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THE FUTURE OF THE AIR:
H. G. WELLS AND THE AVIATION OF UTOPIA

A Thesis Presented

by

Noah Slowik

to

The Faculty of the Graduate College

of

The University of Vermont

In Partial Fulfillment of the Requirements
for the Degree of Master of Arts
Specializing in English

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Abstract

As one of the founders of modern science fiction, H. G. Wells was obsessed with aviation. For its main research question, this thesis investigates, what is the significance of aviation in the work of Wells? Firstly, I analyze Wells's initial mixed feelings toward the potential of aviation. On one hand, he demonstrated the positive possibility of flying machines in "A Story of the Days to Come" (1899); on the other, he reflected a more pessimistic attitude through his negative predictions in *Anticipations* (1901) and *A Modern Utopia* (1905). Secondly, Wells conveyed an entirely dystopian outlook toward the future of flight through three successive works that experiment with potential abuses of the excessive power of aviation. *The War in the Air* (1908) predicted the catastrophic effects of airplanes in the coming World Wars, *Tono-Bungay* (1909) depicts how aviation can be abused by wealthy individuals to avoid criminal justice, and *The Sleeper Awakes* (1910) explores what human flight might look like during a revolt against an authoritarian dictator in sociopolitical control because of a hyper-capitalist society. Third, Wells's forecasting about the future of aviation made a drastic shift toward utopia, as he anticipated that his vision of a world state would only be possible in the aftermath of the collapse of civilization brought on by aerial warfare. In *The World Set Free* (1914), Wells invented the idea of atomic bombs, but he also predicted Utopia to emerge in the wake of the devastation. Similarly, the Earthlings of *Men Like Gods* (1923) travel across dimensions three millennia into the future to a parallel universe called Utopia in which aviation has become a staple of everyday life.

Acknowledgement

Thank you to my wife, Hope, for the love, support, and listening to me talk about Heeb.

Dedication

“Wells still towers over science fiction, not only for the famous short scientific romances, but for the Utopias. He was a man with a dark streak in him, but he made his attacks on the problem time after time, with an inherent optimism, saying *let’s get our priorities straight: first let’s talk about social justice and equal rights, and then after that we’ll talk about transcendence and metaphysical and ontological problems.*”

- Kim Stanley Robinson

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Abbreviations

| | |
|-------------------------------------|--------------|
| “The Flying Man” | “FM” |
| “The Argonauts of the Air” | “AA” |
| “A Story of the Days to Come” | “SDC” |
| <i>Anticipations</i> | <i>Anti.</i> |
| <i>A Modern Utopia</i> | <i>MU</i> |
| <i>The War in the Air</i> | <i>WA</i> |
| <i>Tono-Bungay</i> | <i>TB</i> |
| <i>The Sleeper Awakes</i> | <i>SA</i> |
| “My First Flight” | “FF” |
| <i>The World Set Free</i> | <i>WSF</i> |
| <i>Men Like Gods</i> | <i>MLG</i> |

Introduction

H. G. Wells was obsessed with aviation. Wells came to view aviation as the most consequential invention of the twentieth century. Despite his emphasis on human transportation and communication via air, his early scientific romances¹ for which he is most well-known are surprisingly devoid of aviation.² Darko Suvin refers to Wells as “the turning point of the science fiction tradition” and indicates that the cycle of his early scientific romances “is based on the vision of a horrible novum as the evolutionary sociobiological prospect for mankind” (233). That is, Wells didactically presents some hypothetical dystopian or post-apocalyptic scenario in which humanity must overcome a novel and unexpected obstacle. The bulk of his writing about aviation is within the realm of the possible, and Suvin notes, he “endowed later science fiction with a basically materialist look back at human life and a rebelliousness against its entropic closure” (246). Wells took the art of speculation out of fantasy and into reality, making his science fiction more about situations that could potentially occur rather than absurd circumstances, all the while capturing the contradictions of the human experience.³ Following the darkness and horror of his early works, Wells went back and forth between presenting worst- and best-case scenarios, simultaneously contributing greatly to a rich

¹The big four scientific romances are *The Time Machine* (1895), *The Island of Doctor Moreau* (1896), *The Invisible Man* (1897), and *The War of the Worlds* (1898). ‘Scientific romance’ is a signifier arguably particular only to select works by H. G. Wells, oftentimes juxtaposed to the ‘voyages extraordinaires’ of his famous contemporary, Jules Verne.

²The only one of Wells’s scientific romances that deals with aviation is *The First Men in the Moon* (1901). However, this novel is not considered in the present survey because the idea of an antigravitational element capable of permitting travel up to space is too outlandish to ever happen.

³ Wells’s stance on the role of literature in the world is the main disagreement that led to the feud and rift in his friendship with Henry James.

tradition of utopian literature. Fredric Jameson remarks, “the originality of Wells was to have entertained an ambivalent and agonizing love–hate relationship with this ‘value’ [of progress], now affirmed and now denounced in the course of his complex artistic trajectory” (282). Over the course of his career, whether he was representing the absolute good or evil of the world, Wells offered glimpses into the true nature of human beings, remaining both cautious of their catastrophic power and hopeful of their capacity to resolve life’s greatest obstacles. The symbol of the airplane encompassed this divergence and was therefore an object of fascination throughout his corpus.

Most of the criticism on Wells’s work is understandably centered around his resonant impact on science fiction,⁴ but his position at the interstice of the Victorian and modern periods also makes him a significant literary figure. In *Inventing Tomorrow* (2020), Sarah Cole claims, “To resurrect Wells today is to rediscover the literary landscape of the first half of the twentieth century” (2). Wells has been a tragically neglected figure among literary critics aside from the field of science fiction studies and a small circle of devout Wellsian scholars. However, Cole argues that a thorough consideration of his life and works could reinvigorate an entirely new understanding of modernism. As she puts it, “reading Wells helps uncover a thriving form of literary accomplishment, germinating alongside the more familiar works from this period, and together producing, perhaps, a broader and more capacious modernism” (Cole 4). Such a

⁴ For more in-depth analyses into Wells’s scientific romances not pertaining to aviation, see Bernard Bergonzi’s *The Early H. G. Wells: A Study of the Scientific Romances* (Manchester University Press, 1961), Frank McConnell’s *The Science Fiction of H. G. Wells* (Oxford University Press, 1981), John Huntington’s *The Logic of Fantasy: H. G. Wells and Science Fiction* (Columbia University Press, 1982), John R. Hammond’s *A Preface to H. G. Wells* (Routledge, 2001), or Steven McLean’s *The Early Fiction of H. G. Wells: Fantasies of Science* (Palgrave Macmillan, 2009).

provocative claim reveals a previously inaccessible relevancy of his place among modern literature, and Cole's work proves applicable to this investigation given aviation's massive impact on civilization in the twentieth century.

The rich collection of criticism on Wells has made tremendous strides in situating him among the literary periods of late-Victorianism and early-modernism, but until recently, there has been a lack of dedicated scholarship on the significance of aviation in his work. However, a cadre of critics—including Rosylnn D. Haynes and John R. Reed—have incidentally drawn attention to the appearances of aviation in Wells's work within the context of their broader arguments. For example, in *H. G. Wells: Discoverer of the Future* (1980), Haynes “examines what lasting contribution the scientific aspects of Wells's thought and writing may have made to literature” (8). Similarly, in *The Natural History of H. G. Wells* (1982) Reed argues, “through his familiarity with science, he recognized those strands of thought which were weaving a new image of man and of his place in nature” (1). Each of these monographs could have substantiated the same points with more precision by looking into his implementation of discipline-specific scientific knowledge, such as aviation. Nonetheless, Haynes's and Reed's works serve as examples of the necessarily comprehensive foundational analyses that have enabled future Wellsian critics to perform more exacting scholarship.

With Wells's status in the canon established, more criticism has appeared particularly on his relevance to the societal implications of advancements in aviation. From a historical perspective Peter J. Bowler has contextualized the profundity of Wells's predictions of future aerial technology, given the lack of development in the field

at the time of his writing.⁵ According to Bowler, Wells “imagined future worlds in order to tell stories about how human beings might cope with the challenges thrown up by new machines” (1). Though, in *A History of the Future* (2017), Bowler looks almost exclusively at works of Wells that incorporate airplanes, he still does not specify ‘aviation’ in the identification of his central argument, but he could and should have. Foremost among critics who have looked in more detail into the deployment of heavier-than-air flight in Wells’s work is Rinni Haji Amran. In her synthesis of Wells’s aeronautical science fiction, Amran recognizes the underlying connection between aviation and his proposal for a world state when she writes, “for Wells, the establishment of a world state would both solve the problem of self-destructive nationalism as well as provide a way of developing Britain’s air routes” (24-25). This thesis is indebted to Amran’s observation, but she could have taken this point a step further to say, in these stories, the existence of a world state hinges on the existence of aviation.

The previous two scholars have thought capaciously about the resonance of Wells’s aviation writings, but a few other critics have delved more deeply into the prominence of his most aeronautic-heavy work. For example, Robert Hemmings thinks through the ways in which masculinity and empire pervade *The War in the Air* (1908). Steven Mollmann pays special attention to Wells’s “engagement with the transformative impact on the airplane on creating cultural spectacle, on modern war and then men who

⁵ Another critic who has made a contribution to the historicization of Wells’s science fiction involving aviation is Lucy Sussex, but she focuses on one text in particular, *The Sleeper* (1899/1910) narratives. Sussex “discuss[es] Wells’s aeronautical revisions, partly to reveal his knowledge of early aviation, and partly to demonstrate the risks involved in predicting future technology (an occupational hazard in science fiction)” (24).

got swept up in imperial conflict” (285). Manliness and imperial conquest are extremely relevant to *The War in the Air*, but this thesis will argue that class and the environment are the two most applicable topics to a thorough understanding of Wells’s aviation stories overall. Similarly, Mollmann focuses particularly on *The War in the Air* to argue that the novel demonstrates the necessity of aviators’ detachment when carrying out their genocidal violence. Mollmann suggests that “Wells wrote *The War in the Air* as a warning about the uncontrollable ways that technology, especially heavier-than-air flight, could change warfare” (36). Contrary to Mollmann, Charles E. Gannon argues that the anthropocentric implications of this novel are more important than the technical ones. Gannon asserts that Wells “did not concentrate on the mechanical details of the technological innovations which crawl, fly, or stride through the pages of his scientific romances, but rather, on the human lessons they might teach us” (35). He also goes on to synthesize this observation as it appears in both *The War in the Air* and *The World Set Free* (1914) in a way comparable to—though not as comprehensively—Amran and Bowler. Predicated on the assumption that this literature is didactically commenting on Wells’s perception of the true nature of human culture and civilization, this thesis is in a similar vein as Gannon’s argument.

Imaginative as he was, Wells was not an individual without his accompanying controversies, including his utopian vision of a world state. Amid the rampant rise of nationalism in the lead up to the devastation of the World Wars, he was a staunch advocate for the creation of a global governing body responsible for protecting and promoting the wellbeing of all humankind. Aviation is essential to Wells’s vision of a

world state. However, he did not always see the necessity of aviation to the fulfillment of his vision, and it was not until later in his aeronautical writings that he realized the full extent of the utopian potential of airplanes. Wells's predictions about the future of aviation evolve from initial trepidation of the technology's likelihood to exist at all, to fear that control over the air will eventually lead to the collapse of civilization, and finally to the necessity of mastering human flight if there is to be any hope of reaching Utopia.

Chapter 1: Contradictory Look Upward

One of the first known instances of Wells speculating about the future of human flight comes in a short story titled “The Flying Man” (1893), and it encapsulates his initially mixed feelings toward the possibility of consistently sustaining and recreating air travel. Written a decade before the Wright Brothers’ first flight, the idea of successfully using a winged aircraft was so outlandish that even Wells—one of the most imaginative writers at the time—could not foresee its potential. However, this negativity is unsurprising given that he was concurrently concocting his famous scientific romances, which consist almost entirely of dystopian pessimism. Wells was in the habit of producing the worst possible outcomes for whatever new idea he was experimenting with in literature. According to Amran, “The Flying Man” reflects a “perception of human flight as elusive and belonging to the world of the fantastic” (25). It features a lieutenant recounting his brief trip by air amid combat to an ethnologist interviewer. Straight away, the ethnologist asks the lieutenant, “What on earth is this cock-and-bull story they have of a flying man?” (“FM” 106). Keep in mind, this interlocutor is supposed to represent a voice of scientific reason, yet they are quick to resort to such a befuddled tone with the phrase “cock-and-bull” to convey their shock of learning that someone has flown and lived to tell the tale. Another notable point is that the interviewer is an ethnologist rather than an ordinary news reporter because the immediate jump to the academic interest in the sociocultural implications of flight goes to show the significance of humankind’s taking to the sky.

In this early iteration of depicting the plausibility of human flight, “The Flying Man” plants the seed of the stereotype of the foolhardy heroics of a soldier’s ambition to conquer the air. This snapshot of war that Wells has captured contains the usual stripping away of real-world socialization when class is not a factor once lives are on the line. Although the lieutenant’s status outside of the context of military service is not made explicit, it is implied that he is dexterous with his hands. Demonstrating his mechanical ingenuity and resourcefulness, he recounts, “I got a big circle of canvas out of the tent, about three times the size of that table-cover, and plugged the hole in the centre, and I tied eight ropes round it to meet in the middle and make a parachute” (“FM” 118). One of the most striking things about Wells’s earliest example of human flight is that it takes the form of a preexisting technology, the parachute (notably not related to his later fascination of winged aircraft), which had been around since before the nineteenth century. Bowler has made note of this, explaining how “Most predictions (including those of Wells himself) rested on at least some foundation in the exploratory science and technology of the day and extrapolated from an element in the ferment of research” (14). Through this short story, Wells showed the practicality of parachuting in terms of its military use, and it notably takes the form of a typical soldier looking around and seeing what they can do with the materials available to them. The flying man himself is not, for example, a product of some higher-level military initiative to test the practicability of flight. Still, his successful flight is described as incredibly precarious, a product of dumb luck. The question of whether an army may be able to conceivably recreate such a tactic and implement it at a large scale remains up in the air.

The lieutenant's creativity does not stop at his rigging of the parachute, as he importantly uses the natural resources of the environment to his advantage during his successful glide down from a high cliff for provisions. Even in Wells's initial fictive telling of the possibility of human flight, the necessity of working with the land as opposed to attempting to dominate it is ever present. In addition to the utilitarian nature of the lieutenant's surroundings, his description of the scene is serene: "As I looked over the edge down into the valley and saw the river rippling ... It seemed a pleasant and desirable thing to go rushing down through the air with something to drink" ("FM" 117). Without the existence of machine-led aerial navigation, Wells's fictional flyers are forced to cooperate with the environment to reach the heights they so desire. The utility of the natural world would not have been so noteworthy here, had the land been described as a rocky, barren wasteland as literary depictions of mountainous, rugged battlefield terrains often are. Instead, there is the beauty of a "valley" with a "river rippling," and it is portrayed as "pleasant and desirable," reinforcing the lieutenant's gratefulness and respect to nature to be cliff jumping in such a sublime environment. This is juxtaposed with the shoddy workmanship of the parachute, so it is therefore not shocking when the flying man's takeoff is not quite as smooth as he would have hoped. He tells the ethnologist, "They held the thing high up, and I took a run the whole length of the ledge. The thing filled with air like a sail, but at the edge I will confess I funkyed and pulled up" ("FM" 118). The lieutenant "funkyed" as he leapt, implying a clumsy and somewhat embarrassing experience in contrast to the heroism and natural beauty during this break in fighting on the battlefield. Amran points out that Wells's early "flying machines are

depicted as ‘cumbersome,’ and/or are used in violent battles and ultimately crash” (31). “The Flying Man” represents a relative success story when it comes to experimental aviation in that the flyer could have died or injured himself or others. Although, Wells had still let his pessimism be shown, making it clear that this event could have very easily gone poorly, and his survival was essentially a fluke. In many of Wells’s aviation stories to follow, flight results in extremely catastrophic environmental (and sometimes industrial as seen in his next tale involving flying) implications.

While the previous short story contains a hint of optimism toward the future of aviation, “The Argonauts of the Air” (1895) leaves absolutely no doubt that airplanes were generally regarded as being destined to fail. This could be interpreted as Wells’s response to his contemporary critics’ assertion that his prior work had been too hopeful in terms of the potential of human flight; that is, the person who takes the leap survives in the end. Another significant difference between “The Flying Man” and “The Argonauts of the Air” is that the flyer has gone from being affiliated with the military to being an independently affluent lunatic, Monson, with a dream to conquer the air. From the beginning, the omniscient narrator makes his financial concerns with this aeronautical endeavor clear: “nor had [Monson] clearly reckoned the money this prolonged struggle against gravitation would cost him. And he was not so pachydermatous as he seemed” (“AA” 55). As a member of Victorian London’s wealthy elite, Monson is worried about having his name dragged through the mud in the press, as that would contribute antithetically to his incentive for the venture in the first place. He is not looking to accomplish the world’s first successful airplane flight for its significance to the

advancement of science and technology, but Monson desires to fly for the prestige and vanity.⁶ Bowler does well to indicate the economic importance of the short story when he writes, “Wells had imagined the first flight of a heavier than air machine tested within a huge framework, but finally launched free (due to financial constraints) with disastrous consequences” (110). The phrase “launched free” is particularly ironic in this description because Monson’s determination to soar his flying contraption was certainly anything but free, but “disastrous” is the perfect word for the ensuing aerial catastrophe, due in no small part to his overambitious monetary miscalculations.

Unlike the risk of environmental harm from the previous short story involving aviation, “The Argonauts of the Air” features the destruction of an urban landscape in the modern English city. The impact of Monson’s plane crash is harmful on the environment, regardless of whether the direct casualties of his destructive path are living or not. Through the complete failure of his experiment with aviation, his devastation has left a stain on the London-area infrastructure, leaving virtually no redeeming quality about this idiotic and selfish flyer. The aftermath of the horrific collision between Monson’s aircraft and a building in its path is incredibly vivid: “the crash, the flame of blazing paraffin that shot heavenward from the shattered engines of the machine . . . – all these things do not belong to this story, which was written only to tell how the first of all successful flying machines was launched and flew” (“AA” 65-66). The darkness and horror of the “crash,” “flame of blazing paraffin,” and “shattered engines” make it strange that Wells

⁶ The text is littered with more language around the terrific financial setback that this aerial escapade would cost Monson: “In lives and in treasures the cost of the conquest of the empire of the air may even exceed all that has been spent in man’s great conquest of the sea. Certainly it will be costlier than the greatest war that has ever devastated the world” (“AA” 62).

immediately follows that up by explaining how the incidental accidents are negligible supplements to the accomplishment of a first flight. Not merely was it exceptional to imagine an airplane taking off and landing safely, but it was extraordinary to visualize one that gets into the air at all, even if its short trip ends in a fiery wreck. Remarking upon the financial significance of “The Argonauts of the Air,” Neil Gaiman writes, in an introduction to the short story, “while Wells was wrong about the early days of heavier-than-air flight – it wasn’t a millionaire’s game, but a relatively cheap playing-field – he would have been right about space travel, which is a billionaire’s game of the kind where one can imagine the gliding of aluminum” (xviii). This type of rhetoric is not dissimilar from the familiar tone of billionaires’ drive to pay whatever it costs and do whatever it takes to colonize space as quickly as possible, but Gaiman rightly indicates the key distinction between aviation and aerospace engineering that one costs a lot more than the other. However, the ultra-wealthy (Bezos, Musk, etc.) reflect Monson in that they pay absolutely zero regard to the potentially negative environmental impacts of their unsafe expeditions.

Even in the case of “The Argonauts of the Air” where Monson inevitably crashes in spectacular fashion, Wells cannot help himself but remain contradictory regarding future aircraft. One would almost expect the story to end on a completely bleak note, insinuating that Monson’s utter failure should be taken as a warning sign to private experimentalists in aviation not to attempt air travel on their own without certain necessary safety precautions. Instead, the story concludes, “Though he failed, and failed disastrously, the record of Monson’s work remains – a sufficient monument – to guide

the next of that band of gallant experimentalists who will sooner or later master this great problem of flying” (“AA” 66). Given Wells’s historically thin line between fiction and reality, it sounds as if he is directly tempting fate to deliberately encourage people to go ahead with incredibly dangerous homemade airplane tests. Of course, this is essentially what ended up occurring with the Wright Brothers, so Wells epochally contributed to the expedient nature of urging independent flight enthusiasts to throw regulations to the wind and soar. Amran notes that historically, “Aeronautical experiments at the time more often than not failed to deliver promising results and Wells appears to have been aware of such developments (or lack thereof) in aviation” (25). “The Argonauts of the Air” may be interpreted purely as a cautionary tale of fiscal irresponsibility about how a lack of sufficient comfort with aeronautical technology results in terrible financial and environmental consequences. However, a closer look reveals that the story leaves the window open to aerial recklessness and incorporates what would prove to be his lifelong indecision as to whether aviation is ultimately a net good or a net evil.

The next of Wells’s stories incorporating flight for present consideration, “A Story of the Days to Come” (1899),⁷ is a novella set in an explicitly dystopian twenty-second-century future where there is a transparent division between the bourgeoisie living in urban skyscrapers and the subterranean proletariat.⁸ This is the first of his

⁷ 1899 is notably the same year in which the original version of *A Sleeper Awakes* (1910) was published as *When the Sleeper Wakes* (1899). That text also heavily features aviation, but it will be included later in the survey due to the significant revisions within the notoriously complicated publication history. One of Wells’s short stories from around this time, “A Dream of Armageddon” (1901), gets grouped together with these two (Hillegas 40), but it is not analyzed in this thesis because its implementation of military aviation technology is not significant, merely entertaining.

⁸ This literary device of Upperworld and Underworld people is a common refrain in Wells’s literature, but it is most famously on display in the stark contrast between the Eloi and Morlocks in *The Time Machine*.

examples of aviation literature where flight has become a part of everyday life, marking a sharp transition between his short stories where flying is depicted as not only unlikely but also uncommon. In the context of the modern romance between the princess-like Elizabeth and the poor laborer Denton with whom she accidentally falls in love, “They met one day at their little seat upon the flying stage.... They were, however, five hundred feet above that point. Their seat looked far over London. To convey the appearance of it all to a nineteenth-century reader would have been difficult” (“SDC” 203). Here is one of Wells’s first examples of a “flying stage,” which could best be understood as sort of like a helipad atop a tall building. These flying stages are critical in making aerial transportation from building to building in an urbanized landscape possible. While the experience among the clouds is totally normal to Elizabeth, Denton feels uncomfortable in this unfamiliar playground of the wealthy. Reed reiterates the transformative effect that this elevated experience has on Denton: “It is only from this vantage that the young man can gain a long perspective over time analogous to the spatial vista before him and speculate upon the history and destiny of mankind” (19). With the gift of perspective, the working class may understand the almost transcendental knowledge that a raised vantage point provides. Reed reinforces the ways in which an elevated viewpoint provides an insight into the bigger picture of nature for Wells’s characters that they would not otherwise have.

There is an evident binary in “A Story of the Days to Come” between the haves and the have-nots, as the former have acclimatized to life on higher ground. Denton’s discomfort but subsequent newfound perspective is sharply contrasted with the profit-

minded gentleman that Elizabeth's father would prefer her to marry, Bindon. However, the only reason this alternative suitor possesses any degree of fortune in the first place is that he swindles money out of people through unethical means, but he then turns around and invests his money into the blossoming aviation industry of this future London. According to the narrator, "A certain desire for influence and reputation interested [Bindon] in the business intrigues of the giant city in which his flukes were made. He became at last one of the most influential shareholders in the company that owned the London flying stages to which the aëroplanes came from all parts of the world" ("SDC" 296). Here, in one of the earliest iterations of Wells's implementation of aviation as a fact of life into his fiction; he was already starting to see how greed was going to play a crucial factor in the future. Being able to freely move around a city by way of the air would either end in a benefit to society or simply more money in the pockets of the people controlling the mechanisms. Maxim Shadurski suggests that this text "offer[s] the sights of unseen transport, as well as foregrounding both the instructive and cautionary moments in the condition of modernity" (57). Again, there is this theme among critics, Shadurski included, as to the interrogation of whether these fictions with aviation are either hopeful or cynical when it comes to the future of flight. Ultimately, so it goes with any technologies that can have potentially societal implications, the answer to this question lies in a combination between the particular mechanism itself and how it is implemented at a large scale.

The dichotomy among classes in Wells's depiction of twenty-second-century London is emphasized further through the segregation of the working class to conduct

backbreaking labor in harsh terrain and provide for the wellbeing of society, while the above-grounders simply enjoy the luxuries of future urbanized technology. Although aviation is not at the center of this novella, the discrepancy of power is made abundantly clear in that the bourgeoisie control the skies with their airplanes as the downtrodden laborers are left to their earthly machines:⁹ “the Labour Company’s field workers in huge wheeled mechanical vehicles, were hurrying back to their meals, their last spell finished. And through the air a dozen little private aeroplanes sailed down towards the city” (“SDC” 321). Additionally, this instance is one of those classic science fiction examples in which Wells is using an imagined future technology to commentate on what he perceived as the present situation of society. Wells himself later admitted that “A Story of the Days to Come” is “essentially an exaggeration of contemporary tendencies: higher buildings, bigger towns, wickeder capitalists and labour more downtrodden than ever and more desperate” (qtd. in Bowler 19). At this point in Wells’s writing, science fictional representations of the possible implications of aviation function to highlight the dangers of capitalist tendencies during his contemporary circumstances. As Shadurksi also puts it, “Wells not only soars upward into the sky to command a view of an indiscriminate ‘shape of things to come’, but also detects in that shape new opportunities and potential threats” (57-58). Reminded by Reed that high up in the air is the only vantage point through which Wells’s future flyers could truly comprehend the world, the emergence of aviation as a realistic possibility as opposed to a far-off fiction marked a turning point in

⁹ This imagery is also strikingly reminiscent of the rich/poor binary presented in Fritz Lang’s 1927 film, *Metropolis*.

his writing that indicated the necessity of taking these speculations out of the realm of the fantastic and into the real.

In his seminal book-length work of nonfiction, *Anticipations of the Reaction of Mechanical and Scientific Progress upon Human Life and Thought* (1905), Wells confessed the limitations of imaginary representation, indicating an epochal shift toward the seriousness and scope of his predictions about the implications of either harmful or useful technology. In one of the most consequential lines for understanding Wells's own beliefs toward his oeuvre and legacy, he wrote, "Fiction is necessarily concrete and definite; it permits of no open alternatives; its aim of illusion prevents a proper amplitude of demonstration, and modern prophecy should be, one submits, a branch of speculation, and should follow with all decorum the scientific method" (*Anti*. 29). From this point on in his career, Wells claimed that the occupation of a genuine science fiction writer is to sincerely predict the future as accurately as possible given the variables at hand.

This is not to say that every science fiction writer must adhere to this guiding principle of truly trying to anticipate the future, but Wells definitively made his primary objective clear. In the words of Cole, the Wellsian form of anticipation "means, clearly, prediction about all manner of life, from transportation to cities to gender to warfare to the structures of government, and beyond" (173). *Anticipations* was published only two years after the first successful heavier-than-air flight, so the timing could not have been more perfect for Wells in the prime of his speculative writing career. Wells was entering an era of his work consisting of "serious futurology unencumbered by the need for a plot, developing both ideas about the effects of new technologies and call for social

revolution” (Bowler 20). On the precipice of a dramatic epistemological shift on the way people conceive of transportation and communication, the advent of human flight could not have arrived at a more consequential time for a thinker like Wells. The opportunity to have a reverberating impact on the future of aviation technology had fallen onto his lap.

Despite having all the faculties and foreknowledge to make great strides toward bracing for the potential social and environmental implications of aviation, Wells squanders this realization in *Anticipations*, and it is not until his subsequent writings that he truly begins to explore the possibilities. While the first chapter is all about “Locomotion in the Twentieth Century,” he fails to recognize aviation as a viable option, and places greater emphasis on the societal effects of transportation by automobile and train. He erroneously predicts, “I do not think it at all probable that aeronautics will ever come into play as a serious modification of transport and communication” (*Anti*. 34). Although aviation was beginning to emerge as an efficient option for locomotion, he did not foresee its eventual use. Amran reminds, “Of course, Wells was soon to be proven inaccurate and would later alter his position on the possibilities that aviation presented to the world” (26). However, as a bit of meta-analysis, it is not the responsibility of science fiction critics to assess the accuracy of Wells’s anticipations, be they fictional or nonfictional. Rather, the nuances of the Wellsian ‘discovery of the future’ lies in the supplementary implications around such predictions, regardless of whether they turn(ed) out to be accurate or inaccurate. Suffice it to say, it is not the anticipation itself that is in question, but the variables surrounding it should be the object of scrutiny that led Wells to believe it would be the likely possibility.

Wells does include a few sincere predictions as to the implications of aviation in *Anticipations* when it comes to warfare. To be clear, it is an important caveat that he made the distinction in the first chapter that he did not think aviation would make a significant impact in the fields of “transportation and communication.” This specification leaves open the possibility that heavier-than-air flight could have a profound effect on other fields such as military combat. For example, at one point in *Anticipations*, Wells predicts, “The aeronauts, provided with large scale maps of the hostile country, will mark down to the gunners below the precise point upon which to direct their fire, and over hill and dale the shell will fly—ten miles it may be—to its billet, camp, massing night attack, or advancing gun” (*Anti.* 166). As in the symbolic gift of perspective from the wealthy elite’s higher vantage point of the previous story, Wells also showed how a view from above could serve a more practical purpose on the battlefield as well. To make further sense of aviation’s impact on spatial awareness, Duncan Bell writes, “The reconfiguration of space and time argued a fundamental change in geopolitical ordering. Technology was ‘abolishing locality,’ dissolving traditional understandings of space, territory, and political identity” (157). While Bell is apt to point out that Wells’s predictions of the implications of technology were extremely relevant to the general conception of “geopolitical ordering,” he, like so many of Wells’s other critics, misses the prominence of aviation in his thought and works.¹⁰ Substitute “technology” for

¹⁰ For more on the postcolonial implications in terms of the geopolitics of aviation, see Daniel Immerwahr’s *How to Hide an Empire: A History of the Greater United States* (Picador, 2019): “Anything anywhere anytime... Planes not only added speed, they changed the laws of geopolitics. The surface of the earth, with its strongholds, impassable barriers, and fortified borders, looked different from a cockpit. Contiguous access no longer mattered so much. The old imperialist logic—men with white mustaches coloring in countries on the map—lost a great deal of its force” (286-87).

“aviation,” and Bell’s point would be much stronger, especially in the context of what Wells preached in terms of the advantages of aerial control in *Anticipations*. The bottom line is that aviation was dramatically changing the way the world conceptualized space and borders, and Wells was only just beginning to realize the potential of flight’s effect on human interaction.

In *A Modern Utopia* (1905), Wells offered his version of what he considered to be an ideal version of society, and aviation plays a crucial role in his vision of the “Utopian World State.” Though quite similar, *A Modern Utopia* differs from *Anticipations* in that this text is his idealistic aspiration for society, but it is not necessarily a concrete prediction as far as what Wells believed will happen. He would continue to take up his mission of attempting to predict the outcome of the future with as much scientific accuracy as possible throughout the rest of his career. Some of his work in this vein is more of a wild speculation to explore the possibilities of what a particular offshoot of reality might look like. Early in the text when he introduces the function of aviation in his aspirational vision of Utopia, he does so within the context of attention to the natural environment: “Now, perhaps you might still guard a rocky coast or a narrow pass; but what of that near tomorrow when the flying machine soars overhead, free to descend at this point or that?” (*MU* 15). The scenario of a “rocky coast” or “narrow pass” contributes to one of his overall themes of *A Modern Utopia* that any sort of ‘perfect’ version of society is not going to be easy to suddenly achieve. Rather, nature will still possess much of its harshness, in contrast to the greenery and floweriness of what one might typically expect from a utopia. In either urban or rural areas, aviation has become a

mainstay component of everyday life. Within this context of establishing that the setting might not seem beautiful but is still the best possible version of what humanity can create, he makes the connection between flight and one of his first explanations of his call for the World State: “A State powerful enough to keep isolated under modern conditions would be powerful enough to rule the world, would be, indeed, if not actively ruling, yet passively acquiescent in all other human organizations, and so responsible for them altogether. World State, therefore, it must be” (*MU* 15). In Wells’s Utopia, there cannot be any isolated nation because isolationism would run the risk of one state becoming too hungry for power and desirous to overtake control of the entirety of the world. Instead, aviation must be utilized effectively in the World State to ensure ongoing, global connection among nations by combatting national animosity and competition.

Through the concept of the World State, Wells proposed an alternate political universe¹¹ in which nations are not allowed to enclose themselves from others, since all are internationally connected across the planet in Utopia through the technological advancement of aviation. It is important to note the subtle difference from islands and enclosures that a majority of the former exist naturally while most of the latter occur artificially, and *A Modern Utopia* ambiguously consists of a bit of both classifications. While critics have noted the importance of the impossibility of “enclosure” in Wells’s utopian vision of the World State, they have neglected the clear connection to the environment and aviation. For example, Shadurski notes, “the Wellsian utopia purports to

¹¹ Justin E. A. Busch notes how there are nuances to each iteration of the World State that Wells presented: “Wells (and any evolutionary utopian) must offer a range of visions, so as not to appear to be granting finality to any among them. Thus, for example, in *A Modern Utopia* he presents a bureaucratic state much like the contemporary welfare state in many respects” (128).

transcend islands and similar insular enclosure in order to become coextensive with the whole world” (58). In response to Wells’s declaration of “World State, therefore, it must be,” Shadurski is implicitly interpreting the ecological implications of this statement, but he is still focused on it from a mainly political perspective. Similarly, Roslynn D. Haynes’s response the impetus of *A Modern Utopia* is that “Enclosure being thus rendered impossible, the only alternative was to envisage utopia as a world-state from the outset” (92). However, both Shadurski and Haynes misrecognize how much of a toll on nature it would take for nations to completely isolate or enclose themselves from one another. Aviation had drastically reshaped the way Wells thought and wrote about international relations. In the *World State*, nations would no longer feel the need to environmentally shield themselves from each other, if everyone is going to be in the air anyway.

A Modern Utopia also contains a continuation of the conversation around considering what could go wrong if military forces wrongfully abuse the power of aviation, a topic which Wells returns to time and again throughout his work incorporating human flight. In his fictional writing on aviation thus far, Wells has associated the private experimentation of aviation as a danger. The texts have shown examples of how privatized control of the air has resulted in disaster, while freedom to fly as a public right has led to a better way of life for all. Therefore, it comes as no surprise that the scientific advancement of the future in Utopia has led to military initiatives of funding aviation experiments: “They will be just beginning to fly in Utopia.... In Utopia, however, they will conduct research by the army corps while we conduct it – we don’t conduct it! We

let it happen” (*MU* 46). Another commonality among Wells’s utopian writings is this strategy in which he is pitting Earthlings against Utopians and essentially mocking the stupidity of the former’s governments to not be investing in the advancement of aviation technology.¹² However, Wells is suggesting that the governmental control of air power is a good thing since the people of Utopia have an understandable militaristic interest in flying. Amran aptly connects the military initiative of flying in Utopia back to Wells’s historical context when she writes that his “concern about the lack of interest in aviation in his own country indicates his awareness of the increasing interest in other nations towards developments in military aviation, which he had earlier predicted in *Anticipations*” (27). A world state becoming a reality would be a great thing because it would essentially mean the end of international conflict, but it would also be foolish not to prepare oneself as much as possible for the existential dangers of aerial warfare in the meantime. If that means more governmental experimentation, then so be it; at least that would eliminate the risk of any private individual weaponizing the power of flight and going on a genocidal rampage to take over the globe.

The incredible investment into aviation on the side of the Utopians acts as a wake-up call for the lack of intensive research, and *A Modern Utopia* shows how it is better for state apparatuses to control sophisticated military technology than it is for such weapons to be owned by unpredictable private individuals. Whether everyone likes it or not, the thrust of warfare from the ground to the sky has presented society with no scenario free from risk. The question is, should nations sit back and watch others as their technology

¹² Wells would sometimes refer to this scattered epoch of humankind as the “Age of Confusion.”

rapidly advances, or should they join the arms race themselves? According to Wells, “That Utopian research will, I say, go like an eagle’s swoop in comparison with the blind-man’s fumbling of our terrestrial way” (*MU* 47). The answer lies in the public for how best to approach the existential problem of there now being a previously unthinkable amount of material power to virtually wipe out human civilization. The contradiction is that there is no possible hypothetical outcome in which society will not be taking at least somewhat of a blind chance. The hesitation to go along with the government takeover of regulations for the sky is that it could present a future situation where the impossibility of revolt would lead to humanity choosing between authoritarian subjugation or societal annihilation. Though a difficult decision, the solution became evident, as Bowler explains, “It was not so much the direct effects of new technologies [that Wells and his contemporaries] feared as the ruthlessness of the rational experts who might use those technologies to reshape the world” (20). It is better to keep the power out of the hands of individuals who may potentially use the weapons in unexpected ways, even if that means leaving the decision of what to do with these new weapons to the will of the state.¹³

However, the World State that Wells proposed in *A Modern Utopia* was the best possible solution at the time¹⁴ because it was still a democratic society where the people are

¹³ W. Warren Wagar was one of the first Wellsian critics to articulate this point; he writes, “science can do neither good nor evil. If used to advance human welfare, it could supply the means for a world Utopia. If misused, it might wreck civilization. Wells’s scientific romances recorded invention after invention put to catastrophic use” (95).

¹⁴ His idea of the World State originally presented in *A Modern Utopia* would go on to have real-world implications, as it led to the publication of “The Idea of a League of Nations” (1919) in *The Atlantic*, which would then be the foundation for what would later become the actual United Nations. As it pertains to flying, Wells also lived to see the formulation of the Freedoms of the Air by the International Civil Aviation Organization, a UN agency, established in 1944 at the Chicago Convention. These guidelines established the rules and regulations for international air travel in use to this day.

technically the ones who end up determining what happens with such power, and nations are united to leave no possibility for one becoming stronger than another if they are together.

Chapter 2: Destination Dystopia

Wells's early works involving aviation present possible outcomes for technology that he thought was improbably going to be available during his lifetime, but *The War in the Air* (1908) marks a significant shift in his severity of addressing the dystopian potential of aviation. As reality sets in as to how quickly aviation is progressing, there is a transition in his writing about human flight from an entertaining exercise in speculation to an urgent necessity of prediction. In a dramatic turn from the fantastic nature of his scientific romances, *The War in the Air* presents fiction that delves into the very real potential for aerial warfare.¹⁵ Sweepingly, it states, "The essential fact of the politics of the age in which Bert Smallways lived – the age that blundered at last into the catastrophe of the War in the Air – was a very simple one, if only people had had the intelligence to be simple about it. The development of Science had altered the scale of human affairs" (WA 73). The novel addresses the way in which aviation has faced society with the necessary task of considering how the new technology will have an impact on life as it is known.¹⁶ The Wellsian narrator is speaking in terms of "the age," meaning that Bert—keeping in mind that Herbert George Wells's nickname was Bertie—foresaw how the invention of the airplane was going to represent the story of humanity at this point in history. He even went so far as to deem this fact of life as a "simple" reality. *The War in the Air* does present a "simple" situation for its characters in that they now need to

¹⁵ See also Brett Holman's *The Next War in the Air: Britain's Fear of the Bomber, 1908-1941* (Routledge, 2014).

¹⁶ Addressing this point about how military aviation technology has presented an existential dilemma, Simon J. James writes, "For all Wells's predictions and advocacy of a peaceful scientific future World State, at the same time—and especially in *The War in the Air*—he diagnoses war as a consequence of modernity" (161).

essentially organize their lives around the emergence of aviation, but the irony is that there will be nothing simple about determining the best path forward as to how to survive in this new world.

The topics of empire and manliness pervade *The War in the Air*, so it is tempting to interpret those elements as the primary forces driving humanity's aerial destruction. More importantly, imperialism and toxic masculinity are traits that are exacerbated with the incredible and sudden discovery of the airplane by a stereotypically crude, blue-collar individual. Mr. Butteridge, credited with the first successful flight of a heavier-than-air machine, is an influential player in the fictional universe of this novel. The inventor proclaims, "I am an Imperial Englishman, ... but there are limits to the human heart! ... There are nations that will not fling away the empire of earth in order to slight an unknown man and insult a noble woman whose boots they are not fitted to unlatch" (WA 25). Though Butteridge possesses the skills and knowledge to create such an innovative flying machine, he is by no means a qualified person to determine what the international regulations of the air should be evidenced by his obnoxious nationalism and misogyny. The existence of this promising technology will not automatically shed the flyer's long-held imperial and patriarchal beliefs. Initiating this critical conversation, Hemmings argues, "In Wells's dystopic vision, the object, not the subject—the indomitable airplane, not the fallible man—is better able to perform the scripts of imperialism and masculinity" (292). Butteridge is at the whim of the object he has created, unable to control how it could lead to inevitable devastation. While the airplane has immense potential to bring nations together, Wells's early representation of a world featuring widespread flight

shows an initial sympathy and hesitation to demolish vulnerable nations with the advanced weaponry, but benevolence and cooperation are originally unable to prevail.

To highlight the destructive power of aviation, most of the fighting in *The War in the Air* takes place over New York City, a symbol of a globally economic powerhouse and breeding ground for rapid industrial progress. The contrast of such a technologically advanced city also being the site of horrendous international combat goes to show that the nation who possesses the power of aviation is going to prevail, regardless of futurity in other sectors. Whoever controls the sky gets the final say, no matter what.¹⁷ The eventful chapter in which aerial conflict ensues over the northeast coast of the United States opens, “The City of New York was in the year of the German attack the largest, richest, in many respects the most splendid, and in some, the wickedest city the world had ever seen” (WA 128). No amount of money is going to save the vulnerable Americans from the power of the Germans in the sky. Like the Utopians’ emphasis on investing in the development of aviation technology, the German air force enjoy the ability to reign terror from the sky, and New York’s ‘wickedness’ is criticized as they unwittingly sunk their money into more pleasurable ventures. Bowler synthesizes, “In *The War in the Air*, conflict begins with a German airship attack on the United States and ends with the collapse of civilization as ever-more frightful weapons are employed around the world” (110). Interestingly, fighting in the air did not immediately begin with airplane versus airplane, but it is the German airship (war balloon), specifically, “the *Vaterland*,” that

¹⁷ Though published a little over a century before the planes hit the World Trade Center, this image of New York under aerial attack also striking resembles the terror of 9/11.

wreaks havoc over New York.¹⁸ However, as the conflict plays out in the novel, the fact that the airship is ultimately unsuccessful in the complete annihilation of one of the most powerful cities in the world reinforces that dedication to continuously testing the boundaries of aviation is of vital importance.¹⁹ According to Haynes, “*The War in the Air* makes explicit the connection between scientific industrialism and the catastrophic war to which it leads in the hands of those not morally equipped to deal with it” (78). It is not until the existence of airplanes that interaction goes from fighting among a few nations to everyone joining in on the action to both defend themselves and attempt to seize control over their enemies. In the absence of laws prohibiting crimes against humanity, the inevitable result of aerial warfare is complete and utter chaos.

Though slightly different from Bert’s social status as an Englishman drafted by the German army to attack the United States from the sky, his situation as a civilian plays a determining factor in the outcome of his circumstances. Sarah Cole has unpacked the ways in which the civilian existence has a massive role throughout many characters’ lives in Wells’s corpus. This is an especially crucial distinction for *The War in the Air* given how tempting it is to think of Bert only in terms of his citizenship. However, the military draft loomed over the lives of individuals in the twentieth century, and Cole indicates, “A civilian qua civilian is constituted by two primary, interconnected facts: that he is not a

¹⁸ In some ways, this scene of a German airship causing chaos over the northeast coast of the United States is prescient of the infamous Hindenburg disaster to occur nearly three decades later from the time of *The War in the Air*’s publication.

¹⁹ In conclusion, New York “was the first of the great cities of the Scientific Age to suffer by the enormous powers and grotesque limitations of aerial warfare.... The catastrophe was the logical outcome of the situation, created by the application of science to warfare. It was unavoidable that great cities should be destroyed” (WA 149).

combatant in war but that his condition is defined in relation to war” (105).²⁰ As previously noted how the subject of the soldier is practically at the mercy of the devastating power of the object they control, in the bigger picture, a civilian’s experience is determined by the will of war.²¹

Even if he were not drafted but had stayed back in his home country of England, it is not as if Bert would have had any opportunity for upward mobility. The country’s economic infrastructure would not allow for social movement at the time given the crisis of international conflict—all the governmental money is going toward defense against the German assault. This point is encapsulated when the Wellsian narrator states, “Even to Bert’s unphilosophical mind the contrast of city below and fleet above pointed an opposition, the opposition of the adventurous American’s tradition and character with German order and discipline” (WA 142). In the context of global warfare, it does not take a genius to comprehend the magnitude of the situation. Shipped thousands of miles away from his home across the Atlantic, Bert comes to these profound realizations about the contrast between U.S. and German cultures, but none of it would have been possible were it not for the advent of aerial transportation in the surprise attack on New York City. As terrible as Bert’s destiny is, he is learning a great deal about the world. Although, it is a

²⁰ Furthermore, Cole elaborates, “The connection between ‘civilian’ and ‘civilization,’ it should be stressed, was more than coincidental in this era, when the survival of the latter, understood as perhaps the final Western accomplishment, came to be figured in accordance with the fate of the former” (107).

²¹ Along similar lines, Wagar situates the novel in terms of its relevance to the familiar amateur/expert binary in Wells’s work: “Measured against what most scholars and experts were thinking in the early years of the century, Wells’s uncannily accurate prophecies are a disturbing reminder to the specialized intelligence of the advantages of amateurism in social analysis” (28).

shame that he must unwillingly be doing so within the context of international catastrophe, the proverbial “collapse of civilization” as Wells commonly referred to it.

The War in the Air presents a scenario of global conflict in which vulnerable nations attempt to rationalize their use of incredibly deadly military technology on the grounds that everyone is fighting everyone anyway. Neglected in all of this, is a noticeable unawareness of the potentially harmful environmental implications of aviation, and this misrecognition contributes to the perpetuation of global catastrophe.

Nonetheless, it is important to note that this prediction of the Great War is not merely a conflict between European and American powers: “Warnings and ultimatums were telegraphed to and fro, and in a few hours all the panic-fierce world was openly at war, and at war in the most complicated way” (WA 175).²² Again, the widespread availability of military aviation emphasizes how much flight could potentially impact the world—the power of aerial control could propel a more vulnerable nation from defenseless to offensive. To this point of historically subjugated nations revolting against their imperial oppressors, Mollmann suggests “detachment” as a driving force behind this newfound discovery of retaliation through the sky: “*The War in the Air* argues that the detachment that accompanies military technology is only an excuse used by the revolutionaries to justify their own actions” (31). While Mollmann is right to point out that “detachment” is

²² In an almost farcical line listing off the amount of countries involved in this fictional depiction of the war to exaggerate the extent of the global reach of the war, Wells wrote, “For Britain and France and Italy had declared war upon Germany and outraged Swiss neutrality; India, at the sight of Asiatic airships, had broken into a Hindoo insurrection in Bengal and a Mohametan revolt hostile to this in the North-west Provinces – the latter spreading like wildfire from Gobi to the Gold Coast – and the Confederation of Eastern Asia had seized the oil wells of Burmha and was impartially attacking America and Germany. In a week they were building airships in Damascus and Cairo and Johannesburg; Australia and New Zealand were frantically equipping themselves” (WA 175).

used to rationalize the malicious use of this earthshattering discovery, this justification misses the way in which these vulnerable populations are not utilizing this technology by choice. Cole, on the other hand, along the lines of her explanation of Bert's civilian-nature, understands how the onset of this technology is forcing nations to act against their will when she writes, "*The War in the Air* ... represents his most elaborate dramatization of the meaning and consequences of worldwide connectivity, there played out as the enabling condition for the world's self-destruction" (39). As much as these nations would like to abstain from the conflict, they are forced to join in on the worldwide devastating power that aviation has wrought. Their detachment would absolve them of the potential consequences, but any nation that takes to the skies is also implicated in the necessity of considering the negative effects of aviation, requiring a certain level of remorse.

When left to their own devices, humanity in *The War in the Air* inevitably turns upon itself in the struggle for military control, so they are hopeless to forming a world state without any sort of visionary goal of what to aim for as a society. The only phrase Wells could use to describe this devastation is the "collapse of civilization." He reinforces throughout the novel, "It was the dissolution of an age; it was the collapse of the civilization that had trusted to machinery, and the instruments of its destruction were machines.... this, like [a person's] killing by railway or motor car, was one swift, conclusive smashing and an end" (WA 179-80). However, implicit within this speech, is the novel idea of a globalized world. The collapse of civilization is comparable to the death of a single person because the onset of aviation had forced everyone to ontologically think of Earth as smaller than it has ever been before. Thanks to the

invention of aerial transportation, the previously long distances across land and sea between nations had tremendously shrunk—not literally, but it felt that way.

Aviation was beginning to change the way the world conceptualized international relations, just as trains and cars had. Gannon interprets the “collapse of civilization” as the heart of *The War in the Air*, when he states, “Wells’s greatest fear was not inspired by new weapons technologies, but by the probability that humanity would not need – or could not see – the danger signs in time to prevent the all-consuming disasters that these innovations enabled” (37). This point is better articulated by Hemmings (as if the subject becomes victim to the object), but Gannon shares essentially the same sentiment reiterated by those who have made sense of the novel. However, the way Gannon words it brings out the ways in which humankind is blind—they cannot “see”—to the potential dangers of military aviation technology. Without a vision giving them a goal of what to collectively accomplish, they lose sight of what is important in life in terms of concern for the collective wellbeing of others; then, once the newest and most devastating weapon becomes available, humanity has virtually ended even before the full potential of the technology has been understood.

Since it is implied that the story is told in the aftermath of this terrible aerial destruction, the need for the establishment of a unified world state becomes more urgent once there has been a glimpse of what type of terrorization humankind is capable of. There is only a small indication near the end of the novel to show that the narrator has been writing from the utopian future: “To men living in our present world state, orderly, scientific and secured, nothing seems so precarious, so giddily dangerous, as the fabric of

the social order with which the men of the opening of the twentieth century were content” (WA 246). This theme of rebuilding society into a utopia in the aftermath of nearly worldwide genocide reoccurs more prominently in Wells’s later science fiction novels involving aviation. Here, the seed has been planted that the most dangerous thing is not the advanced weaponry itself, but it is the precarity of the “social order.” Mark R. Hillegas notes, “The creation of the world utopia which later rises from the ruins is only implied, for all we learn is that the book is supposedly written in a later era after order has been restored” (62). It is interesting how this fact of the novel contributes to Hillegas’s understanding of *The War in the Air* as an example of anti-utopia, rather than the more common categorization of dystopia that it normally acquires.

Since the end of the novel takes this drastic turn toward the brightness of the future, the conclusion of aerial devastation may not be as horribly catastrophic as scholars have made it out to be all along. Wells’s lack of elaboration on the utopian world state of the future is the novel’s greatest defect, and it makes sense why Tom Miller²³ has argued it should therefore be regarded as one of his most technical texts, as opposed to one of his most artful. Miller argues, “*The War in the Air* is not a major work of science fiction, because no thrilling new scientific ideas are presented. It is still, however, readable, and analysis of its structure should serve to remind Wellsians of the technical competence of the author” (24). This absence of the Wellsian final step in which the fighting comes full circle into a resolution toward world peace is the defining characteristic of his later

²³ This weakness of *The War in the Air* did not stop Tom Miller from being heavily influenced by Wells’s writing about aviation. Miller has a duology of military aeronautical novels himself, *The Philosopher’s Flight* (Simon & Schuster, 2018) and *The Philosopher’s War* (Simon & Schuster, 2019).

aviation writings, leaving *The War in the Air* as an entertaining read but ultimately not one of his most profound.

The importance of aviation has been tragically overlooked in *Tono-Bungay* (1909), the novel that many critics consider to be Wells's magnum opus. This oversight is somewhat understandable, given the fact that it is directly following his most aviation-heavy work (*The War in the Air*). It focuses on the concept of Tono-Bungay (a faux cure-all medicine), while aviation is somewhat of a supplemental storyline. However, the peddling of Tono-Bungay is what allows protagonist George Ponderevo—again keeping in mind the mirroring of Herbert George's own name—to pursue his real passion in life, flying. Like many of Wells's main characters and the author's own upbringing, the sudden transformation from lower-class to incredibly wealthy initiates a breakneck experience for George, and he expresses his shock of possessing money when he says, "We made Tono-Bungay hum! It brought us wealth, influence, respect, the confidence of endless people" (*TB* 147). Out of nowhere, George has gone from working-class to affluent because of his participation in the great swindle, and he is not accustomed to the affordances that a rich lifestyle can provide.²⁴

The private ownership of open swaths of property is ultimately what enables George to experiment freely with aviation. Tono-Bungay is the product of George's uncle Edward, and the latter is the one who prioritizes investing their newfound capital into developing a real-estate empire. Cole notes, "The theme of expansion, for instance, has

²⁴ Expressing the surprise of this lifestyle further, George remarks, "All that my uncle promised me proved truth and understatement; Tono-Bungay carried me to freedoms and powers that no life of scientific research, no passionate service of humanity could ever have given me...." (*TB* 147).

the force almost of necessity in *Tono-Bungay*. The Ponderevo empire grows according to the ineluctable logic of capitalism, which also applies to Edward's real-estate habits, with their ever-accumulating gigantism" (292). Despite benefiting from an economy where land and air ownership are determined primarily through capitalism, the origin of George's passion for air travel is well-intended, as his interest in airplanes is truly driven by curiosity with no ulterior motive. As the novel plays out, it is not until George's moral compass is tainted by his greedy uncle Edward that he begins to abuse the power of human flight.

Tono-Bungay is a complex and layered novel, and it is as much a story about a young man's love for aviation as it is about the consequences of swindling a phony medicine. In fact, there is a whole chapter dedicated to George's experiments with aviation, "Soaring," and its opening line gets directly at Cole's emphasis on real estate in the novel when it states, "For nearly all the time that my uncle was incubating and hatching Crest Hill I was busy in a little transverse valley between that great beginning and Lady Grove with more and more costly and ambitious experiments in aerial navigation" (*TB* 275). Throughout the novel, there are several estates that the Ponderevo family galivants around, doing whatever they please once they become members of the London-area elite. One critic who does explicitly draw attention to aviation in *Tono-Bungay* is Haynes, who makes light of how "The symbol of his groping is his glider which, without a skillful and determined commander, is tossed at the mercy of every air-current but if managed with concentration, self-denial and intelligence ... this same glider soars and flies wherever the pilot dictates" (249). In this way, building upon the theme in

The War in the Air that the object controls the actions of the subject, Haynes's analysis of George's fascination with flight unravels how aviation symbolizes a conceivable challenge that he may overcome. There are certain things in life that money can buy (like real estate), but there are other passion projects which take a combination of financial investment and dedication to achieve mastery. The appeal of aviation to George is that the obstacle is exhilarating but, more importantly, challenging yet doable. He did not want to waste his time living the slovenly life of luxury his uncle chose with their newfound fortune. George wanted to pursue a fulfilling task in life, even if that meant disregarding other appealing facets to make his dream a reality.

Ironically, once George stops losing himself in the thrill of making money, he becomes more aware and plugged into the natural world. Foremost, this change of priorities is evident in the positive effects he notices of training for aviation on his fitness. Unlike the modern conception of aviation where the technology is much more mechanized and operator-friendly, the early days of airplane travel required a great deal of physical strength. George recalls, "I went into training, and I kept myself in training for many months. I had delayed my experiments for very nearly six weeks on various excuses because of my dread of this first flight, because of the slackness of body and spirit that had come to me with the business life" (*TB* 280). George credits the turnaround in his all-around wellbeing with throwing himself into his passion for aviation and leaving the hustle and bustle of the business world behind, generating an overall gratitude for the material world. However, he might not have been able to enjoy the beneficial

health effects if he had never come into the amount of money that he got from selling Tono-Bungay with his uncle.

Now, it is somewhat of a jump to then argue that this increase in fitness is the direct result of an improved respect for the environment. Although, he experiences a realization one day during his practice that “I trained my will until it didn’t matter. And soon I no longer dreaded flight, but was eager to go higher into the air, and I came to esteem soaring upon a glider... I began to dream of the keener freshness in the air high above the beechwoods” (*TB* 280). It is only through George’s experience of an increase in quality of life resulting from pursuing his passion for flying that he can truly enjoy nature in a way he otherwise would not have been able to. Reed supports this idea when he states, “With greater seriousness, George Ponderevo in *Tono-Bungay* trains himself rigorously for his experiments in flying; ... his broad vision of humanity is associated with his interest in flying” (46). Additionally, George even goes so far as to pay enough attention to his environment to note the specific type of tree, “beechwoods.” This is not to say that an adequate appreciation for the natural world requires a certain level of fitness or ‘normality.’ However, George enjoys a level of comfort he had not previously had, and this took him out of the fight-or-flight mentality of lower-class struggle to follow his heart and live and breathe in the world like he never had before.

When George travels by water from Britain to Africa in the ridiculous ‘quap’ mining expedition, the novel’s attention to spatial thinking is nonetheless evident. While the quap incident is interesting mostly for its colonial implications,²⁵ the display is

²⁵ As a result of this scene in *Tono-Bungay* where George travels into Africa on a quap mining trip, the novel is reminiscent of *Heart of Darkness* (1899) by Joseph Conrad, notably a friend of Wells.

relevant to the themes discussed so far in relation to aviation's connection to class and the environment. While George is away on the quap extraction mission, he reminisces, "Beatrice and Lady Grove, my uncle and the Hardingham, my soaring in the air and my habitual wide vision of swift effectual things, became as remote as if they were in some world I had left for ever..." (TB 324). Comparable to the ways in which flying granted him a new and improved perspective, it is not until he has been stripped away of his newly-acquired luxuries that he realizes the full extent of what he is missing out on in life—namely, his soulmate, the place he calls home, and the ability to perform the exercise he most enjoys, flying. With attention to how space is oriented within the minds of Wells's characters, Reed writes, "Wells guides the turbulent movement of his tales in specific dimensions. It becomes journey, even quest. We have seen in Wells's topographical image-constellations how geographical and spatial his concept of liberation was" (152). Thus, *Tono-Bungay* transcends generic conventions, as the ideas of "journey" or "quest" are not typically associated with the defining characteristics of science fiction novels. Rather, these plot structures are features that are commonly attributed as essential elements of fantasy literature. The crucial point which has been on the forefront of Wells's stories (including but not limited to this case in *Tono-Bungay*) is that aviation is the driving force behind all of what makes this possible. Who would have expected this innovative technology to be included in the aspects of English life that George misses most, alongside his romantic love and the love he has for his home country? Like Wells's experimentation with the novel form itself, aviation was transforming the very structure of modern thought.

While the quap adventure takes place over the course of travel by water, aerial transportation comes into utilitarian play in *Tono-Bungay* once customers of the fake cure-all drug catch Edward in his lies, so he resorts to George's amateur flying skills as a saving grace to avoid criminal punishment. Through this scene, Wells depicts—to my knowledge—the first example of what has become a cliché of a white-collar criminal immediately seeking escape by flight once they have been accused of their crime.²⁶ While saving Edward from getting arrested, George explains, “I had to evolve some scheme, and evolve it rapidly, how we might drop most inconspicuously into the world across the water” (*TB* 351). When the situation becomes dire, Edward's first instinct is to abuse his privatized power of aviation, especially since he knows the English officials are likely not going to be able to catch him because they do not possess the same sophisticated aerial mechanisms. The death of Edward by pneumonia is a symbol of the toxicity of this way of thinking, which is why *Tono-Bungay* is far more dystopian than utopian, still in a phase of Wells's literary experimentation with aviation where he is focused on the potential negative outcomes of flight. Cole captures this key piece of the narrative arc of *Tono-Bungay* when she writes, “this is a novel half in love with the rush and whoosh of capitalism's ride. Its fetish is flight, a literal as well as figurative desire. But these gliders always sink in the end” (304). Perhaps if George had never gotten wrapped up in the horribly unethical decisions of his uncle Edward, he would not have had to learn the harsh truth that what goes up must come down. They each pay the price in the end, unfortunately leaving them just as poorly off if not worse than they were in the

²⁶ To a certain degree, Wells's depiction of aerial criminality is prescient here of the infamous D. B. Cooper case, for example.

beginning. The novel shows how aviation reveals painful truths about reality that would have been otherwise inaccessible.

The theme of the majority ignoring the possibility of aviation in favor of nostalgically sticking onto their old ways of travel by water is apparent in the artistic last line of *Tono-Bungay*. George reflects, “I have come to see myself from the outside, my country from the outside – without illusions. We make and pass. We are all things that make and pass, striving upon a hidden mission, out to the open sea” (*TB* 389). From the penultimate point, he again reiterates the way in which his identity is inextricably tied to his nationality, meaning that he is only capable of accomplishing what his country values. Therefore, in a sense, George admits that the Tono-Bungay and quap escapades have reinforced his feeling of being like a cog in the machine of capitalism. Hannah Woods analyzes how harsh this realization is for George: “Wells perhaps offered a psychological and emotional grounding to the experience of modernity. Social reality, in *Tono-Bungay*, has a definite quality of unreality, and of unreliability. The language of modernity is empty at its core, characterised by emptiness, hollowness, and disorienting fluidity” (96). As much as the protagonist would have liked to dedicate his life to experimenting with aviation, that alternative would have been an impossibility because modern life was engulfed in the social structures which had gotten them to this point. *Tono-Bungay* represents England’s historical allergy to futurity, and “the open sea” symbolizes their collective failure to recognize the potential of aviation.

The final novel in these three successive texts that demonstrate the dystopic power of aviation is *The Sleeper Awakes* (1910), originally published as *When the*

Sleeper Wakes (1899).²⁷ From the publication history alone, the change in title demonstrates the increased emphasis that Wells intended to place on the transformative effect of human flight on the world. Amran even points out the change in tense from future to present, making it abundantly clear that the availability of this technology has gone from a dream to a fact of life. She notes, “the latter title, written in the present tense, indicates that the time has already come to seriously consider the possibility of the contents of the novel happening in reality” (Amran 30). Furthermore, the relevance of the idea of a “sleeper” in general also represents the potential of ‘dreaming’ of alternate realities to the world in its present state. Amran justifiably underscores the magnitude of the seemingly subtle edit on the surface: “Wells was seeking to make a more significant impression on his readers, as if to insist that if their world fails to take the necessary steps towards protecting mankind’s future, then the only certain outcome will be death and destruction” (30). While it may seem simply like a change in tense to contextualize the ensuing events of the novel, the adjustment exemplifies the existential crises that aviation appears to bring in these stories. As portrayed in *The Sleeper Awakes*, if there is not a distinguishable objective for how society plans to implement aviation effectively, then the world runs the risk of degenerating into anarchy and, ultimately, a dystopia full of mass-suffering with the power of flight as its primary tool of destruction.²⁸

²⁷ In terms of the influence of this novel, Hillegas notes George Orwell’s “indebtedness” to *When the Sleeper Wakes* throughout his *Nineteen Eighty-four* (1949) and how Orwell “found *When the Sleeper Wakes* imaginatively superior to [Aldous Huxley’s] *Brave New World* [(1932)]” (131-32).

²⁸ Busch explains how this novel represents the ultimate dystopian foil to Wells’s later utopian stories: “It should also be noted that the mere existence of a world state is by no means a guarantee of utopia; the world state is necessary for the beginning of the utopian process, but hardly sufficient. For an illustration of this see, e.g., *When the Sleeper Wakes*; the world state therein is clearly dystopian” (122).

Now a familiar refrain in Wells's stories about aviation, the titular sleeper, Graham, notices the importance of aerial technology in this world within the context of its financial impact. As Graham continues to comprehend the impact of aviation in this two-centuries-later future, "Among the first things to strike his attention had been the great fleets of advertisement balloons and kites that receded in irregular vistas northward and southward along the lines of the aeroplane journeys. No great aeroplanes were to be seen" (SA 126). In this version of the far-future, aviation has been coopted by capitalists to abuse the power of modern advertising and possess as much control over the financial markets that they can. Notably, the aerial technology that is used for this specific marketing is one of the original and least sophisticated forms of aviation, balloons, and it is even alongside an even older form of aerial spectacle, the kite. In this instance, during one of the first mentions of skyward technology in the novel, the less complex system is still abused by capitalist power, so it creates suspense of the anticipation to wonder how much worse the abuse of more advanced aviation is going to be demonstrated. Shortly after, in the same excerpt, it is stated that the airplanes' "passages had ceased, and only one little-seeming monoplane circled high in the blue distance above the Surrey Hills, an unimpressive soaring speck" (SA 126).²⁹ Again, the appearance of aviation is brought up

²⁹ To explain the use of the word, "monoplane," Bowler explains, "The original 1899 version of *The Sleeper Awakes* envisioned 'aeropiles' as means of both transport and war, the name changed to 'monoplanes' in the 1910 reprint" (110). Interestingly, each version differentiates between either aeropile and/or monoplane and aeroplanes. Though similar devices, the monoplane is a smaller, more agile piece of aviation technology, and the aeroplane is a larger device that is more capable of warfare and carrying extra passengers. Sussex elaborates further that "the futuristic aircraft in *When the Sleeper Wakes*, fantastic speculation at the time the novel was written, can be shown to have a solid conceptual basis in fact. Wells derived his aëroplanes and aëropiles from the existing aeronautical technology of the turn of the century" (29).

within the context of both the dangers of capitalism and the beauty of the natural world. As Graham soaks in the scenery of this future vision of London, aviation has become an aristocratic symbol of control over the masses. Those who can afford to abuse the power of flight do so to enjoy both their economic privilege and the sublimity of nature.

Aviation in the world of *The Sleeper Awakes* has demonstrable implications in terms of both social order and ecological life. İsmail Serdar Altaç reads the text as an exemplary representation of Murray Bookchin's concept of social ecology. Inevitably, Altaç notes how social ecological theory applies to two examples in the novel that involve aviation. According to Altaç, "Graham's first flight experience saliently demonstrates the annihilation of the suburbia" (1372). The passage which he is referring to in *The Sleeper Awakes*, reads, "That gradual passage of town into country through an extensive sponge of suburbs, which was so characteristic a feature of the great cities of the nineteenth century, existed no longer" (SA 144). Evidently, while the aviation industry is not the driving economic force creating such a stark contrast between the urbanization of the wealthy elite and the squalid conditions of the rest, it does reveal to Graham that such a visible division exists between rich and poor in the land. Although the objective behind the aerial tour from the supreme leader Ostrog's aeronauts is to show Graham the prosperity of the bourgeoisie, the sightseeing ends up backfiring on them as the sleeper feels even more strongly about joining the revolution after seeing the social ecological differences. Therefore, while Altaç is correct to notice the applicability of Bookchin's theory to the novel, it is inaccurate to suggest that "Graham's flight and the other aerial views are diversions arranged by Ostrog that render the ground level no more

than a spectacle, leaving both the social and ecological predicaments unnoticed for Graham” (1374). Conversely, “the social and ecological predicaments” are precisely the reinforcing reason that he is willing to rise up and risk his life revolting against Ostrog and his forces. Otherwise, why would the sleeper’s experience of flight become such a focal point to his time spent in the future? In the air, Graham’s “exhilaration increased rapidly, became a sort of intoxication” (SA 145), and he exclaims, “Do you know why I have slept two hundred years? To fly!” (SA 148). The inequalities that Graham witnessed from his aerial tour of future London exacerbated his motivation to fly, and suggesting the opposite ignores the centrality of aviation in Wells’s thought and works.

The potential of aviation becomes, for Graham, an absolute obsession, and he expresses dedication to it as the pinnacle of technical innovation, reiterating human flight as one of the most consequential inventions of the century. Reed comments, “Wells’s fictional flyers are all impressed by the panoramic thrill of the experience. Graham’s preliminary fears disappear quickly as he becomes accustomed to aircraft flight” (46). The revolutionaries of the future do get quite lucky because their prophetic sleeper could have easily been too scared to continue their experimentation with the power of aviation. Thankfully, the favorable opposite happens where Graham is instantly struck by its use to topple malicious people in control, somewhat shocking considering that he is coming from a world where aviation was not within the conceivable realm of possibility. Rather, Graham falls in love with the exhilaration of flight: “‘I must learn to fly,’ he cried. ‘I must master that. I pity all poor souls who have died without this opportunity. The sweet swift air! It is the most wonderful experience in the world’” (SA 151). However, in this

sentiment, he reminds of the contradictory nature of the power of aviation. On one hand, flight could be the key to the revolution against Ostrog; on the other, it is also the thing responsible for their subjugation in the first place. In the dystopian future of *The Sleeper Awakes*, aviation is a necessary component determining whether society exists in either freedom or constraint.

In a spell of blindness, Ostrog fails to recognize that the rest of society is also capable of operating these aerial weapons of destruction, and so his downfall is laughing in the face of the poor, not realizing that he is simultaneously teaching them what they need to do to successfully rise up against his unjust rule. As Haynes captures it, “in his self-justifying speech to Graham, Ostrog unwittingly indicates that the machine is the cause as well as the symbol of his authoritarian technocracy, for he pleads expediency – no other approach, he maintains, is possible” (74). Ostrog loses sight of the fact that the oppressed have the potential to revolt, and he idiotically reveals to them that aviation is the ultimate factor leading to their revolution. According to the dictator, “We have the pull of all the great things; the aeronauts are privileged and rich, the closest trades union in the world, and so are the engineers of the wind-vanes. We have the air, and the mastery of the air is the mastery of the earth” (SA 167). Ironically, in this depiction of the future, one might assume that the unionization of the aeronauts would mean they are immune to causing harm to the lower-class members of society. However, even though the aeronauts are banded together, they are under the beck and call of the authoritarian Ostrog, meaning it is virtually impossible for a militia, for example, to retaliate against such a strong, unified force. Ostrog’s Achilles heel is that he pushes the bounds of his mockery of the

people below him, forgetting that subjects will risk their lives if their living situations become dire and terrible enough,³⁰ and the only hope of their revolution lies in aviation.

The use of Babble Machines is another form of technology that Ostrog abuses in the future to control society by way of mass-propagandizing misinformation, and aviation is one of the central talking points of their focus. In this dystopian future, the Babble Machines are spread out across London, spewing lies to get Ostrog's subjects to believe whatever he wants them to believe. For example, at one point on the verge of revolution, one of them spouts, "The Master is sleeping peacefully.... He is going to devote the rest of his life to aeronautics.... Our wonderful civilization astonishes him beyond measure.... He puts great trust in Boss Ostrog, absolute confidence in Boss Ostrog" (SA 179). These beacons of untruths represent the inner monologue of the lies that Ostrog wants to propagate, and this instance paints the picture of a safe, sound, and thriving Graham. Foolishly, Ostrog is fine with the image of sleeper Graham as a strong aeronaut, but the dictator does not realize that this depiction is contributing to the revolution he fears more so than it is preventing it. Everyone else believes too deeply that the sleeper has awoken to fulfill a prophecy of their salvation, so they are getting restless that Graham's mere presence alone has not immediately disrupted the capitalistic order of things. Their calls for rescue have not been answered as quickly as they would have liked by Graham, and Hillegas reminds of the anti-utopian nature of the novel, "through [*When the Sleeper Wakes*] we can best approach Wells's idea of the nightmare world of the twenty-second century" (41). Although, as much as the sleeper wishes this nightmare

³⁰ Recall the famous line from Marx and Engels, "You have nothing to lose but your chains!"

were not a reality, no amount of wishful thinking can deter Ostrog's grip of control over the world through his complete monopoly over both military technology and the news media.

The potential success of the revolution comes down to an aerial battle between Ostrog's forces and Graham's commandeering of an airplane in the culminating final two chapters, "While the Aeroplanes Were Coming" and "The Coming of the Aeroplanes." Therefore, the social emancipation of the future is a matter of whether the untechnical sleeper can learn the complicated art of flying quickly enough to topple the master and liberate the masses. As Shadurski puts it, "Ultimately, Graham's advantage over his opponents, including primarily the dictator Ostrog, hinges on his ability to operate a flight" (106). When Graham announces that he knows what he must do, in a drastic turn away from the familiar notion that the object controls the subject, he proclaims, "To fight – yes. To fight in the air. I have thought before – A big aeroplane is a clumsy thing. A resolute man—!" (SA 220). Graham wants to believe that the power to take down the authoritarian technocracy is within his control. Therefore, as the novel ends in an apparent failure of this mission, the conclusion is that an attempt to reject such a notion is more foolish than working within the societal structures that aviation dictates.

Perhaps Graham would have been more definitively successful if he gave himself up to the power of aviation, rather than approaching the objective as if he is in complete control over the machine. So, Patrick Parrinder is half right when he states in an introduction to *The Sleeper Awakes* that "It is the thrill of aeronautical mastery, quite as much as the possibility of saving humanity from a nightmare of capitalist oppression, that

makes Graham's long sleep worthwhile" (xxiv). Only half right because the conclusion that Graham's long sleep is worth it in the end is ambiguous. Since the novel ends on somewhat of a cliffhanger, a more favorable conclusion to draw than Parrinder's is Reed's, who puts together that "Graham, the hero ... though he inherits control over the entire world, is actually powerless" (207). Ultimately, the sleeper would have had a better chance at definitively defeating the dictatorial Ostrog if he had completely relinquished himself to the power of the weapons he attempted to master. However, that likely would have resulted in the ending Graham so desired, negating Wells's point of presenting a dystopian society. The admittance to the necessity of submitting control over to the power of aviation is a conclusion that Wells does not arrive at until his later utopian writings involving aviation to come.

Chapter 3: Hope in the Air

Wells's writings about aviation go from being largely dystopian to mostly utopian after his own first flight in real life. In another one of his nonfictional works,³¹ *An Englishman Looks at the World* (1914), he includes a chapter simply titled "My First Flight."³² Those who have written about Wells and aviation, such as Amran, have been sure to mention this experience and its probable subsequent impact on his later aeronautical work. According to Amran, "Wells's first experience of flight seems to have played a significant role in prompting his support for developments in aviation as it proved to him the practicability and relative comfort that he initially thought would be lacking in flight" (31). It is safe to make this assumption given the positivity that Wells emits as he recounts his experience. Prior to flying, as discussed so far, all his writing about aviation had been either in the context of war or explicitly in a dystopia. Following his first flight, as the remainder of the present survey will show, his work about aviation is still in a military context, but it takes a dramatic turn toward utopia in the aftermath of the devastation brought on by aerial warfare. Upon examination of Wells's experience of soaring through the sky, one discovers an attention to the environment that possibly contributed to his utopic shift in his attitudes toward aviation. Recalling his flight, he explains, "we went out to sea, soared up, came back over the land, circled higher, planed

³¹ The only other known examples of Wells elaborating on his nonfictional impressions of human flight are included in *A Year of Prophesying* (1924) with two columns titled "The Beauty of Flying" and "The Aviation of the Half-Civilised." They are not included here because no new real ideas are presented, just a continuation on his stream of remarks upon the wonder of it all.

³² Wells specifies that his own flight experience took place in 1912, two years prior to the publication of the longer collection it is included in. A fun short story of his not included in this survey is "My First Aeroplane" (1910) in which he guesses with vivid detail what the experience is going to be like.

steeply down to the water, and I landed with the conviction that I had had only the foretaste of a great store of hitherto unsuspected pleasures” (“FF” 8). Like the characters in Wells’s science fiction leading up to his first flight, the view from above has apparently altered his perspective to being more nature-oriented than he had previously been before.³³ It is as if the experience solidified what he anticipated it would be like, but that does still not account for the noticeable shift from an emphasis on dystopia to utopia. No, that transition was deeper and required more profound reflection, a significance he did not fully explore until he attempted to convey it through his fiction.

In addition to the enlightened natural perspective that Wells develops during his brief trip over the water in the air, he also lands with the reaffirmation that aviation should be made available as a social right. Reflected in his writing about aviation before the twentieth century, not only does he think it is a distant and unlikely possibility, but he also thinks it will be available solely to wealthy private investors or militaries with ample government funding. Wells’s reflections after his first actual flight experience demonstrates basically the complete opposite opinion when he writes, “I went up into the air at Eastbourne with the impression that flying was still an uncomfortable experimental, and slightly heroic thing to do, and came down to the cheerful gathering crowd upon the sands again with the knowledge that it is a thing achieved for everyone” (“FF” 12). Again, the social implication of aviation comes secondarily to the specific detail of the

³³ This is a point that Reed makes abundantly clear throughout his attentive analysis of the role of nature of Wells’s work. For example, situating the potential impact of this experience within Wells’s philosophy toward aviation as a whole, Reed writes, “it is clear that he was enamored of the very sensations of flight, even before he had actually experienced them, and that the notion of ascent signified release for him, along with all his favorable associations of height, spaciousness, and vista” (46).

land which Wells is soaking in.³⁴ He does not want to make the image of his first flight sound too picturesque as it is sufficient to name the specific place, and the imagination can fill in the rest knowing the excursion occurred off the coast of southern England just over the English Channel. However, it is almost as if he does not want the gathering crowd to be making as big of a scene as they are. Once he goes up in the air and comes quickly back down, he practically has one of those cliché ‘that’s it?’ experiences, embarrassed that he used to think flight was going to be dangerous.

The novel that epitomizes Wells’s shift in thought from dystopic to utopic attitudes toward aviation is *The World Set Free* (1914). In short, on the eve of the First World War, Wells predicted the atomic bombs three decades before they existed. The more incredible feat of the novel is that his anticipation of life after the dropping of the bombs is eerily prescient. Wells had a way of understanding the significance of developments in technology quicker than most, and he had the wherewithal to portray these advancements in literature to add dramatic effect. Recognizing the potential of atomic energy, Wells wrote in *The World Set Free*, “We stand to-day towards radio-activity as our ancestor stood towards fire before he had learnt to make it.... This—this is the dawn of a new day in human living” (*WSF* 21-22). Just as there must have been a first among humankind to realize the powerful potential of fire, Wells demonstrated an early comprehension as to the global implications of nuclear war. Straight away, scholars have been equally quick to indicate the ways in which atomic energy essentially boils down to

³⁴ Though not making the connection as to how this humanistic conclusion follows the environmental detail, Amran notes, “Although Wells did support the growth of military aviation during the Great War, it is important to note that after his first flight, he saw the aeroplane as being an invention ‘for everyone’ rather than merely as a machine for military use” (31).

a dystopia/utopia topic. Cole makes the connection, examining that “*The World Set Free*, characteristically, envisions both apocalyptic and utopian consequences of the energy revolution ... suggesting, as ever, that the question is what humankind will do with the great forces out there” (257). With most of Wells’s examples up to this point, the onset of aerial warfare is destined to inevitably lead to apocalypse. Opposed to his previous literature on aviation, *The World Set Free* presents a situation in which devastation has granted humanity with an opportunity for improvement rather than purely a consequence they must suffer with. The novel reckons with how a chance to imagine a better society from scratch comes at the tremendous cost of countless human lives.

The dawn of atomic energy³⁵ and the advantageous use of these weapons through warplanes had created an atmosphere of both terror but also excitement. While one might expect the first thorough speculation of what the world might look like with the devastation of nuclear warfare to be entirely pessimistic, the cultural outcome in terms of either dread or relief is somewhat mixed. Early in *The World Set Free*, the omniscient voice declares, “The last dread of flying vanished. As the journalists of the time phrased it, this was the epoch of the Leap into the Air. The new atomic aeroplane became indeed a mania” (*WSF* 35). Including the last word that punctuates the overall meaning of this passage, it could almost be perceived as if the widespread societal implementation is not a thing to be feared but rather something to be embraced—indeed, in the world of this novel, aviation comes to be the defining characteristic of this period in history. The word

³⁵ Articulating the importance of this discovery as eloquently as possible, James writes, “Wells consistently attacked the epistemological indivisibility of categories, whether linguistic or biological.... The invention of the atomic bomb sees countries voluntarily disarming and themselves dissolving when faced with a war that could result in the destruction of humanity” (165).

“mania” is not an entirely pessimistic word used to describe the possibility of nuclear disaster. As Shadurski addresses this mixed message in the novel, “the poor and unhealthy old world turns into a clean slate awaiting to be filled in by Wells’s imagination” (67).³⁶ Of course, no rational and civilized human being inherently wants to arrive at their vision of a better life for all through violent and destructive means. However, as other countries were on the offensive and the globe was on the eve of mass conflict, there is a subset of popular opinion that is ready to accept the fantasy of a tabula rasa that atomic bombs could bring.

While most of the criticism about *The World Set Free* has understandably been focused on this transition from dystopia to utopia in the novel, it is also important to note the financial state of the situation brought on by atomic energy leading to determinations in class structure. In addition to being all the craze in the news media, “all the securities upon which the credit of the world rested were slipping and sliding, banks were tottering, the stock exchanges were scenes of feverish panic;—this was the reverse of the spectacle, these were the black and monstrous under-consequences of the Leap into the Air” (*WSF* 37). Although it is not addressed directly, the subtext of this is to think about what population exactly is being affected by this chaos. The people that worry about the financial crashes are the capitalists who rely on these abusive systems to generate wealth while they sit back and collect the profits from the labor of the working class. It is implied that the latter category themselves, while also faced with the existential presence

³⁶ Along similar lines, but noting a broader theme throughout Wells’s aviation novels, Reed posited prior to Shadurski, “Frequently it is organized air power that guides the world to a new order, either by destruction of the old system or by a more efficient new one” (251).

of this new technology, are not nearly as worried about the economic effects—rather, the following blank state is somewhat of a welcome occurrence. The novel has presented a hypothetical situation reflecting the necessary decision of choosing how much an oppressed group is willing to risk for the possibility of a better life.³⁷ From the perspective of the average laborer, the aftermath of the atomic bomb is seeming unexpectedly appealing.

In accordance with Wells's preceding work involving aviation, *The World Set Free* is grounded mostly in scientific fact of the time, featuring speculation that could conceivably occur. His fiction presents divergent ways of thinking about real scientific problems, potentially offering inspiration in terms of possible differing approaches for how to address a difficult material question. In fact, the *Oxford English Dictionary* cites the following line as the first use of the term, 'atomic bomb.' It reads, "up to the middle of the twentieth century the only explosives known were combustibles whose explosiveness was due entirely to their instantaneousness; and these atomic bombs which science burst upon the world that night were strange even to the men who used them" (*WSF* 83). One of the defining characteristics of the atomic bomb is breadth of the explosion which it creates. It is as if the atomic bombs have an effect of being instantaneous and ongoing, and that is a troubling and puzzling scene for everyone involved, the enactor and especially the victims who may have never even known of the

³⁷ Recall the national motto of France, "liberté, égalité, fraternité." Based on this emancipatory logic, the ordinary people of *The World Set Free* should be open to whatever it takes for the possibility of freedom from their oppressors.

existence of such a powerful force before it is already happening.³⁸ Again, the horror of these violent crimes against humanity are unforgivable, yet the scholarship about this novel has still indicated the unsettling necessity of their implementation. For example, Cole reiterates, “Violence is unredeemable, but out of the wastage one can force an outcome that will retrospectively confer a kind of necessary value on what came before” (142).³⁹ The same was the case with the airplane itself, so the same will be the case with both the airplane and the atomic bombs working in conjunction with one another. The literature suggests it is preferable to give oneself up to the power of these material forces than it is to try and conquer their use. If humanity tries to somehow comprehend the incomprehensible, the devastation will only be worse.

Nonetheless, the mindset that the atomic bombs will have a utopian conclusion in the end is an easy one to have in retrospect, but the event of dropping them itself is still disastrous in the moment. Surely, it would be great if humanity did not require the need to be shocked into cooperation at such a catastrophic scale, but *The World Set Free* argues that the threat of worldwide annihilation is ironically the only path toward bringing nations together. Amid the arms race and flurry of widespread war, “For the whole world was flaring then into a monstrous phase of destruction. Power after Power about the armed globe sought to anticipate attack by aggression. They went to war in a delirium of panic, in order to use their bombs first” (*WSF* 115). Comparable to Wells’s

³⁸ Getting at this point with poignancy, Cole writes, in an introduction to *The World Set Free*, “The novel’s primary aesthetic conundrum is how to represent the atomic bombs—the novelty and destructive power of which push past the bounds of the familiar” (xxiii).

³⁹ Similarly, Haynes describes, “*The World Set Free* warn[s] of the levels of violence to which warfare must inevitably escalate if the resources of technology are turned simply to the task of producing the most efficient weapons possible, without heed to the morality of their use” (78).

prior depictions of military aviation technology, the decision to go to war once the atomic bombs have become internationally available is a simple one. It turns into a kill or be killed situation. Gannon, who compares the “collapse[s] of civilization” in *The War in the Air* and *The World Set Free*, argues that “Wells therefore foresees that in its very nature, the atomic bomb must inevitably promote a final strategic philosophy that is tantamount to global suicide” (39). Gannon captures with fair accuracy the central contradiction underlying the novel. The road to utopia begs the “philosophy” of “global suicide,” and that does not necessarily mean mutually assured destruction is the inevitable outcome, but it is the essential mindset. Similarly, as Hillegas also rightly puts it, “In this prediction the world utopia is established after the collapse of civilization brought on by the cataclysmic wars that are the consequence of the continuation of old national rivalries in a world of new science and technology” (60). As horrible as this realization is to face, Wells understood that humanity was not going to simply change its ways unless the existential stakes were raised to a maximum. The possibility of utopia depends on the chance of apocalypse. This is absolutely not to justify the U.S. dropping of the atomic bombs over Hiroshima and Nagasaki in 1945, brutally murdering hundreds of thousands of innocent Japanese people. To an extent, Wells was horribly wrong to depict such circumstances through *The World Set Free* because it could be used to argue that these actions were necessary for ending World War Two, which is demonstrably not the case.

The culmination between aviation and the atomic bomb in *The World Set Free* results in a clear determination that the formulation of a world state is the obvious resolution. The novel makes it clear how simple and straightforward this decision to

establish a world state is in the wake of the catastrophe: “This assembly was no leap of exceptional minds and super-intelligences into the control of affairs” (*WSF* 166).⁴⁰ The clarity of the idea of an international organization responsible for protecting the globe’s human rights is like the way Wells’s Utopians of the future essentially mock the old ways of humankind in that the previous peoples were not organized enough to come to this realization sooner. While it would have been great if it did not take being on the verge of global suicide to get there, that is simply not the case represented in *The World Set Free*, as worldwide catastrophe was a prerequisite wake-up-call for the execution of such a governing body. Of course, there is an opposing side to every position, and some might say that the decision to form a world state was not so obvious. Capturing the flipside of the potential outcomes, Amran lays out, “If his critics had argued against the difficulty in attaining his world state, then Wells seems to have responded by endeavouring to express his ideas as clearly and simply as possible” (39). While it is sometimes dangerous to make broad, sweeping generalizations about the destiny of humankind, Wells combatted these critics by communicating such concepts in an understandable, digestible way to all. Furthermore, the fact that he first portrayed his anticipation of a world state forming in the aftermath of nuclear warfare through literature provided him the freedom to explore the possibility with a lowered risk of pushback or repercussions.

In the end of *The World Set Free*, the old order of class struggle is squashed into a structured utopia in which every nation and every person is equally provided for, thereby

⁴⁰ For more context to reiterate this message, the passage continues, “It was teachable, its members trailed ideas with them to the gathering, but these were the consequences of the ‘moral shock’ the bombs had given humanity, and there is no reason for supposing its individual personalities were greatly above the average” (*WSF* 166).

ending global conflict, making the existence of such military technology a nonfactor going forward. Near the conclusion of the novel, it reads, “The catastrophe of the atomic bombs which shook men out of cities and businesses and economic relations shook them also out of their old established habits of thought, and out of the lightly held beliefs and prejudices that came down to them from the past” (WSF 198). Notice the emphasis on the verb, “shook.” The events that catapulted the world into a utopia “shook” society, meaning they needed to undergo a significant degree of discomfort to let go of the harmful belief systems they had been clinging to throughout history. Only then, through the shaking out of their misguided morals, can humanity cooperate enough to form an organized world state responsible for ensuring that something like this never happens again. Remarking upon the significance of this decisive shift, Bowler states, “The later chapters return to Wells’s political ambitions, describing a war caused by the failure of society to reform itself in parallel with the developments in technology. A ‘Modern State’ ruled by technocrats emerges from the chaos following the war” (20-21). Bowler’s indication that the World State—sometimes referred to interchangeably as “Modern State” as Wells was working out this idea—being run by technocrats again gets at the cloud of contradictions that shroud this favorable reality. While it would be nice to have no authority and one can be as fully liberated as they please, that would leave open the risk of the world devolving into anarchy at any moment. The final message of *The World Set Free* is that it is better to be ruled and protected than it is to be dead fighting for some unachievably perfect version of reality.

Finally, *Men Like Gods* (1923) is the last text of analysis in this survey for thinking through the utopian significance of aviation in Wells's work. The publication date of this novel is interesting⁴¹ in that it was produced during the interwar period in which Wells was expressing a sigh of relief that the first wave of fighting had ended, but he—like others of his time—anticipated the global conflict had not yet been fully resolved. In *Men Like Gods*, aviation plays a similar role to the one it played in “A Story of the Days to Come” and *The Sleeper Awakes* where it has emerged as a part of everyday life. Before the protagonist Barnstaple observes how common flight is to the parallel universe people of Utopia three millennia in the future, he passes through a wormhole in his automobile to get there first. The shocking experience of travelling dimensions is presented as follows, “This was an entirely different road from the one he had been upon half a minute before. The hedges had changed, the trees had altered, Windsor Castle had vanished, and—a small compensation—the big Limousine was in sight again” (*MLG* 16). Upon his arrival to Utopia, Barnstaple's metric for understanding the depth of his transcendence is through observation of his natural environment. Additionally, Shadurski notes that the flippant comment—using the language of economics, “compensation”—foreshadows the unstable condition of this new setting:

⁴¹ A decade later, *The Shape of Things to Come* (1933) is published, and its film adaptation, *Things to Come* (1936) is released three years after that, written by Wells and directed by William Cameron Menzies. Though applicable to an investigation into aviation in Wells's work because of its depiction of the benevolent Air Dictatorship where the world is governed by a group of Modern State aviators, these texts are outside of the purview of the present survey due to their profound significance in general. To analyze the importance of airplanes in this novel and this film would take up an entire thesis on its own. For an excellent analysis on the role of the environment in *The Shape of Things to Come*, see Chris Pak's *Terraforming: Ecopolitical Transformations and Environmentalism in Science Fiction* (Liverpool University Press, 2016).

“Barnstaple’s irony suggests that his unsolicited companions are likely to spoil his stay in Utopia, and their impressions are not going to match” (121). Nature, for the traveler, is a ruler by which he measures the differences between his old world and this future one. Thus, the theme of an intrinsic connection between transportation and the environment is established, expressed here through the car but later through the symbol of the airplane.

The widespread use of aviation for daily operations in the future of Utopia goes to show what an idealistic implementation of the technology might look like. This depiction of Utopia differs from the one in *A Modern Utopia* in that the one in *Men Like Gods* does explain a bit about how they arrived at the fulfillment of this enhanced vision of society. Specifically, aviation was used in war to lead to the collapse of civilization, just as it was in the real history of the twentieth century, and it is as if the Utopia of *Men Like Gods* is building upon that of the one in the second half of *The World Set Free*. Ideally, aviation is used effectively in Utopia as Amran explains, “In his later texts such as *Men Like Gods*, flying is portrayed as ‘noiseless and swift,’ and aircraft are frequently used for everyday transportation rather than as battle machines. This shift points towards the significant impression Wells’s first experience of flight made on his ideas about it” (31). Again, once he recognized the utopian potential of aviation, he represented the best possible outcome of its use into his science fiction. Thanks to the efficiency of the Utopians’ flying machines, the vehicles are more capable of complex maneuvers, allowing the passengers to appreciate the environment in a way they would have thought otherwise impossible. For example, one instance is presented as, “By contemporary earthly standards of safety Mr. Barnstaple’s aviator flew very low. There were times

when he passed between trees rather than over them, and this, even if at first it was a little alarming, permitted a fairly close inspection of the landscape” (*MLG* 38). Whereas previous texts have portrayed scenes of nature from high up in the air, the aerial sophistication of the airplanes and the aviators who navigate them enable an appreciation of nature long thought unreachable.

Men Like Gods captures how the descriptions of the environment have evolved throughout Wells’s writings that incorporate aviation. Recall the short story that completes the bookends of the texts in the present survey, and the description of nature in “The Flying Man” reflected a rocky terrain, but then there was only a slight hope that human flight would emerge as a useful form of transportation. Fast forward, and “The little squadron of aeroplanes flew up a broad valley towards a pass so that Mr. Barnstaple was able to scrutinize the mountain scenery. Came chestnut woods and at last pines” (*MLG* 39). Still, the more hopeful of his stories involving aviation do not necessarily require a prairie setting, for example, to be considered a utopia, but one can nonetheless be accomplished among a mountainous landscape. As Parrinder encapsulates, “*Men Like Gods* presents another parkland scene, complete with distant snow-capped mountains and tame wild cats” (93-94), and Shadurski builds upon this explaining how the novel “favour[s] pastoral settings in alpine regions, reinforced by sublime elements” (116). The consistent variable that makes such a viewpoint possible is aviation. The Utopians enjoy the benefits of such a natural vantage at their leisure. However, they made the conscious, collective decision to flip the use of this technology from being an object of possible

devastation to being one of utility, and they did so with an appreciation for the environment and not a drive to master it.

Though not explicitly connected to the role of aviation in Utopia, Barnstaple learns how “Mother Nature” factors into the equation of their cultivated world peace. While one might assume that the Utopians have control over nature as a contribution to their happiness, the exact opposite is the case where they have given themselves to expecting the unexpected out of it at any time. Barnstaple learns that “These Earthlings do not yet dare to see what our Mother Nature is. At the back of their minds is still the desire to abandon themselves to her.... She made us by accident; all her children are bastards—undesired; she will cherish or expose them, pet or starve or torment without rhyme or reason” (*MLG* 106-07). The best possible route ahead is to design utopian futures on the assumption that natural disasters are inevitably going to occur, and that is how the Utopians of *Men Like Gods* have been able to persist thus far. What makes “abandon themselves to her” the best phrase to use in this instance is that it contains the ambiguity of giving oneself over, but this is also not what the people of the future are suggesting. No, the problem with the Earthlings’ past approach to comprehending nature is that they have attempted to ignore its grip over humanity and continue their rapid pace of industrial development.⁴² Reed states, “Nature is not man’s friend, not the nurturing and protective mother so frequently assumed in the popular thought of the time. Man

⁴² Criticizing Wells’s message here, in favor of dystopia, Orwell is quoted in Hillegas arguing that “All mechanical progress is towards greater and greater efficiency; ultimately, therefore, towards a world in which nothing goes wrong. But a world in which nothing went wrong, many of the qualities which Mr. Wells regards as ‘godlike’ would be no more valuable than the animal faculty of moving the ears” (126-27). Interestingly, Hillegas also notes that *Brave New World* “started out as a parody of H. G. Wells’s *Men Like Gods*” (111), Huxley’s own words.

must be clear-sighted precisely because Nature is not” (32). Though harsh, this realization that the relationship between humanity and nature is not an inherently friendly one is ultimately the key to the sustained thriving of Utopian culture. Therefore, Shadurski’s interpretation is not totally holistic when he says that “The mastery of nature features as a Utopian life principle, which ensures the survival of the best, rather than the fittest stocks” (126). In accordance with Wells’s previous writing on aviation, the Utopians persist insofar as they reject a mastery over nature, just as they rightly think of airplanes and other transportation vehicles as extensions of their bodies, working with the land and not against it.

The final way in which aviation manifests itself in *Men Like Gods* is through the Utopians’ disavowal of the former Earthling allegiance to the concept of the “Crowd.” By way of early airplane technology, the Utopians observe how people of the past valued gathering much more so than they do in the future. According to a recollection of a Utopian, “I have seen cinematograph films of Crowds, photographed thirty centuries ago and more. They are shown in our history museums. I have seen Crowds streaming over downs after a great race meeting, photographed from an aeroplane” (*MLG* 286). With the advantageous higher perspective of aviation, the future can learn from the weird ways of the past. To a certain degree, it is strange that the Utopian even finds the “Crowd” remarkable in the first place, and Barnstaple is left being struck by the odd contrast. However, they go on to explain, “There are no more Crowds in Utopia. Crowds and the crowd-mind have gone for ever” (*MLG* 286). The reason why the lack of large gatherings of people does not automatically equal dystopia is that the Utopians are able to celebrate

their differences among each other. In this ideal vision of the future, they believe that the problem with big groups of people is there is a tendency to look and act similarly brought on by a sort of mob mentality. Although, Haynes accurately points out, “Wells never, at any time of his writing, showed any faith in the average man and least of all in the crowd which, he believed, was by nature reactionary” (108). In *Men Like Gods*, the Utopian rejection of “Crowds” does not necessarily equate to a devaluing of community. Rather, as their image of society in the World State came into focus thanks to the development of aviation technology, they learned how to embrace individuality among the whole as a key element to the perpetuation of the good of humankind.

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