



War Is Unseen Legacy Exploring The Impact Of Science And Technology In WWII Through The English Patient And Black Rain

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ABSTRACT

The emergence of the modern state, accompanied by its technological advancements, was celebrated as a new era for humanity. The promises of enlightenment seemed to have come to fruition, with scientific innovations poised to propel humanity towards a universal culture. Long-standing issues such as disease, ignorance, and poverty appeared destined to fade into obscurity, given that science and industrialization had bolstered human intellect and productivity. However, amidst this optimistic narrative, dissenting voices have emerged to critique the shortcomings of modernism and its overarching narrative. Critics lament the tendency of modernist ideologies to mechanize human existence, stifling individual creativity and moral sensibilities. Through coercion and conformity, the modern state supplants individual cultural assessment and fosters violence and intellectual apathy, thereby impeding progress. This research paper delves into the lesser-explored aspects of World War II (WWII) by examining the profound impact of science and technology during this tumultuous period. Through a comparative analysis of Michael Ondaatje's *The English Patient* and Masuji Ibuse's *Black Rain*, this study seeks to uncover how advancements in science and technology shaped the wartime experience and left a lasting legacy on post-war society. By scrutinizing the narratives of these two literary works, we aim to shed light on the multifaceted consequences of scientific progress and innovation in the context of WWII.

Keywords: Nuclear bomb, Japan, WWII, Black Rain

Introduction:

“A bundle of enriched-uranium fuel rods that could fit into a two-bedroom apartment in Hell’s Kitchen would power [New York City] for a year: furnaces, espresso machines, subways, streetlights, stock tickers, Times Square, everything—even our cars and taxis, if we could conveniently plug them into the grid.”

Max Schulz, 2006 p.60.

World War II has been valued as the most transformative period in human history, marked by unprecedented levels of destruction, suffering, and technological innovation. While the military and strategic dimensions of the conflict have been extensively studied, the impact of science and technology on the human experience of war remains a relatively underexplored area of research. This research paper delves into the unseen legacy of war, particularly focusing on the profound impact of science and technology during WWII as portrayed in Michael Ondaatje's *The English Patient* and Masuji Ibuse's *Black Rain*. Through a comparative analysis of these literary works, alongside historical context and scholarly insights, this paper aims to uncover the multifaceted dimensions of how science and technology shaped the wartime experience and left enduring legacies on individuals and societies.

Literature Review:

Previous research has highlighted the pivotal role of science and technology in shaping the outcome of WWII, from the development of atomic weapons to advancements in communication and transportation. However, scholars have paid limited attention to the humanistic implications of these technological innovations and their lasting impact on individual lives and societal norms. By examining literary representations of WWII, such as *The English Patient* and *Black Rain*, we can gain a deeper understanding of the human experiences behind the scientific and technological advancements of the era.

Methodology:

This research employs a comparative analysis of two seminal works of literature, *The English Patient* and *Black Rain*, to explore the impact of science and technology on WWII. Drawing on close readings of these texts, we will identify key themes and motifs related to scientific innovation, technological warfare, and their repercussions on human society. Additionally, we will examine secondary sources, including scholarly articles and historical analyses, to contextualize our findings within the broader discourse on WWII and its aftermath.

Findings and Discussion:

Our analysis reveals that both *The English Patient* and *Black Rain* offer nuanced portrayals of the intersection between science, technology, and human agency during WWII. In *The English Patient*, set against the backdrop of WWII, Ondaatje skillfully weaves together the narratives of four disparate characters whose lives converge in an abandoned Italian villa. Central to the novel's exploration is the character of the titular English patient, a severely burned man whose identity and past gradually unfold. Through the patient's recollections, readers are transported to the North African desert, where the protagonist, a Hungarian cartographer, becomes entangled in a doomed love affair and the perilous world of espionage. The novel juxtaposes the beauty of the desert landscape with the destructive power of war, symbolized by the ominous presence of the German army's technological superiority. From the use of advanced weaponry to the development of clandestine intelligence operations, *The English Patient* underscores how science and technology profoundly shape the lives of individuals caught in the chaos of war, leaving behind indelible scars on both the landscape and the human psyche. Joudar quoted for Ondaatje as:

Ondaatje has faced the problem of not being able to reach any community outside his family because he left his homeland at the age of eleven. Therefore, he describes the path into time and place because his memory of Ceylon is not sufficient to cover all the stories about the community. Thus, his identity is linked to things larger than himself. Despite his family history being different from social history, Ondaatje uses it to investigate social history. (Joudar, 2020, p 162)

Ibuse's work chronicles the aftermath of the atomic bombing of Hiroshima through the eyes of a survivor, Shigematsu. Despite their disparate narrative contexts, both novels underscore the transformative impact of scientific and technological advancements on individual identities, moral frameworks, and societal structures. Similarly, "Black Rain" by Masuji Ibuse offers a harrowing depiction of the aftermath of the atomic bombing of Hiroshima. Through the experiences of the protagonist, Shigematsu Shizuma, and his family, Ibuse examines the far-reaching consequences of nuclear warfare on both a personal and societal level. As the characters grapple with the immediate effects of the bombing, including the titular black rain contaminated with radioactive fallout, they also confront the invisible yet pervasive legacy of radiation sickness and the looming specter of long-term environmental devastation. Ibuse masterfully captures the tension between the awe-inspiring advancements in nuclear science and the catastrophic human toll wrought by its application as a weapon of war. Through vivid imagery and meticulous attention to detail, "Black Rain" serves as a haunting reminder of the ethical and existential dilemmas posed by the unchecked pursuit of scientific progress in the context of warfare.

Ibuse's *Black Rain* is a factual novel depicting the aftermath of the atomic bomb dropped on Japan towards the end of World War II. The author vividly portrays the devastating impact of the bomb on Hiroshima, emphasizing its use as a tool of American domination over Japan. Through carefully chosen language, the novel serves as a condemnation of the bomb, a product of the modernist vision. Ibuse's narrative style, devoid of explicit moralizing, aligns with postmodernist sensibilities, allowing him to connect the bomb's destructive effects to everyday life experiences. Structured around five personal journals, the novel provides intimate insights into the lives of its characters. Initially, Yasuko's journal, rewritten by her uncle Shigematsu, serves as a conduit to her intended fiancé, who plans to abandon her upon learning of her presence in Hiroshima during the bombing. Shigematsu's own journal follows, detailing the horrors unleashed by the bomb. Another perspective is offered through Shigeko's journal, focusing on wartime food shortages, while Yasuko's diary chronicles her illness resulting from exposure to nuclear radiation. Finally, Iwatake's journal recounts his struggles with atomic disease. In essence, *Black Rain* is a poignant exploration of the pitfalls of modern statehood and technology. On the other hand, set against the backdrop of war-torn Europe, *The English Patient* navigates the lives of four individuals whose paths converge in an abandoned Italian villa. Among them is the eponymous English patient, a man whose identity is shrouded in mystery and whose body bears the scars of

war's brutality. Through the intricate narrative woven by Ondaatje, the reader is transported into a world where the ravages of conflict are juxtaposed with the marvels of scientific progress.

The modern nation-state represents humanity's innovation, facilitating collective actions beyond individual capabilities. Concealed within the structure of governmental authority, vast sums of money are allocated toward the development of destructive technologies, contradicting moral principles. This aspect is illustrated in "Black Rain" through the portrayal of two modern nations: Japan and the United States. The plight of the Japanese people unfolds following the establishment of the modern state, wherein a state of "organized immorality" culminates under Emperor Hirohito's leadership. Ibuse criticizes the emperor for harboring expansionist ambitions that lead to societal calamity and ruin. One character, Ueda, remarks on the consequences of pursuing ideals such as the Greater East Asia Co-Prosperity Sphere. Swan (1996) argues that the Greater East Asia Co-Prosperity Sphere (GEACP) served as a strategy by the Japanese state to oust Western powers from East Asia and establish a self-sufficient protectorate (p. 139). Following Ueda's critique in "Black Rain," certain individuals in the audience rebuke him, advising him to refrain from expressing defeatist sentiments (p. 130). The Japanese government displayed initial indications of "collective immorality" with the formulation of the Tanaka Memorial in 1927. One of the most significant manifestations of science and technology in World War II was the development of weaponry. The English patient's fate is inextricably linked to the advancements in warfare, as he becomes a victim of a plane crash, a result of the aerial bombardments that characterized the conflict. The destructive power of these machines mirrors the dark side of scientific innovation, where progress is often accompanied by devastation and loss. However, amidst the chaos of war, science and technology also served as catalysts for salvation and redemption. In *The English Patient*, the character of Hana, a young nurse, embodies this duality. She harnesses the advancements in medical science to tend to the wounded and alleviate their suffering. The makeshift hospital in the villa becomes a sanctuary where modern medicine confronts the horrors of war, offering a glimmer of hope amidst the despair. The characters in the novel utilize cognitive maps as a tool to encode and retrieve spatial information. (Joseph, 2020)

According to Crow, Japan demonstrated its aspiration for global dominance by seizing Manchuria, China, and Asia, aiming ultimately to conquer Western powers (Crow, 1942, p 8-9). From 1927 to 1934, Japan initiated a series of military campaigns inflicting immense suffering upon Chinese civilians in pursuit of its vainglorious ambitions. Japan's deep-seated animosity towards Western nations is evident in the Tanaka Memorial, where the premier laments the perceived erosion of Japan's rights and privileges in Manchuria and Mongolia due to treaties such as the Nine Power Treaty, which he argues jeopardizes the nation's very existence (Crow, 1942, p. 8). Crow's analysis also sheds light on Japan's destruction of British colonies like Singapore.

The Japanese empire, hiding under the guise of a modern state, perpetrates heinous acts that individuals like Shigematsu would not engage in. Operating collectively as the "Japanese empire," they exhibit a disturbing audacity to violate moral principles such as the value of life and respect for others' property, as well as overarching narratives like societal advancement and universal truths. Acting as a group, the Japanese demonstrate a mob mentality by targeting British interests in Asia, leaving Shigematsu bewildered. At the root of this conflict lie cultural disparities between Japanese Buddhist traditions and Western secular ideologies. The Western world has long marginalized Japanese immigrants, dating back to their migration to the United States before World War I. Despite Japan's support for the Allies during the war, Japanese people faced segregation in Western nations. This highlights the failure of the modernist notion of a uniform global culture and strengthens the postmodernist argument for embracing diversity.

Under the guise of imperial expansion, the Japanese government engages in conflict with the West as a response to the racial marginalization of its citizens in those nations, thereby exposing the fallacy of cultural universalization. Throughout the novel, Ibuse highlights elements that emphasize the distinctiveness of Asian culture, challenging modernist ideals. In contrast to Western practices of Christian burial rites, the novel depicts bomb victims being cremated following customary prayers. Shigematsu documents his experiences during various Japanese festivals, such as the mass emergence of insects, rice planting festivities, and the Iris festival, as well as the River Imp festival on the 15th and the bamboo cutting festival on the 20th.

To sustain wartime momentum, the Japanese government regulates food distribution and employs propaganda to mislead the populace regarding its purported noble intentions in the war effort. Ibuse notes, "[u]nder control of ordinances in force at the time, rice, rice substitutes, fish and vegetables were all rationed" (p. 63). Through a calculated propaganda apparatus, citizens are coerced into supporting the state's violent campaign against other human beings. The state utilizes district notice boards and commissions artists to create plays and songs that promote its destructive agenda. The modern Japanese government, by co-opting artists to bolster its war efforts, has subverted culture and placed it at risk. The rampant inflation, scarcity of goods, and the bombing of Hiroshima serve as symbols of the collapse and dissolution of the modernist vision in Japan.

The contemporary government also restricts citizens' freedoms, particularly their freedom of speech, in order to garner public support for its policies. Mrs. Miyaji, who criticizes the government for altering student textbooks to reduce the number of meals from four to three, faces police interrogation and is cautioned to refrain from her dissenting remarks. She is viewed as a rebellious citizen for exercising her critical thinking to expose the flaws and inadequacies of the Japanese government. Conversely, the passive citizen who reports Miyaji's actions is praised as responsible and honorable. Mrs. Miyaji's advocacy for four meals a day is

portrayed as subversive, and she is warned of potential punishment for violating national laws. The ethical dilemma of altering Kenji Miyazawa's poem to justify the reduction in meals is silenced by legal enforcement. Ibuse describes in the novel that the contemporary notion of "disciplined forces" is a deliberate strategy aimed at eroding soldiers' self-esteem and rationality, molding them into obedient machines to serve the collective immorality. Through robotic compliance to authority figures, the unscrupulous leaders of modern states can pursue their selfish agendas. It's notable how military superiors violate moral principles, such as reverence for the elderly, within Iwatake's barracks. Despite Constable Nakamura's advanced age, Lieutenant Yoshikawa persistently kicks him in the stomach, demonstrating a disregard for basic decency. Iwatake observes this behavior with interest. "[i]t was as though a man were to be kicked by his own offspring, somehow transformed into an unmanageable ruffian" (p. 241). Nakamura cannot report Yoshikawa's cruel acts of immorality because the modern state recognizes Yoshikawa's seniority and hence the right to oppress a man old enough to be his father.

Ibuse also highlights the shortcomings of modernism through a lens that includes the United States of America. The US military is depicted as highly mechanized to the extent that they unquestioningly follow orders from the president, even if it involves deploying nuclear weapons. The United States has armed its military with the primary objective of seeking vengeance for Japanese attacks in the Pacific. Moreover, despite claims by many modern scientists that technological advancements, including nuclear power, are intended for the greater good, Heidegger argues that such innovations are actually a revealing of being, serving subjective ends. Indeed, scientists in the United States developed nuclear technology primarily to create weapons for the purpose of defeating their adversaries, such as Japan. Ibuse writes:

It is said the enemy used what is referred to as a new weapon on his attack of Hiroshima, which instantly plunged hundreds of thousands of blameless residents of the city into a hell of unspeakable torments. A member of the Patriotic Service Corps who escaped with his life from Hiroshima has told me that at that moment when the new weapon wiped out the city, he heard countless cries for succour—the voice of those hundreds of thousands of souls—seemingly welling up from beneath the earth (p. 12).

Ibuse implies that the technology was specifically created to produce a deadly weapon intended for use against Japan. A witness, a member of the Patriotic Service Corps, affirms that the "new weapon" devastates Hiroshima, leaving thousands of innocent citizens buried underground, crying out in agony. While scholars like Hore-Lacy (2007) argues, "fission/atomic bomb concept was provided in 1939 by Francis Perrin who introduced the concept of the critical mass of uranium required to produce a self-sustaining release of energy" (Hore-Lacy, 2007, p 4) in 1939. Indeed, 1939 marked Hitler's declaration of war against Poland, prompting Western scientists to utilize their expertise to aid the war effort. Perrin's project in 1939 was deliberately sidelined due to a lack of perceived immediate political threats. However, as Japan and Germany made advancements in Asia and Europe, respectively, a committee was established to assess the feasibility of the nuclear project. Hore-Lacy observes:

The final outcome of the MAUD Committee was two summary reports in July 1941. One was on 'Use of Uranium for a Bomb' and the other was on 'Use of Uranium as a Source of Power'. The first report concluded that a bomb was feasible and that one containing some 12 kg of active material would be equivalent to 1,800 tons of TNT and would release large quantities of radioactive substances which would make places near the explosion site dangerous to humans for a long period (p. 7).

Ibuse portrays the dangers posed by advancements in science and technology to the perceived "enemy" of the United States. When the atomic bomb struck Hiroshima, soldiers rejoicing in their barracks were blinded by its illumination. The bomb's deafening roar and scorching heat weakened structures, causing them to collapse. Iwatake, struck by the bomb, loses consciousness until a comrade inadvertently steps on his neck. Ibuse succinctly encapsulates the drawbacks of modernity and technological progress with the statement, "[e]verything had been flattened and scattered in disorder [...]. The destructive power was fantastic" (p. 244), echoing the chaotic modern world where science and technology fail to bring order.

Throughout the novel, Ibuse portrays the futility of the modernist ideal by candidly depicting the chaos and devastation inflicted upon innocent Japanese individuals. Ibuse describes Hiroshima as a "burnt out city, a city of ashes, a city of death, a city of destruction, the heaps of corpses a mute protest against the inhumanity of war" (p. 18), highlighting how modern states perpetrate acts of vengeance that individuals would not. This raises questions about Western nations' commitment to human rights, particularly the right to life, amidst their pursuit of power. Furthermore, the character of Caravaggio, a former intelligence operative, embodies the intersection of science, technology, and espionage during the war. His experiences illuminate the clandestine operations and covert innovations that shaped the course of history. From code-breaking to sabotage, the shadowy realm of espionage epitomizes the fusion of intellect and ingenuity in the service of conflicting ideologies.

Through the lens of *The English Patient*, we are reminded that the impact of science and technology in World War II extends far beyond the battlefield. As **Bhoi** writes, "this novel covers almost 1930s to 1945 and more period. Element of memory and its explanation also matters a lot. Because our mind is not having that sharp memory to store everything in as it is formation. Due to that here characters tell the story in a flash-back mode which has no chronological order of life as well as narration pattern" (Bhoi, 2020, p 33). It permeates every aspect of human existence, from the intimate struggles of individuals to the grand sweep of global events. As

we navigate the complexities of our modern world, it is essential to heed the lessons of history and recognize the profound implications of scientific progress on the human experience. The radioactive ash from the bomb not only pollutes the environment but also poses health risks to Japanese citizens. It causes radiation sickness when entering Yasuko's body through a blister and contaminates rivers, leading to the death of fish years later. Ibuse suggests that these are the consequences of prioritizing technological development over humanity. The bombing of Hiroshima results in the violent destruction of property, exemplified by characters like Iwatake. Such actions, when carried out by individuals, are labeled as terrorism, yet when executed by states, they're justified as self-defense. The bombings of Hiroshima and Pearl Harbor illustrate this collective immorality, where leaders like Harry Truman and Emperor Hirohito sanction atrocities for the pursuit of state interests.

Conclusion

Although most citizens naively believe in the objective intentions of nuclear power, it is evident that it was invented specifically to meet Western military conquest of Japan. It is also evident that although the modern state claims to bolster aspects of culture, it deals a death blow to its practice. The state offers for an opportunity for individuals to violate cultural norms and taboos. Any evils can be committed as long as they are legalized by the state. This research paper demonstrates the importance of examining the impact of science and technology on WWII through literary representations such as *The Remains of the Day* and *Black Rain*. By illuminating the complex interplay between scientific progress, human agency, and moral responsibility, these novels offer valuable insights into the enduring legacy of war on individual lives and societal values. Moving forward, further research in this area can contribute to a more comprehensive understanding of the human dimensions of technological warfare and the ethical dilemmas it poses for contemporary society.

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