James Bond came the technology that sealed his dystopia, and took mass destruction to an entirely new level. In October 1952, as Fleming discussed a contract with the publisher Jonathan Cape for his *Casino Royale* manuscript, the United Kingdom exploded its first atomic bomb. A week later the United States successfully tested a new type of atomic bomb – the hydrogen bomb – which obliterated an island in the South Pacific. With twice the power of all the explosives used in World War II, this "super" H-bomb increased nuclear anxieties, making the end of the world a reality. Fleming and Churchill were among the millions of people appalled by the destructive power of the H-bomb. According to Graham Farmelo

the nuclear threat became an obsession, “a monomania” for Churchill, and a suitable stage for Bond to act upon (2013, 3, 4, 408). In August 1953, when Fleming was gathering research for the book that would become *Moonraker* (1955; also the first time that Bond faces the threat of a nuclear weapon), the world learned that the Soviet Union had tested a H-bomb. Churchill gloomily told his doctor that “that hydrogen bomb can destroy two million people. It is so awful that I have a feeling it will not happen” (qtd. in Farmelo 2013, 403). Fleming played around with the idea that it might. Bond justifies his murderous profession thus: “[a]nyway, people were killing people all the time, all over the world [...] How many people, for instance, were involved in manufacturing H-bombs” (Fleming 1961, 7).

By the early 1950s, Fleming’s world was changing rapidly; “life has come so fast beside us”, he noted, and so was Bond’s (qtd. in Parker 2015, 132-133). The technology of the atomic age was changing espionage as much as warfare; as Fleming concluded in 1960, “the spy is a ticking seismograph on top of the Jungfrau [a mountain] measuring distant atomic explosions on the other side of the world, or instruments carried in aircraft that measure the uranium or plutonium contents of the atmosphere” (qtd. in Lycett 1995, 362). But Fleming drew the line when post-war innovations began to transform the business of espionage and its practitioners that he had grown to admire during the War. James Bond with his World War II equipment, tactics, and values was now becoming obsolete in the real world. The character of James Bond emerged out of Fleming’s nostalgia and central to the Bond canon is “nostalgia for a time when humans governed machines; nostalgia for past Bond adventures” (Roof 2020, 2). The thought from M’s driver in *Dr. No* – “[t]hey didn’t come like that anymore” (Fleming 1958, 15) – could easily be applied to Bond himself, his fading generation of wartime heroes, and their reliable machines.

The threat of atomic weapons imagined in *Moonraker* became the plot for the filmic *Thunderball* (1965). By this time, the primary Cold War antagonists had enough explosive power to kill everyone on earth a few times over. A fission device had been reduced in size from the five-ton monster dropped on Nagasaki to something that could fit in a suitcase. The downsizing of the bomb made a nuclear attack carried out by a single person possible, enabling “the most deadly saboteur in the history of the world – the little man with the heavy suitcase” as Fleming puts it in *Moonraker* (1955, 435).

Fleming’s proximity to English Prime Minister Anthony Eden, whose wife Clarissa was a friend of his wife, brought him closer to the realities of a nuclear exchange at the time of the two 1956 crises: Suez and the Hungarian Uprising.

Addressing the United Nations, the American Secretary of State, John Foster Dulles, said that when that organisation was formed in 1945, they thought they had all seen the worst of war, but that the “the future [was] dark indeed” (qtd. in von Tunzelmann 2016, 311). The fear that World War III was imminent brought the end of the world closer. Perhaps reacting to criticisms that his “unashamed” thrillers were not great literature (the most damaging of which came from his wife), Fleming explained to a publisher that a Bond story “is just what people want in order to take their minds off the future of the world” (qtd. in Fleming 2015, 40).

Fleming’s privileged front seat during the twin crises of 1956 brought him intelligence that was to become useful for his novels. Eden had ordered the British secret services to assassinate Nasser, and among the ingenious plans to kill the Egyptian leader were nerve gas, explosives hidden in Nasser’s electric razor, poisoned chocolates, and cigarettes that fired poisoned darts supplied by England’s biological warfare research establishment at Porton Down. These devices were noted and added to Fleming’s store of secret weapons – first seen during his service in naval intelligence during the War – that were to become Bond’s equipment in his books, and later, the beloved gadgets of the Bond films. Tiny assassination devices or escape equipment hidden in everyday objects appealed to the mechanically-minded Fleming, and they were also useful in authenticating his novels. There were historical precedents for many of the fantastic devices he wrote about. At the time his technical commando unit 30AU was scouring Germany for secret weapons in the last days of the War, there were fears in the Allied command that stay-behind SS fanatics would wage a guerrilla war against the occupying forces. Some of these “werewolves” were captured with assassination devices about their persons, including poisons hidden in sausages, chocolates, and aspirin. One female agent had germ warfare “microbes” hidden in her compact case (Walton 2013, 74). These reports were circulated and the devices forwarded to London for examination, no doubt to be brought under the excited gaze of Commander Fleming.

At the end of World War II the victorious nations took up the chemical and biological warfare experiments of Nazi Germany and recruited their scientific personnel to carry on research and development. Fleming had come across the deadly nerve gases developed by the Nazis during his time commanding 30AU. German chemists had developed new toxins that infiltrated the victim’s nervous system, blocking the nerve junctions and killing quickly and efficiently. These toxins were alarmingly potent. A drop of this agent could kill hundreds of

people by merely coming into contact with the skin, and was thus far more lethal than anything employed in both World Wars.

Nerve gases had great appeal to an author fascinated by poisons, especially organic poisons such as that derived from the fugu fish, or the curare he witnessed used to kill fish on a trip on the Caribbean. These weapons held great appeal to his wartime colleagues in intelligence, as well as to his brother Peter, a world traveller and intelligence officer in the war who was “very keen on poisoned arrows” (Bailey 2009, 19). Fleming wrote about a wide variety of them, including nerve toxins which the deadly Rosa Klebb smears on her knitting needles in *From Russia With Love* (1957). Bond avoids this attack, but Klebb finally stabs him with the concealed knife blade in her shoe, delivering a deadly dose of poison which we learn later in *Dr. No* was taken from the Japanese globefish. Fleming used his contacts in the intelligence services to keep abreast of the development of new poisons, including the Soviets use of radioactive materials and the organic toxins under development at the CIA. He knew enough about these substances to recommend their use to President John Kennedy at a Washington dinner in 1960. Perhaps Fleming got wind of the work of the Technical Services Division of the CIA under the direction of Dr. Sidney Gottlieb. Gottlieb was brilliant, eccentric, and apparently had no qualms about his poisonous experiments that took the life of at least one victim – a true Bondian villain in every way. He developed assassination kits for every recalcitrant third-world leader: lethal biological agents delivered by hypodermic needles, shellfish toxin on the head of a pin, bacterial material like bubonic or pneumonic plague in liquid form, botulinum toxin pills dissolvable in water, breathing apparatus treated with tuberculosis bacilli, and deadly fungus spores (Richelson 2001, 37-38).

Fleming started research on what he called germ warfare for a new novel in the first years of the 1960s. In September 1961 he asked the researcher Joan Saunders for information on anthrax, swine fever, foot and mouth disease, and other bacteria that could be used to attack crops (Fleming 2015, 316-317). He used this information in a detailed explanation of chemical and biological warfare in *On Her Majesty's Secret Service*. In a chapter entitled “Something called ‘BW’” Fleming spends many pages educating the reader in its chemistry and destructive potential: “[w]e talk about the new nerve gases the Germans invented in the war,” but a biological attack can devastate “thousands of square miles” (1963, 233). *On Her Majesty's Secret Service* moved the technological threat from atomic weapons to biological warfare, which, at the time, was very much in the news. In 1962 a British serviceman had died at Porton Down in an experiment with nerve gases. There was an official investigation and this tragedy was reported in the

Press along with subsequent laboratory accidents that released bubonic plague bacilli. A year before Fleming's book came out, Alistair MacLean's *The Satan Bug* was published. This dystopian thriller imagined a laboratory mutation of the polio virus, which had infected tens of thousands in the United Kingdom and the United States in the post-war decade. In 1948, a poll found that Americans feared only nuclear war more than polio (Snowden 2019, 390). MacLean's deadly virus killed rather than crippled, and had the capability to end life on earth. This very popular book, which was turned into a film, also mentioned some of the toxins Fleming describes in his book, including a botulism originally intended to kill livestock – something that Fleming had considered when he was researching *On Her Majesty's Secret Service*.

Fleming's interest in toxic substances increased in time with the decline of his own health from the twin poisons of alcohol and nicotine; he (and Bond) was addicted to both. His alter ego begins to show signs of aging in *From Russia With Love's* chapter "The Soft Life": inaction and boredom has diminished Bond's spirit. By *Thunderball*, Bond's deteriorating condition is reported in his Medical, and in the same year that the novel was published Fleming suffered a heart attack from the coronary disease that would eventually kill him. "Octopussy" (1966) was written at the very end of Fleming's life, when he was a sick man. The central character, Major Smythe, is described as a once-valued intelligence officer whose wartime service, daily routine in post-war Jamaica, and poor health is remarkably like Fleming's. In his most autobiographical work, Fleming acknowledges how alcohol and nicotine have ravaged Smythe's health, leading him to several heart attacks and to "the frontier of the death wish" (Fleming 1965, 7).

Although Smythe meets a horrible fate after being stung by a globefish, Fleming continued to write until the very end, resisting the impulse to kill off his hero. Bond recovers his health and meets the threat of biological warfare with ease, foiling a plot to ruin England's economy by spreading disease to the country's livestock in *On Her Majesty's Secret Service* (1969). When the novel was turned into a film, the technological threat moved from interfering with British agriculture to a deadly virus that will make all plants and living things, including humans, infertile. Even though *On Her Majesty's Secret Service* was intended to be a gadget-free film that avoided the excesses of its predecessors, the technological threat did not – instead of Bond protecting English turkeys, the survival of life on planet Earth was now at stake. The evil Blofeld plans to spread his viruses by concealing them in cosmetics (a method pioneered by the SS) carried by his brain-washed patients far and wide – a suitably frugal delivery system for a film

which was low budget in relation to the other Bond films. Ten years later in *Moonraker* (1979) – a much more expensive film – the villain, Drax, delivers his toxic agents from space in satellite-like pods which Bond must destroy with laser beams fired from a space shuttle. The Bond films almost by necessity had to raise the threat level; filmic Bond had to compete in a very crowded market for action-adventure spy films. One of the producers, Albert R. Broccoli, pointed out that “[w]ith every new Bond picture we have to be bigger, better, more spectacular, more exciting, more surprising than the previous ones. Dreaming up new stunts, new twists, original gimmicks” (qtd. in Chapman 2000, 59).

The Bond films soon ran out of original material and had to move far from Fleming’s original character and his imperial worldview. The exponential growth of weapons of mass destruction pushed the Bond formula from routine spy thriller to apocalyptic action films struggling to compete in a filmic world of futuristic weapons and fantastic threats. With both sides of the Cold War operating under the assumption of Mutually Assured Destruction, the terror from the skies which colored science fiction in the 1930s now re-appeared in 1960s popular culture with the weight of reality. Outrageous villains aided by the lights of perverted science returned to movie screens in the 1970s and 1980s, with the wildly successful *Indiana Jones* and *Star Wars* franchises channelling the adventure and science fiction serials of the 1930s. Albert R. Broccoli and Harry Saltzman of Eon Productions were forced to modernise their product to catch up with action-adventure films that were more popular than 007. In other words, they had to maintain Bond’s position of not only being the arbiter of new and desirable machines, but also as the herald of looming technological disaster. Eon Productions adapted each new Bond film to suit contemporary concerns about the latest technology. For instance, *A View to a Kill* (1985) reflected the rise of the integrated circuit and its growing influence on daily life in the mid-1980s. It was released in 1985 a year after Apple introduced their Mac personal computer. The plot has a technology-savvy villain cornering the market for microchips by creating a natural disaster in Silicon Valley. Whatever the threat, however, the consequences always remain the same: “He’ll kill millions!”

The universe of bad guys created by Fleming from the binary oppositions of the 1930s and 1940s evolved into a far more ambiguous villains in the late Bond films; the evil designs now come from self-made millionaires and industrialists rather than from ideological leaders or master criminals. As a locus of technological expertise, the multinational corporation filled in for the monolithic nation states of the Cold War in the Bond films. The corporation had extensive technological resources, and the empires of crime visualised in the silent films of

Lang and Feuillade were now placed into corporate hands. Fleming had already anticipated this shift in his novels, and Christopher Hitchens credits him as “a pioneer in moving (the villain) to crime cartels and non-state actions” (2006, n.p.).

The new threat of global terrorism formed the backdrop of action-adventure films from the 1990s onwards and the Bond franchise followed suit. The opening scene of *Tomorrow Never Dies* (1997) is set in “a terrorist arms bazaar on the Russian border”; the psychopathic Renard in *The World is Not Enough* (1999) is described as an anarchical terrorist with previous links to the KGB; Le Chiffre in *Casino Royale* (2006) is a private banker for terrorists; and in *Skyfall* (2012) Silva is a cyberterrorist intent on revenge. The scientist standing behind the villain is no longer a German chemist, but a computer expert like Henry Gupta in *Tomorrow Never Dies*, a radical American who we are told “practically invented techno-terrorism”.

Although Bond’s world is ever-changing, there is one part of the formula that has to remain constant, or the 007 spell will be broken. The weapons of mass destruction necessarily evolve in their threat, but they must always give the bad guys “[t]he power to reshape the world”, as Renard notes in *The World is Not Enough*. This in turn gives Bond the opportunity to save it. The adventure films of World War II showed that the lives of hundreds and then thousands of people were put at risk, but in the Cold War, the stakes were raised to hundreds of thousands, and then millions of victims. It was left to a single secret agent, one man with a gun, to guard against the end of the world. Bond still carried out the heroic commando raids that so impressed his creator during the 1940s, but the weapons of mass destruction he thwarts elevates him as the saviour of the whole world.

In the late-twentieth century Bond went on to defeat a succession of technological monsters – many of which mirrored the anxieties of an audience coming to terms with a digital revolution that was transforming their lives. As Claus-Ulrich Viol has pointed out: “Bond, as has been repeatedly argued, acts to alleviate fears of an increasing advance of technology and its colonisation of human beings, its becoming abused by sinister powers or its becoming fully autonomous” (Viol 2019, 14). Bond’s fight against evil has moved onto the internet and into cyberspace, against malicious hackers and digitally-enhanced villains, but in the end, tranquility has to be restored by a hero “who takes power from the machine and hands it back to the human” (Willis 2009, 176). The captions of the *Daily Express* James Bond comic strip summarises this winning formula: 100 million pounds “in gold or we explode the bombs in your countries. Every agent, in-

cluding Bond, searches for the bombs. Bond finds them and the world is saved” (qtd. in Lycett 1995, 396).

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