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Facts Are Stubborn Things: The Foundation of Alfred Russel Wallace's Theories, 1823-1848

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FACTS ARE STUBBORN THINGS:
THE FOUNDATION OF ALFRED RUSSEL WALLACE'S THEORIES, 1823-1848

A Thesis

Submitted to the Graduate Faculty of the
Louisiana State University
and Agricultural and Mechanical College
in partial fulfillment of the
requirements for the degree of
Master of Arts

in

The Department of History

by
Sabrina Rae Cervantez
B.A., The University of Texas at Austin, 2013
May 2016

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This thesis is dedicated with love to my family.
My parents, Rudy and Linda Cervantez
My brother, Woody Cervantez III

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ABSTRACT

Alfred Russel Wallace, a Victorian naturalist, firmly believed that based on his own extensive research there were theories that could effectively provide a means of studying the natural world and improving society. Although he became a respected naturalist his interests in mesmerism, socialism, and spiritualism disconnected him from the mainstream scientific community. Following the tradition of early nineteenth-century naturalists, Wallace was self-trained and self-educated, traits that allowed him to study multiple fields of interests and conduct personal experimentations. In these formative years, he was influenced by British popular culture, interactions with the working class and the latest trends of intellectual curiosities. These impressions remained with Wallace throughout his scientific career and years of political activism.

In 1844, he attended public lectures with the working class at the Mechanics' Institute in Leicester where he witnessed mesmeric demonstrations performed by professionals and amateurs. After conducting experiments he became convinced such techniques were valid methods of researching the natural world. Wallace was critical of professional naturalists who shunned new research merely because it originated from unconventional individuals. As a land surveyor, Wallace witnessed the unjust seizure of Welsh lands, an experience that pushed him to later advocate for the social rights of the working class. In 1889, Wallace declared himself a socialist with the intention of promoting the benefits of land nationalization to correct social injustices such as Britain's land policies. He became a devoted supporter of spiritualism, a choice that created a professional rift between him and his fellow British naturalists.

This thesis will demonstrate that Wallace's personal experiences throughout his formative years from 1823-1848 influenced his scientific research and personal convictions.

Wallace's formative years shaped his perception as a naturalist dedicated to empiricism and the accumulation of facts to support his theories. As a self-trained naturalist, he relied firmly on his observations and experiments to draw his conclusions. Wallace's further skepticism of socially privileged naturalists persuaded him that all discoveries should be equally considered despite their unconventional origins. Wallace's formative years shaped his perception as a naturalist dedicated to empiricism and the accumulation of facts to support his theories.

INTRODUCTION

In anticipation of the centennial of Alfred Russel Wallace's death in 2013, a wealth of research was published to celebrate his life and legacy as a Victorian naturalist. Wallace is generally known as the co-discoverer of the theory of natural selection; thus, historians have predominantly focused on the scientific research Wallace conducted while exploring South America and the Malay Archipelago, along with his more controversial beliefs in socialism and spiritualism. Although recent scholarship has offered a more comprehensive understanding of Wallace's research methodology and evolutionary cosmology, few researchers have examined the extensive impact of his formative years. His childhood and subsequent adolescence shaped his lifelong perception of nature; yet studies generally bypass this period to focus on his scientific expeditions.

Researching the earliest years of Wallace's life is difficult as there are few direct sources from the time period spanning from 1823 to 1848. He became a more prolific writer once he began his voyage to South America; these years provide historians and researchers with a plethora of primary source material. The main source available for his adolescent experiences is his two-volume autobiography, *My Life: A Recollection of Opinions and Events* published in 1905. As an autobiography, it recounts the memories, writings, and personal interactions that Wallace deemed crucial to understanding the progression of his life. As a retrospective narrative there is a bias concerning the materials he chose to reprint and the analysis he offers on his life to emphasize certain aspects of his personality. Ever the meticulous writer, Wallace endeavored to include as much information as possible but there is always the possibility that he would not include other information, for lack of interest or in order to present himself a certain way.

To supplement and check the autobiography, I have also utilized Wallace's personal letters and journal articles collected in two digital archives, *Wallace Letters Online*¹ and Charles H. Smith's *The Alfred Russel Wallace Page*.² These sources allowed me a broader understanding of Wallace's motivations and experiences that later became crucial for his personal convictions in spiritualism, socialism, and land nationalization. Certainly, his ideas drastically changed throughout the course of his formative years into adulthood as a result of personal experiences. While his autobiography does not always reflect these changes--whether by the negligence of Wallace to identify these transitions or a desire to present himself as more consistent than he was--his earlier writings reveal a different perception of society and the natural world.

Wallace's autobiography is a rich source for readers seeking to understand his early motivations since he included extensive retrospective commentary on his life. Throughout his autobiography he attempted to explain his motivations and inspirations while also using modern techniques to further analyze, or possibly excuse, the imperfect recollections of his childhood. Wallace's self-analysis also allowed him to explain faults that he found in his character. For example, he used his faulty memory as a means of understanding the workings of the mind in general. In his account of his years in Usk, Wallace claimed he could not remember particular individuals aside from his own family but did remember the architecture of the town's buildings. In hindsight he remarked, "I cannot find any clear explanation of these facts in modern psychology, whereas they all come intelligible from the phrenological point of view. The shape of my head shows that I have *form* and *individuality* but moderately developed, while *locality*,

¹ Wallace Letters Online. Project Patron, Sir David Attenborough.

² The Alfred Russel Wallace Page. Edited by Charles H. Smith.
<<http://people.wku.edu/charles.smith/index1.htm>>[accessed 5 July 2015]

ideality, colour, and comparison are decidedly strong.”³ This deficiency, he claimed, continued to plague him throughout the course of his travels abroad and he could only vaguely recall individuals that he met. In relation to his earliest memories of Usk he remarked that he did not remember experiencing any physical pain. He stated, “The sensation does not, probably, reach its maximum till the whole organism is fully developed in the adult individual. This is rather a comforting conclusion in view of the sufferings of so many infants needlessly massacred through the terrible defects of our vicious social system.”⁴ Note that here Wallace was utilizing his childhood experiences as evidence with which to prove other scientific theories. Since Wallace’s memory was understandably vague he strove to find scientific interpretations of various events in his youth that he could not directly explain. In turn, Wallace’s self-analysis allowed him to explain faults that he found in his character.

As demonstrated, there are challenges that come from conducting a historical study of an individual based predominately on the autobiography he or she published. The modern autobiography can be traced from the eighteenth century with the publication of Benjamin Franklin and Jean-Jacques Rousseau’s personal narratives.⁵ As Margareta Jolly stated, autobiography emerged in the context of a “...modernizing society where the individual’s perspective gains cultural value, and has been linked to deep questions of self-awareness, self-division, and self-performance.”⁶ The nineteenth century witnessed an increase in

³ Alfred Russel Wallace, *My Life: A Record of Events and Opinions* (Miami, FL: Hard Press Publishing, 2012), 1:25-26.

⁴ Wallace, *My Life*, 1:29.

⁵ Edward Seidensticker, “Autobiography,” *Biography* 22, no. 1 (Winter 1999): 47, accessed February 20, 2016, <http://www.jstor.org/stable/23540052>.

⁶ Margareta Jolly, “Biography and Autobiography,” *Oxford Bibliographies*, last modified September 20, 2012, accessed November 1, 2015, <http://www.oxfordbibliographies.com/view/document/obo-9780199846719/obo-9780199846719-0006.xml>.

autobiographies published from members of the working class to notable naturalists providing historians with social history artifacts.⁷ As a product of this period, Wallace's autobiography provides a wealth of information on the personal relationships he developed and the broader social context of his life.

There are complications regarding the authenticity of information described in autobiographies. Jolly noted that one defining feature of a life narrative is the general audiences' expectation that the account is true.⁸ As historians, we are aware of the issues concerning selective memory and self-reservation. Edward Seidensticker argued, "It is possible to bring private matters into what is essentially the recounting of a public career, but few are likely to accuse an autobiographer of cheating if he limits himself entirely to his times at peace conferences and cabinet meetings and the like."⁹ While public events supported by contemporary records are dependable it is difficult to verify all personal information an author asserts about his or her life retrospectively. In the course of this study, I shall assess the claims Wallace makes in his autobiography against earlier primary source material.

Few biographical researchers have provided a comprehensive study of Wallace's formative years. From the most prominent biographies currently available on Wallace's life, Martin Fichman's *An Elusive Victorian: The Evolution of Alfred Russel Wallace* provides the most inclusive study of his youth but primarily in relation to Wallace's understanding of natural selection and evolution. In addressing Wallace's formative years Fichman boldly stated:

Whether these early working-class association – a background quite different from that of [Charles] Darwin, [Charles] Lyell, [Joseph Dalton] Hooker, and most

⁷ Nan Hackett, "A Different Form of 'Self': Narrative Style in British Nineteenth-Century Working-class Autobiography," *Biography* 12, no. 3 (Summer 1989): 208, accessed February 17, 2016, <http://www.jstor.org/stable/23539418>.

⁸ Jolly, "Biography and Autobiography".

⁹ Seidensticker, "Autobiography", 47.

other early Victorian ‘gentlemen-naturalists’ – account for his later somewhat atypical position within the British professional scientific community remains a moot question. There is little doubt that these contacts instilled in him a dedication to radical and egalitarian ideals which were to dominate his mature social and political thought.¹⁰

If Fichman’s claim here is correct – and this thesis will show that it is – then, a deeper analysis of Wallace’s early life is necessary in order to truly grasp the dynamic of Wallace’s convictions. This study will provide researchers with a better understanding of Wallace’s shifting perceptions regarding social and political concerns in nineteenth-century Britain. The early nineteenth century was permeated with radical ideology contesting the status quo, political, socially, and scientifically.

As a British literary scholar, Fichman provides an extensive analysis of Wallace’s publications and research to reconstruct the progression of his evolutionary cosmology. This study builds from Fichman’s arguments concerning Wallace’s formative years by presenting an analysis of Wallace’s earliest publications and writings (those written between 1823 and 1848, prior to his expedition to South America). This analysis demonstrates that Wallace was a product of early nineteenth-century Victorian popular culture. The personal experiences that ultimately shaped many of his preconceptions about naturalism, his unorthodox theories, and his advocacy of land nationalization were rooted in this timeframe.

Rather than focusing on Wallace’s later scientific research or expeditions, this study offers cultural and social analysis of his early years to develop an enhanced understanding of his ideology. While there is evidence to suggest that his political and social concerns influenced his research as a naturalist, this research is beyond the scope of this present study. My purpose here

¹⁰ Martin Fichman, *Alfred Russel Wallace*, ed. Herbert Sussman, Twayne’s English Authors Series 305 (Boston, MA: Twayne Publishers, 1981), 16.

is to illuminate the often-overlooked aspects of his youth as a means of understanding the motivation behind his later convictions to unconventional theories.

Wallace followed a traditional route as a self-trained naturalist, yet his absorption of certain Victorian cultural and political influences led him to pursue unorthodox theories that placed him outside the mainstream of Britain's scientific community. Public lectures were a common feature in Victorian society offering demonstrations on wondrous phenomenon stemming from advancements of science. Members of the middle and working class frequently participated in these lectures, allowing for the quick spread of new ideas. As part of his personal education, Wallace actively took part in these spectacles to educate himself on the latest research available. Overtime empiricism became the foundation for Wallace's scientific research and intellectual pursuits. He judged the validity of a theory on his ability to reproduce similar conclusions in his personal experimentations.

On January 8, 1823, Wallace was born to a lower middle-class family that frequently experienced financial struggles. His eldest brother William Wallace worked as a land-surveyor and periodically educated Wallace on rudimentary geology, mechanics, and land surveying techniques. As a young man Wallace gained an array of experiences during his study of natural history and received training in several occupations. He was passionate in his interests and continuously sought to educate himself. Wallace was intimately familiar with a range of subjects from socialism to phrenology. He satisfied his curiosities by reading all available literature on natural history. Similarly, he remained consciously aware that he needed to find a means of financial stability. During his youth he received training as an educator, watchmaker's apprentice, and land-surveyor. Although these positions were ultimately temporary they allowed Wallace to gain a set of skills that continued to his work as a naturalist.

In 1848 Wallace and Henry Walter Bates, a fellow self-trained naturalist, set sail for Pará in South America. After reading William H. Edwards' *A Voyage Up the River Amazon, Including A Residence at Pará* Wallace and Bates believed that they could take advantage of the uncharted territory described in the travel narrative. For four years Wallace trekked the rainforests and paddled along the Rio Negro River collecting exotic animals. Unfortunately, shortly after beginning his voyage home to England on *Helen*, the ship caught fire. Wallace stated, "And now everything was gone, and I had not one specimen to illustrate the unknown lands I had trod, or to call back the recollection of the wild scenes I had beheld!"¹¹ After eighty days at sea, Wallace returned to England on October 1, 1852 onboard the *Jordeson*, a ship traveling from Cuba to London.

Once Wallace settled in London he vowed never to leave his armchair again. In December 1853 he published *A Narrative of Travels on the Amazon and Rio Negro, With an Account of the Native Tribes, and Observations on the Climate, Geology, and Natural History of the Amazon Valley* based on the few journals he managed to salvage before abandoning the *Helen*. He presented talks on his travels to the Royal Geographical Society where he successfully became a Fellow. Impressed by Wallace's initial application the committee of the Society petitioned the government to secure funding for him to travel to South East Asia.¹² On March 4, 1854 Wallace sailed abroad once again heading to Singapore and the Malay Archipelago. Here Wallace made his most astounding contributions to naturalism. He charted out the faunal boundary known as the Wallace Line that separated the islands between Australian and South

¹¹ Alfred Russel Wallace, *A Narrative of Travels on the Amazon and Rio Negro: with an Account of the Native Tribes, and Observations on the Climate, Geology, and Natural History of the Amazon Valley*, (Miami, FL: Hard Press Publishing, 2012), 278.

¹² John van Wyhe, ed., *The Annotated Malay Archipelago by Alfred Russel Wallace* (Singapore: NUS Press, 2015), 7.

Asian animals. Wallace determined that different island birds lived on either side of the boundary and never appeared to migrate over the water. He also became known as the father of biogeography, a specialized field in biology that studies the geographical distribution of organisms and ecosystems.

In addition, Wallace penned his theory of natural selection in a short paper titled “On the Tendency of Species to form Varieties; and on the Perpetuation of Varieties and Species by Natural Means of Selection” in a letter to Charles Darwin in February 1858. Wallace hoped that Darwin would forward his paper to Charles Lyell, a British geologist. Since the completion of Darwin’s voyage on the *HMS Beagle* in 1836 he had secretly worked to refine his theory of natural selection before publishing his findings. Darwin was shocked that Wallace was on the verge of receiving credit for discovering the theory. He immediately contacted Lyell about the situation. George W. Beccaloni recounted, “Lyell teamed up with another of Darwin’s close friends, Joseph Hooker, and rather than attempting to seek Wallace’s permission, they decide instead to present his essay plus two excerpts from Darwin’s writings on the subject...to a meeting of the Linnean Society of London on July 1st 1858.”¹³ Wallace never intended for his paper to be published but when he returned from the Malay Archipelago in 1862 he was not upset. Wallace dedicated his next major book, *The Malay Archipelago; The Land of Orang-utan and the Bird of Paradise; A Narrative of Travel With Studies of Man and Nature* published in 1869 to Darwin as a token of personal esteem, friendship, and deep admiration.¹⁴

¹³ George William Beccaloni, “Alfred Russel Wallace and Natural Selection: the Real Story,” *ResearchGate*, last modified January 2013, accessed April 1, 2016, https://www.researchgate.net/publication/267506515_Alfred_Russel_Wallace_and_Natural_Selection_the_Real_Story.

¹⁴ Wyhe, *The Annotated Malay Archipelago*, 46.

Solidifying his standing as a respected naturalist Wallace used his reputation to attract attention to land nationalization and spiritualism. Impervious to criticism he remained adamant that these beliefs were rooted in sound facts. Wallace continued to publish on a variety of subjects in natural history. He conducted a lecture tour in the United States and Canada from 1886 to 1887. By 1889 Wallace had declared himself a socialist based on his observations of British and American land policy. He became an advocate for land nationalization and believed that similar policies could improve living conditions for the working class. Wallace's embrace of spiritualism was even more controversial. He believed that spiritualism provided a new way for naturalist to understand the natural world. These convictions eventually led to Wallace's disassociation with the mainstream scientific community and help explain why current researchers call him a 'heretical' naturalist. Despite the criticism he received, Wallace argued that his empirical research supported his claims. Determination drove Wallace in all his endeavors as a naturalist and political activist.

Wallace's political activism first emerged during his early adolescence. The political radicalism surrounding the Reform Act of 1832, the social upheaval wrought by the Enclosure Acts, and Wallace's personal interactions with the British working class contributed to his convictions for governmental reform. From a young age, he witnessed the movement of public crowds in support or opposition to Parliamentary laws. Although the young Wallace felt that certain poor individuals were partly responsible for their impoverished situations, his intimate interactions with members of the working class gradually solidified his resolve that their exploitation could only be alleviated by socialist reforms.

Wallace's ideologies and sentiments were the product of early nineteenth-century British culture. His regular interaction with members of both the middle- and working-class

communities contributed to the development of his scientific and political ideologies. Wallace's experiences taught him that scientific knowledge could come from anywhere; thus, each theory was worthy of study and experimentation. While these theories possibly went against the mainstream scientific consensus, he remained adamant that the rise of new knowledge had the ability to assist in improving humanity.

Wallace devoted his life to the persistent pursuit of the empirical facts. Facts guided his convictions towards mesmerism, spiritualism, and, ultimately, socialism. Facts revealed that the working classes were wrongfully exploited by the British government and deserved social equality. Such evidence was drawn from his experience in the early nineteenth century during an age of political reform and cultural vibrancy. There were new, profound ideas circulating the country inspiring a young Wallace to research the latest intellectual trends. The mainstream scientific community shunned him for his unconventional beliefs but he remained undeterred. As he emphasized, "Facts, however, are stubborn things... The facts became more and more assured, more and more varied, more and more removed from anything that modern science taught or modern philosophy speculated on."¹⁵ The facts remained true and he argued that they were drastically dissimilar from anything naturalists had witnessed before. In turn, Wallace continued to follow the facts resulting in the most influential and controversial scientific advancements of the century. In many ways, he remains an 'Elusive Victorian' but one that we are much closer to understanding.¹⁶

¹⁵ Wallace, Alfred Russel, *On Modern Miracles and Spiritualism*. (London, UK: 15 Southampton Row, 1875), vii, PDF e-book.

¹⁶ Martin Fichman, *An Elusive Victorian: The Evolution of Alfred Russel Wallace*(Chicago, IL: University of Chicago Press, 2004), 1.

CHAPTER ONE: THE CRUCIAL EARLY YEARS

Alfred Russel Wallace arose from modest beginnings, his family teetering precariously between the lower-middle and working class. The Wallace family never achieved financial stability that imprinted acutely on his personality. Thomas Vére Wallace, Alfred's father, was a middle-class public solicitor plagued by poor financial investments. In 1808 he married Mary Ann Greenéll and by 1810 he had become a solicitor in Marylebone with the prospect of supporting a large family. Unfortunately, Thomas had no proficiency for business and made several misguided investments in an illustrated magazine devoted to art, antiquities, and general literature.¹⁷ The illustrations depicted elaborate copper engravings of ancient Greek or Roman vases, busts, and statues but the plates were too costly to manufacture for an inexperienced investor. An unqualified manager received a money advance from Thomas Wallace to allegedly pay for supplies and labor but the magazine was a failure. Thomas Wallace was later advised to reinvest the engravings from the failed magazine into another magazine that could be produced at a cheaper price but whether he continued this venture is unknown. Wallace speculated, "The result was that my father had to bear almost the whole loss, and this considerably reduced his already too scanty income."¹⁸ Consequently, in 1818 Thomas Wallace moved his family to a cottage in Usk, Monmouthshire, Wales where they could live modestly. Financial burdens would continue to resurface in the Wallace family, profoundly affecting Wallace's formative years.

Wallace was born in Usk on January 8, 1823 and spent the first five years of his life in the modest cottage. He recalled the family maintaining only one servant while his father tended a small garden on rented land. The family grew their vegetables and most fruit from the garden to save money while other foodstuffs, in Wallace's opinion, were relatively inexpensive. Thomas

¹⁷ Wallace, *My Life*, 1:11.

¹⁸ Wallace, *My Life*, 1:12.

Wallace was greatly fond of reading and became an active member of local reading clubs. He regularly read to his children from William Shakespeare's plays and provided the home with a vast assortment of books for the children to read. In the picturesque scenery of Usk Wallace believed his father lived the happiest years of his life. The family was predominantly self-sustaining; the children were educated at home, and found creative ways to entertain themselves. These life lessons in frugality remained with Wallace for the remainder of his life and contributed to his self-presentation as a self-sustaining man.

Remarkably, although Wallace had no specific recollection of individuals while in Usk he clearly remembered his first experiment. *Aesop's Fable's* was one of Wallace's favorite books in his father's library. In one tale, a fox cannot drink water sitting in the bottom of a jug thus he adds pebbles into the jug to make the water rise. Intrigued by the description of this process Wallace decided to perform an experiment to see if it was possible to raise water levels in a water jug with pebbles. As he began to put gravel stones into his water jug Wallace noticed the water rose but turned dark from the dirt and, eventually, it filled with mud. Wallace determined, "At last I became tired and gave it up, and concluded that the story could not be true; and I am afraid this rather made me disbelieve in experiments out of story-books."¹⁹ Wallace strongly believed that information found in books could not be taken at face value; he insisted on verifying facts from personal observation, experimentation and research. Wallace developed a critical view of all scholarly texts and never seemed satisfied with the information he read. Wallace was insistent on performing his own observations and experiments. This vigorous insistence on empirical verification served Wallace well in his life as a self-trained naturalist.

¹⁹ Wallace, *My Life*, 1:21.

Children's novels played an essential role in Wallace's young life by providing him with imaginative situations that he could readily imitate for fun. He remembered reenacting a scene with his older brother John Wallace from Thomas Day's *The History of Sandford and Merton*. The story follows the personal growth of a young, spoiled aristocrat, Tommy Merton who befriended Henry Sandford, a farmer's son. Through a series of explorations and short tales Merton learns to appreciate the simple pleasures of life found in nature. From the collection of stories Wallace recounted, "...[what] I distinctly remember is when the two boys got lost in a wood after dark, and while Merton could do nothing but cry at the idea of having pass the night without supper or bed, the resourceful Sandford comforted him by promising that he should have both..."²⁰ One day, John, Wallace's younger brother, procured the same resources as the tales described of a matchbox, salt, and potatoes and traveled with Wallace into the woods near the cottage to reenact the scene. His vivid recollection of these childhood trial-and-error episodes pulled from literary tales reveals that Wallace had a distinctive interest in rudimentary experimentation. Many children mimic stories they hear for their own entertainment, but Wallace's marked early interest in experimentation was unusual. Particularly, for his autobiography, Wallace believed it was essential to incorporate these accounts in his autobiography to explain his fascination with adventure tales and, to a broader extent, travel narratives. Similar travel narratives persuaded him to undertake scientific expeditions abroad later in life.

Wallace's eldest brother, William Wallace, provided him with some basic understandings of current scientific research. Around the age of 18 William obtained a job as a land surveyor at Kington, in Herefordshire and it was through his guidance that Wallace was first exposed to the

²⁰ Wallace, *My Life*, 1:22-23.

study of nature. William would periodically visit his family in Usk and brought with him copies of a monthly magazine containing articles about literature, science, and local events. In one instance, William pointed out that the reflection of a hillside in the river was not always visible during clear weather. Wallace reported, “He explained the cause of this in the magazine, illustrated by diagrams, as being due to changes of a few inches in the height of the water, but this, of course, I did not understand at the time.”²¹ William’s small lessons on natural phenomenon took part in shaping Wallace’s greater interest in naturalism.

Unfortunately, the Wallace family’s financial situation deteriorated once again. In 1835, the Wallace children became deprived of their inheritance from their maternal grandfather, John Greenell. Thomas Wilson, a lawyer, was married to Mary Ann Wallace’s only sister and was the chief executor of their father’s will. Wilson, however, became bankrupt; the legacies promised to the Wallace children of £100 each once they reach adulthood and a sum that reverted to Mary Ann upon her stepmother’s death in 1828 were part of the bankruptcy. Mary Ann desperately attempted to retrieve some of the inheritance. On July 5, 1835, Mary Ann wrote to Wilson inquiring how she should. Trusting his honor she wrote to him, “I feel that confidence in you My dear Sir that notwithstanding your present difficulties you will do the best for my dear children and will acknowledge the debt due to them by paying me the trifling Interest that is due on the dividends...”²² The Wallace family, however, did not receive compensation from Wilson until 1842 and were forced to vacate the family home for temporary residency near the local church. This environment of constant financial uncertainty shaped the young Wallace and affected him

²¹ Wallace, *My Life*, 1:24.

²² Wallace (née Greenell), Mary Ann. (1835). [WCP1654.1525: Letter to Thomas Wilson, dated 5 July 1835]. In: Beccaloni, G. W. (Ed.). Wallace Letters Online. <http://www.nhm.ac.uk/research-curation/scientific-resources/collections/library-collections/wallace-letters-online/1654/1525/T/details.html> [accessed 27 February 2015]

throughout the course of his life. As he began to develop his interests as a self-trained naturalist he was constantly trying to find the means to purchase scientific texts through land-surveying jobs.

Reflecting on his childhood difficulties, Wallace believed they offered a valuable life lesson. His family's financial uncertainty taught him that he needed to be self-reliant if he was going to prosper in his future endeavors. Wallace observed, "It will thus be seen that we were all of us very much thrown on our own resources to make our way in life...the necessity for work that our circumstances entailed was certainly beneficial in developing whatever powers were latent in us; and thus this is what I implied when I remarked that our father's loss of his property was perhaps a blessing in disguise."²³ It was unclear if Wallace's siblings shared this view but they were fairly successful in establishing their own livelihoods. William and John left home once they came of age to begin their careers while Frances, his older sister, later married Thomas Sims, a professional photographer. Wallace would go on to dedicate his life to studying the natural world using whatever means were available to him in the pursuit of knowledge.

Around 1827 or 1828 the Wallace family moved to Hertford, Hertfordshire, described by Wallace as the home of his boyhood. Wallace would spend nearly nine years in Hertford exploring the local landscape extensively and receiving his foundational education, both formal and informal. Here, he recalled, "...I passed the most impressionable years of my life, and...obtained a rudimentary acquaintance with my fellow-creatures and with nature..."²⁴ It was also in Hertford that Wallace had his first experiences with Britain's political climate in the countryside and its industrial factories. These would be the roots for his future involvement with Owenite socialism and the craftsmen guilds in London. Historians tracing the origins of

²³ Wallace, *My Life*, 1:15.

²⁴ Wallace, *My Life*, 1:33.

Wallace's socialism generally highlight his encounters with the poor Welsh farmers during his land surveying years. However, it was a combination of his earliest years in Hertford and his family's financial burdens that prepared the ground for his acceptance of Owenite ideals, his championing of land nationalization, and, ultimately, his conversion to socialism in 1889.

A wheat mill was situated in the center of Hertford adjacent to the River Lea. The mill owner was rumored to be Hertford's wealthiest man, a cousin to Wallace's mother by marriage. The miller would occasionally have the Wallace family over for tea where he would take the children on a tour of the factory. Wallace was amazed to see the spinning millstones moving endless streams of processed wheat, and the perpetual movement of the water wheel. The water wheel was a sight he often stopped to appreciate on his walk to school. The Horn's Mill, another mill found just outside the center of Hertford, also attracted Wallace's attention. It was an old-fashioned mill for grinding linseed, expressing the oil, and making oil-cake.²⁵ Wallace and his friends would look into the windows of the factory and watch the millworkers working on making the oil-cakes. He recounted in vivid detail the entire process from his window view, remarking how the movement of two huge revolving stones, and their beautiful glossy surfaces had an irresistible attraction that never faded.²⁶ He narrated, "I believe these old stamping-mills are not all replaced by hydraulic presses, which get more oil out and leave the cake harder, but the process would be almost silent and far less picturesque."²⁷ As industrialization become more efficient and required less equipment it was no longer a visual spectacle.

The political turbulence of the early nineteenth century also shaped Wallace's childhood. Hertford often held annual celebrations for the elections of new members of Parliament. The MP

²⁵ Wallace, *My Life*, 1:36.

²⁶ Wallace, *My Life*, 1:36.

²⁷ Wallace, *My Life*, 1:37.

would be lifted into a decorated chair and would then lead a procession through the town on the shoulders of his supporters. Significantly, the Reform Bill of 1832 broadened the enfranchised to include small landowners, tenant farmers, and shopkeepers that owned property.²⁸ It also disenfranchised 56 small, poor boroughs where the vote was most likely controlled by elite landowners. Although the Bill did not provide universal suffrage to men, it extended to more men within the middle class. As a result of the act, Hertford gained a new seat in the House of Commons. Wallace witnessed the immediate effects the Reform Bill had on subsequent elections in Hertford. He described, “I well remember the election which took place after the Reform Bill of 1832 was passed, when Thomas Slingsby Duncombe was the Radical member, and was returned at the head of the poll. To celebrate the great national event – the passing of the Reform Bill – a banquet was given in the main street to all who chose to attend.”²⁹ All citizens in Hertford, even the poorer classes, were able to take part in the festivities and feasts that accompanied the elections. Wallace does not provide any personal commentary on the elections or the bill but it was his first encounter with a major political issue. He witnessed the immediate effects of the reform; this experience possibly led him to conclude that parliamentary reform could be beneficial for members of all classes.

Around 1830, Wallace began to attend school at the Grammar School at Hartford with his brother John. It was not an experience that Wallace particularly enjoyed but it did provide him with his initial critiques concerning the presentation of natural history in textbooks. The school was a single building constructed in 1617 and contained only a large room to educate 80 boys under four masters, or teachers. The teachers taught multiple subjects but Wallace predominantly

²⁸ “The Reform Act 1832,” Living Heritage: The Reform Acts and representative democracy, accessed March 12, 2015, <http://www.parliament.uk/about/living-heritage/evolutionofparliament/houseofcommons/reformacts/overview/reformact1832/>.

²⁹ Wallace, *My Life*, 1:44.

recollected their lectures on general studies, Latin, geography, and French. The headmaster, Clement Henry Crutwell, was a Latin scholar who failed to effectively teach Latin to the young boys but did manage to retain order. Retrospectively, for Wallace, “The only use Latin has been to me has been the enabling me to understand the specific descriptions of birds and insects in that tongue, and also to appreciate the derivation from Latin of many of our common English words.”³⁰ This was one skill Wallace would carry with him into his scientific research. It was certainly true that Wallace was essentially a self-trained naturalist but this period of formal education was beneficial for his research.

Wallace’s complications with Hertford Grammar School were duly noted in Raby’s biography. He highlighted Wallace’s frustration with the frequent memorization of disembodied facts in comparison to the rich, stimulating library he accessed at home. He emphasized, “Wallace learned at an early age to read and write fluently, and the family resources, fragile and erratic in many respects, were comparatively rich in books.”³¹ Wallace’s home life was essential to his education; yet many biographers overlook it. It was through his home reading that Wallace realized that while some books were not particularly useful there were other available for him to quench his thirst for knowledge. Raby also included an account of Wallace’s experience as a tutor for his grammar schools. Contrary to Shermer’s view that this experience was how Wallace learned to be independent. Raby highlighted that this occupation was humiliating for Wallace. As Raby noted, “What embarrassed him was not the task itself, but the fact that it made him different from the other boys. There were twenty boys in the school older than he was, and yet

³⁰ Wallace, *My Life*, 1:52-53.

³¹ Peter Raby, *Alfred Russel Wallace: A Life*, (Princeton, NJ: Princeton University Press, 1996), 11.

they were simply ‘scholars’.”³² Wallace had already developed independent tendencies in his youth but as a tutor he was socially isolated from his peers. Wallace was not respected as an individual and would remain sensitive to personal slights against him for the remainder of his life.

Learning geography was the second most painful subject for Wallace. His lessons largely consisted of memorizing the names of countries, towns, rivers and mountains with little information provided from textbook or instructor about the region. The rigorous regurgitation of names was a monotonous exercise that Wallace loathed. Pinnock’s *School Geography*, as Raby explained, “No interesting facts were ever given in connection with these names, no accounts of the country by travellers were ever read, no good maps ever given us, nothing but the horrid stream of unintelligible place-names, to be learnt in their due order as belonging to a certain country.”³³ From a young age, Wallace was critical of academic sources that did not come from personal observation or primary sources. He found books lacking vital details that could illustrate the importance of localities. Topographical maps in particular would later become Wallace’s main concern later in his career because existing maps rarely provided the location of different species of animals or indigenous villages.

Books based on rigorous facts were not unusual during the early Victorian period. Naturalists frequently found themselves immersed in their research in order to avoid the feeling guilty feeling of idleness. Amateur naturalists relied predominately on their own self-education and explorations; a method Wallace would become all too familiar with. As a result of this single-minded dedication, publications and books came to be judged on their very size and solidity, as if the effort poured into the work was its overriding merit, irrespective of its

³² Raby, *Alfred Russel Wallace: A Life*, 12.

³³ Raby, *Alfred Russel Wallace: A Life*, 55.

readability or accuracy.³⁴ David Allen has observed, “The blind piling-up of facts – the unquestioning seeking-out and garnering of data – accorded equally well with the prevailing academic temper.”³⁵ Wallace’s criticism of scholarly books would continue through most of his early adult years. It was one aspect of naturalism that he planned to change with his own research and publications by challenging the academic temper of the time, specifically from his personal observations.

During his last year in Hertford, Wallace assisted in teaching the students at the Grammar School in exchange for waiving his schooling fees. He was responsible for teaching the younger boys reading, dictation, arithmetic, and writing. This placed Wallace in a precarious social position in relation to his peers in the school.

Although I had no objection whatever to the work itself, the anomalous position it gave me in the school – there being a score of boys older than myself who were scholars only – was exceedingly distasteful. It led to many disagreeables, and subjected me to painful insinuations and annoying remarks. I was especially sensitive to what all boys dislike – the being placed in any exceptional position, or having to do anything different from other boys, and not of my own choice.³⁶

Being placed in a hybrid position as a class tutor and student socially isolated Wallace. The older boys did not respect his new position as a tutor. There were possibly feelings of jealousy towards him that he was not considered amongst his peers to be the most qualified student for the position. Wallace could not socialize with his friends as their equal and this placed a strain on their relationship. This position of authority also required him to learn a different set of mannerisms than he was accustomed to amongst his friends. Even in his home any faults of conduct Wallace displayed that had been long overlooked were suddenly noticed, and he was

³⁴ David Elliston Allen, *The Naturalist in Britain: A Social History* (Princeton, NJ: Princeton University Press, 1994), 70.

³⁵ Allen, *The Naturalist in Britain*, 71.

³⁶ Wallace, *My Life*, 1:58.

ordered to change them immediately.³⁷ Wallace lamented on the lack of respect he received in this academic setting. He recounted, “The feeling that demands this recognition is certainly strong in many children, and those who have suffered under the failure of their elders to respect it, can well appreciate the agony of shame endured...”³⁸ The mental trauma caused from this social segregation during childhood led Wallace to have chronic nightmares about his role at the Grammar School far into adulthood.

While Wallace spent several years receiving his formal education, he believed that received his ‘real education’ at home. His father kept a small collection of books in the house that Wallace and his siblings frequently read. Alongside small periodical magazines, Wallace stated, “We also had some good old standard works in the house, “Fairy Tales,” *Gulliver’s Travels*, *Robinson Crusoe*, and the *Pilgrim’s Progress* all of which I read over again and again with constant pleasure.”³⁹ Once his father became the librarian at the local library he also enjoyed privileges amongst the collection while occasionally helping his father sort books. Travel narratives were exceedingly popular during the Victorian period as the British Empire expanded and Briton abroad began sending or publishing accounts of their explorations in foreign lands.

Travel narratives persuaded Wallace that there was an advantage to conducting expeditions to foreign places. In a letter to the naturalist Henry Walter Bates, Wallace wrote, “I have rather a more favorable opinion of the ‘Vestiges’ than you appear to have – I do not consider it a hasty generalisation, but rather as an ingenious hypothesis strongly supported by

³⁷ Wallace, *My Life*, 1:60.

³⁸ Wallace, *My Life*, 1:62.

³⁹ Wallace, *My Life*, 1:74.

some striking facts...but which remains to be proved by more facts...⁴⁰ Additionally, Wallace noted in the letter that Alexander von Humbolt's *Kosmos* and *Personal Narrative of a Journey to the Equinoctial Regions of the New Continent*. Humbolt's publication, based heavily on his voyages through the American continents and Asia, provided Wallace with insight on the natural environments of these regions. Wallace also identified William H. Edwards' *A Voyage Up the River Amazon, Including A Residence at Pará* as his central inspiration for traveling to Pará. Edwards' insistence that the Amazon rainforests were easily accessible and that there was little known about the interior encouraged Wallace.⁴¹ He intended to pay for his expedition by selling these animals he collected to private collectors and Natural History museums. However, when Wallace arrived in Pará he discovered that tracking animals was more difficult than Edwards' travel narrative had led him to believe.

Wallace never felt more content than when he was immersed in the splendor of natural world. Growing up in the countryside left a lasting impression on Wallace that influenced his view of the world from an economic, political, social, and environmental perspective. His family's economic hardships, he learned quickly that he needed to utilize different all resources available to him and become self-sufficient in order to pursue his research. Living throughout the course of the nineteenth century, Wallace witnessed the transformative effects of industrialization and political reform on the daily lives of British citizens, especially the working class.

⁴⁰ Wallace, Alfred Russel. (1845). [WCP346.346: Letter to Henry Walter Bates, dated 28 December 1845]. In: Beccaloni, G. W. (Ed.). Wallace Letters Online.

<<http://www.nhm.ac.uk/research-curation/scientific-resources/collections/library-collections/wallace-letters-online/346/346/T/details.html>> [accessed 29 March 2016]

⁴¹ Wallace, *A Narrative of Travels on the Amazon and Rio Negro*, xi.

Wallace's biographers often overlook his initial childhood years in favor of his land surveying excursions in Wales. Meanwhile, historians of science predominantly focus on Wallace's scientific research, social activism, or spiritualism with little regard for his formative time in Usk, Monmouthshire, Wales or Hertford, Hertfordshire. The most current biographies are Michael Shermer's *In Darwin's Shadow: The Life and Science of Alfred Russel Wallace – A Biographical Sketch* and Ross A. Slotten's *The Heretic in Darwin's Court: The Life of Alfred Russel Wallace*.⁴² Slotten's biography analyzes the complex factors of class relations, shifting scientific paradigms, and the escalating debate between "science" and "religion" to create a broad framework for Wallace's unorthodox beliefs.⁴³

Slotten places Wallace within the broader context of Victorian culture. In the early nineteenth century, rigid class structures and a battle for dominance in the scientific community made it difficult for novice naturalists such as Wallace to enter the scientific field. Slotten's purpose was to "...produce a three-dimensional portrait of a man whose forays into spiritualism, socialism, and antivaccinationalism, and other unorthodox 'isms' have been caricatured, overanalyzed, or ignored by specialists in the academic world."⁴⁴ Slotten does not discuss Wallace's formative years in length but does note that Wallace was self-motivated in his youth and that the trait continued into adulthood. He also acknowledged that Wallace's passion for books played an essential role in his life: "By the age of thirteen, he had read *Tom Jones*, *Don*

⁴² Shermer uses Wallace's autobiography to illustrate a rather quirky quantitative 'life model' theory he called the Historical Matrix Theory.

⁴³ Ross A. Slotten, *The Heretic in Darwin's Court: The Life of Alfred Russel Wallace* (New York, NY: Columbia University Press, 2004), 8-9.

⁴⁴ Slotten, *The Heretic in Darwin's Court*, 9.

Quixote, *Paradise Lost*, and the *Inferno* - demonstrating not only a precocious intellect but also a high degree of self-motivation.”⁴⁵

Slotten covered many aspects of Wallace’s life after 1836 when he left Hertford for London. It was possibly the most detailed biography that has been published about Wallace; but nevertheless, Slotten neglects to include an explanation for Wallace’s motivations in his intellectual and personal pursuits. He presents the context of Victorian society in the chronological narrative of Wallace’s life but never explicitly correlates the context to his life choices. He presents Wallace’s life as a constant struggle against the larger scientific community with little explanation for why he chose to maintain his ‘heretical’ beliefs.

Fichman’s and Peter Raby’s shorter biographies also address Wallace’s formative years. Fichman has published two biographies about Wallace that cover his time in Hertford. The first, *Alfred Russel Wallace* (1981), is a compact biography that focuses on the development of Wallace’s biogeographical system in evolutionary biology. The narrative centers on Wallace’s scientific influences, along with his dislike for his formal education at Hartford Grammar School. According to Fichman, “Far more important were the family’s home library and the collection of a proprietary town library of which Thomas Wallace had become librarian. These permitted the child to indulge his taste for extensive if eclectic reading...”⁴⁶ He goes on to describe John’s influence, Wallace’s younger brother, in teaching Wallace how to craft mechanical devices and use tools. These skills would become useful to him later when he began working with tools as a land surveyor.

Fichman’s second biography, *The Elusive Victorian: The Evolution of Alfred Russel Wallace*, is more comprehensive in its effort to illuminate Wallace’s personal thoughts and

⁴⁵ Slotten, *The Heretic in Darwin's Court*, 10.

⁴⁶ Fichman, *Alfred Russel Wallace*, 15.

motivations towards understanding the composition of his evolutionary philosophy. He explained, "...Wallace is approached here through the lens of the diverse, complex, and competing forces seeking to define the appropriate role of science in the broader Victorian culture."⁴⁷ He sought to contextualize and analyze Wallace's major intellectual and cultural views and activities.⁴⁸ Fichman studied Wallace's earliest known influences to understand why and how Wallace developed his personal evolutionary cosmology and perception of biology. Fichman took into consideration much of Wallace's early involvement with mesmerism, socialism, and land nationalization. This analysis is set against contemporary scholars such as Robert Owen and Edward Bellamy to demonstrate that Wallace was not a solitary thinker but rather that he shared a professional relationship with prominent men in their field. However, Fichman's objective was to demonstrate how Wallace's perception of evolution was shaped by the complexities of his personal experiences and Victorian culture.

Peter Raby's *Alfred Russel Wallace: A Life* provides an additional comprehensive analysis of Wallace's early years and the long-term consequences. He integrated aspects of Wallace's personal life with Wallace's travels and scientific research. Raby contrasted the tranquility of Wallace's childhood in Usk against the robust Hertford countryside. In Hertford, Wallace experienced his happiest years of childhood. His father was content to tend his garden and tutor young pupils, school was tolerable, and his siblings played games at their leisure. Raby also recounted Wallace's experience with the political celebrations in Hertford after the ratification of the Reform Act of 1832. He stated, "This was a short, intense period of rare content, and the last time [Wallace] was to experience a settled family life for another thirty

⁴⁷ Fichman, *An Elusive Victorian*, 3.

⁴⁸ Fichman, *An Elusive Victorian*, 7.

years.”⁴⁹ Raby also included a description of the family’s multiple extensive financial issues. The emphasis on Wallace’s financial struggles in order to explain why Wallace cultivated an attitude of self-reliance and held steadfast to this conviction throughout the course of his life. It illustrated the constraints Wallace was forced to contend with as he endeavored to continue his formal education, an obligation he detested.

Wallace’s early education impacted his perception of the natural world. He was actively part of the social and political climate of early Victorian England and participated in arising popular culture of the masses. Through William’s informal instruction and his own experiences in school, Wallace learned that he was capable of conducting smaller experiments to draw his own conclusions on the validity of arguments proposed in books. Furthermore, his autobiography provides a listing of the most crucial books Wallace believed influenced the course of his self-education as a naturalist. These formative years reveal the foundation of Wallace’s ideology as an empiricist.

⁴⁹ Peter Raby, *Alfred Russel Wallace: A Life* (Princeton, NJ: Princeton University Press, 2001), 9.

CHAPTER TWO: 'THE TRUE PRINCIPLE': ROBERT OWEN'S UTOPIAN SOCIALISM AND THE WELSH FARMER

Wallace officially became a socialist in 1889 after reading Edward Bellamy's *Looking Backward*. Socialist ideas and concerns, however, structured much of his early life.⁵⁰ As a young man Wallace sought remedies to the living conditions of the lower, impoverished classes. He saw them as reasonable, intelligent people capable of contributing a wealth of knowledge and skills to society. In Robert Owen's socialist communities Wallace perceived the culmination of observation and sound theoretical research in a new society that enriched the human character. Wallace believed this social theory could be used to improve the living conditions of the urban working class and rural farmers in Wales. Owen's socialist theories influenced Wallace's belief that society was capable of equally benefiting all members, a cause he pursued throughout his life. However, this ideological development was slow while his initial perception of the Welsh farmers was not entirely satisfying.

In early 1837, Wallace went to live with his younger brother John while he was apprenticing in London. Wallace became comfortable around the craftsmen in the shop. He heard their jokes, ideas, and daily conversations as they worked in the shop. Wallace observed, "...I never once heard such foul language as was not uncommonly used among themselves by young men of a much higher class and much more education."⁵¹ In London, Wallace socialized with workers from a variety of professions and attended the Mechanic Institute meetings. During the lectures he encountered followers of Robert Owen, the utopian socialist, and heard from his followers about his grand social experiment to improve the conditions of the workers at New Lanark. Considering Owen to be the founder of British Socialism, Wallace absorbed and applied

⁵⁰ Wallace, *My Life*, 2:285.

⁵¹ Wallace, *My Life*, 1:80.

his principles of human character in his personal research. Wallace enthused, “Owen contended and proved by a grand experiment, that environment greatly modifies character, that no character is so bad that it may not be greatly improve by a really good environment acting upon it from early infancy, and that society has the power of creating such an environment.”⁵² Through Owen’s work Wallace learned how changing the environment could alter an individual’s character for the benefit of the community.

After several months in London in the early summer of 1837 Wallace and his elder brother William traveled to Bedfordshire, Wales where they took jobs as land-surveyors. For next seven years the Wallace brothers would conduct surveys across Wales to fulfill regulation criteria for the Enclosure Acts passed by Parliament. As a side effect of his new profession Wallace gained new knowledge in geology, botany, and land laws regarding the poor Welsh farmers. This knowledge became instrumental in his future scientific and political endeavors.

In his training as a land surveyor, Wallace utilized the vast array of instruments at his disposal and grew to have a greater appreciation for practical mathematics. The transition between theory and practicality played a major role in his writings. As a self-taught individual, Wallace obtained a few inexpensive elementary books published by the Society for Diffusion of Useful Knowledge. By his accounts, the first he obtained were on Mechanics and Optics, remarking “...for some years I puzzled over these by myself, trying such simple experiments as I could, and gradually arriving at clear conceptions of the chief laws of elementary mechanics and of optical instruments. I thus laid the foundation for that interest in physical science and

⁵² Wallace, *My Life*, 1:90.

acquaintance with its general principles which have remained with me throughout my life.”⁵³ His enthusiasm for the scientific method was omnipresent in many of his journal publications, letters, and his recollection in his autobiography. Wallace began to feel the influence rational science could have on his perspective on the natural world, and to a greater extent other people. Nature, to Wallace, was not merely an irrational phenomenon but a law-abiding process that could be observed and tested.

The emphasis the early Industrial Revolution placed on the expansion of agrarian productivity and vast investment in industrialization creating a distinction between early British and continental socialism. Entrepreneurs and investors were more interested in the improvement of production rather than in democratic reforms that could benefit all classes of British society. In pursuit of political reforms, middle-class activists were more interested in increasing middle-class benefits than in general social welfare. Prior to the 1830s, practicing economists agreed that the condition of laborers and working class was deplorable. However, their intention was to provide explanations for increasing the efficiency of production in the industrial revolution rather than possible social improvements. In addition, the laborers identified more closely with their local community, not with a national or international proletariat. Grievances were generally directed towards individual factory owners or employers rather than the larger industrial system.

Early British socialism often falls under the label ‘utopian socialism’. British socialists certainly did not own the monopoly on the theorization of a perfect society. The core of utopian socialism stressed that harmony could be attained by designing a perfect, stable society.⁵⁴

Fiercely debated amongst politicians was the “social question”. As Britain entered a

⁵³ Jane R. Camerini, ed., *The Alfred Russel Wallace Reader: A Selection of Writings from the Field*, Center Books in Natural History (Baltimore, MD: The Johns Hopkins University Press, 2002), 27.

⁵⁴ George Lichtheim, *The Origins of Socialism* (Westport, CT: Praeger, 1969), 111.

progressively prosperous, industrious economic era, not all social classes were benefiting from the new wealth flowing into the country. The newly shaped working class continued to live under deplorable conditions. It was the socialist's goal to develop an arrangement that could bring social order and harmony. Neither progression towards capitalism or the revolutionary uprising of the proletariat was inevitable. It demonstrated society's deviation from or preparation for a state of equilibrium.

The Chartist movement is sometimes regarded as the earliest popular socialist movement in the industrial period. In response to the Reform Act of 1832, which failed to extend universal suffrage to all men in Britain, and the Poor Law of 1834, which abolished outdoor poor relief, activist members of the working class felt betrayed by the Whig government. Composed of artisans, textile workers, and Whig radicals, the movement hoped to use political reforms to improve social conditions. The People's Charter called for universal suffrage, equal electoral districts, and the abolition of property qualifications for Members of Parliament. Signing the document in support of these reforms, the Chartists marched peacefully to London in 1839 to address their issues to Parliament. Ultimately, Parliament rejected the Charter, resulting in mass riots and labor strikes in northern industrial cities. While some supporters left the movement, Chartists continued to advocate for political reforms with lobbying, fund raising, and public education. At the same time, Chartists were gathering arms and ammunition in preparation for mass resistance if the movement failed to achieve its goals. The subsequent failure of the People's Charter in 1842 resulted once again in mass riots. Despite its failure, the Chartist movement demonstrated that by 1830s members of the working class were developing a national class identity. No longer isolated in their community, they were now connected in their shared contempt for the industrialization process and in their disdain for the government's disregard for

their wellbeing. Urbanization further solidified the working class by placing laborers in similar appalling living conditions.

The People's Charter's demand for the abolition of property requirements and universal suffrage echoed socialist tenants, yet, socialist theory was not a significant factor for the Chartists or their Whig supporters. George Lichteim emphasized, "Many of its leaders still thought in terms of reviving pre-capitalist, if not pre-industrial, forms of economic life. Others conceived the issue in strictly corporate terms: the labor as the main producer of wealth was entitled for fairer shares."⁵⁵ Laborers, particularly artisans, were more concerned with receiving an equal share of products than the complete elimination of private property. They merely wanted to use political reforms to obtain a more democratic representation in government to represent their interests.

Although Wallace did not participate in the Chartist movement he did witness the effects of these calls for social reform in the countryside. While in Kington Wallace was aware of the impact the movement had. Writing to his dear friend George Silk, he noted anxiously, "The chartist seem to be getting ready in all parts of the Kingdom and I am afraid we shall have a terrible row soon..."⁵⁶ These fears were common during the period as the movement prepared towards a Second Charter in 1842. While the Chartists insisted that they were nonviolent, others contended that physical violence was required for workers to be heard by Parliament.

Robert Owen, a Welsh factory owner, was certainly one of the most influential social reformers in early nineteenth-century Britain. Owen was born in 1771; his father, also named

⁵⁵ Lichteim, *The Origins of Socialism*, 106.

⁵⁶ Wallace, Alfred Russel. (1840). [WCP336.336: Letter to George Silk, dated 15 January 1840]. In : Beccaloni, G. W. (Ed.). Wallace Letters Online . <<http://www.nhm.ac.uk/research-curation/scientific-resources/collections/library-collections/wallace-letters-online/336/336/T/details.html> >[accessed 15 July 2015]

Robert Owen, was a small business owner in Newton, Montgomeryshire, Wales. Owen received his elementary education until age 10 and, like Wallace, developed a strong interest in reading all literature available to him. Among his readings were *Robinson Crusoe* and *Pilgram's Progress*, which he considered average novels that most youths read. At a young age, he became an assistant in a drapery and haberdashery shop, an experience that initiated his practical education in business. As a young man, Owen moved to London where he found employment in another drapery shop. In 1787, he moved to Manchester where he was employed at Satterfield's Drapery and trained in identification of fabric and thread quality. At the age of 21, Owen applied for and was given the position as head manager of Chorlton Twist Mills in Manchester. As a prominent cotton textile mill manager, Owen had no experience in manufacturing but utilized his experience in draper shops to increase the quality of the fabric the mill produced. Through his interaction with customers in the shops and factory laborers Owen began to develop his social philosophy. As he recalled,

Knowing that [men] did not make themselves, or the circumstances or conditions in which they were involved, and that these conditions combined necessarily forced them to be that which they became, - I was obliged to consider my fellow-men as beings made by circumstances before and after their birth, not under their own control...and therefore to have illimitable charity for their feelings, thoughts, and actions.⁵⁷

The idea that the environment influenced the development of men's characters is what Owen referred to as the 'true principle'. The notion that men were shaped by their environment was not original to Owen but his insistence on utilizing a practical means of addressing this issue was novel. He observed that the factory workers were avid drinkers and demonstrated crass manners. The children knew only manual labor, were uneducated, and generally appeared unhappy. In

⁵⁷ Robert Owen, *The Life of Robert Owen by Himself*, (New York, NY: Alfred A. Knoff, 1920), 41.

Manchester, he began to implement minor changes to factory conditions that he believed would help improve the character of the workers. Owen shortened the work periods to nine and half hours per day to give the workers more time to rest. He also used a generous portion of his yearly salary to increase their wages. According to Owen, while the laborers considered him an oddity they were not openly hostile to his changes. To help the children he had a schoolhouse built near the mill, employed teachers with his salary, and required all children to 10 years old to attend classes. From his observations, the morality of the workers improved, thus resulting in a higher yield in productivity. Certainly, there were factory communities constructed around similar principles but Owen was the first to demonstrate that social reform within a small community resulted in increased productivity. Owen's greatest concern and interest, however was the happiness of the community.

In 1800, Owen became manager of the New Lanark cotton mills, the site of his most successful social experiment. Built in 1786 by David Dale, the mill contained a hydro-powered cotton spinning machinery playing an influential role as a technological marvel in the early Industrial Revolution. Owen learned that Dale intended to sell the mills and seized the opportunity to visit New Lanark to determine if the investment was advantageous. After marrying Dale's daughter, Caroline, he settled in New Lanark as co-owner of the mill with the intent of participating actively in the 'government'. According to Owen, he used the term government, "...for my intention was not to be a mere manager of cotton mills...but to introduce principles in the conduct of the people, which I had successfully commenced with the workpeople in [Manchester]..."⁵⁸ He saw New Lanark as the perfect opportunity to implement his social experiment on a grand scale. Owen witnessed the same character flaws in the mill

⁵⁸ Owen, *The Life of Robert Owen by Himself*, 78.

workers as he did in Manchester and immediately set to work with his social changes. He found his co-managers, James Dale and ‘Mr. Kelley’, to be completely incompetent since they did not fully comprehend his plans for the mill. Both managers left for Glasgow to pursue different business opportunities leaving Owen the sole, active manager of New Lanark.

The mill workers initially resisted Owen’s proposed changes. They thought Owen was an unusual man and were reluctant to trust his new suggestions. However, Owen was not deterred. Determined to gain their confidence, he abolished the mill shops that sold substandard goods to workers on high credit. In 1809 he began establishing infant care centers and an elementary school for the children in the hopes of separating them from evil conditions such as their limited dwellings. Owen exhibited an elitist perspective on his proposed reforms. Although he believed that he was helping to improve conditions for the workers these ideals stemmed from an assumption that he knew the best course of action as a result of his higher status in the factory and observations. Education was the key to improving the good character permanently and universally for the human race. Visitors to New Lanark frequently commented on the benevolent character of the local people, particularly the children. Owen described, “...the public supposed that I made new Lanark the model of the system which I advocated, and that I wished the world to be composed of such arrangements as New Lanark exhibited in its improved state.”⁵⁹ Proud of his accomplishments in Manchester and New Lanark, Owen published several pamphlets outlining this social theory, and then in 1817 *A New View of Society*. His most influential work (according to Owen himself) this book became Owen’s foundational text for his political activism and subsequently, his communal colony, New Harmony in America.

⁵⁹ Owen, *The Life of Robert Owen by Himself*, 110.

In his autobiography Owen outlined the construction of his social theory and its practical application in New Lanark. He rather shamelessly claimed the astonishing reception of this philosophy, particularly after the publication of *A New View of Society*. He boasted that distinguished politicians, reformers, and even Napoleon Bonaparte read his work with the expressed interest of implementing his ideas. Owen's fantastical, optimistic narration illustrated part of his appeal to fellow social reformers and laborers searching for the means of creating a better life. Owen summarized his ultimate social theory:

This experiment at New Lanark was the first commencement of practical measures with a view to change the fundamental principle on which society has heretofore been based from the beginning; and no experiment could be more successful in proving the truth of the principle that the character is formed *for* and not *by* the individual, and that society now possesses the most ample means and power to well-form the character of everyone, by reconstructing society on its true principle, and making it consistent with that fundamental principle in all its departments and divisions.⁶⁰

As this passage suggests, Owen, like Wallace, was convinced that the scientific method could be applied profitably to human societies. If a person could understand the natural laws that govern the social organization of communities, he or she could then utilize these processes to better mankind. Wallace certainly felt the environment was inspiring him to continue his personal research while also considering how environments could be manipulated to further affect larger social groups. By understanding nature, man could follow its laws to improve human character and, to a further extent, the society as a whole. The environment thus influenced mankind and if it could be controlled, then an individual's behavior could be altered as well. The New Lanark community was the largest experiment that Wallace was aware of at the time that proved Owen's socialist philosophy. As Wallace traveled across the Amazon, Malay Archipelago, and, later, America, he saw the consequences of poor administrative social policy

⁶⁰ Owen, *The Life of Robert Owen by Himself*, 85.

on a grand scale. His early conclusions concerning nature's influence on communities impacted his later observations on indigenous tribes, their culture, and their relations with Britain's imperial policies.

Owen frequently clashed ideologically with his New Lanark investors. He believed that political economists such as Thomas Malthus, John Stuart Mill, and David Hume were followers of the 'false principle'. Owen noted that his investors in New Lanark insisted that he change his social philosophy to coincide with their own: "...[they] strongly desired to convert me to their views of instructing the people without finding them national united employment, and of a thorough system of individual competition."⁶¹ The investors advocated the principle of individualism that stated that individual was fully responsible for his actions and decisions in life. This greatly contradicted Owen's view, which he emphasized was based on personal experience, that good human character and societies are constructed through rational education and beneficial employment. The body and mind must be stimulated with these healthy conditions in order to achieve a model society.

Pre-Marxist socialism did not assume that a revolution was inevitable. Perspectives on class tensions varied between individuals and growing organizations, with the central understanding that cooperation and harmony are the goals of British socialist theories. Like Owen, Wallace was aware of the problems working-class families faced in an increasingly industrial society. The rural farmers he observed in Neath had similar concerns to the working-class laborers in London. Individuals struggled in both rural and urban communities to accumulate enough resources, financial or otherwise, to support their families. Owen's New

⁶¹ Owen, *The Life of Robert Owen by Himself*, 179.

Lanark social experiment had shown Wallace that it was possible for socialist laws to have a positive influence on society.

Wallace's work in Wales strengthened his inclination toward socialism. He did not methodically follow the procedures of land surveying but took the time to analyze the results his work had on the environment and the people living in the area. He was sickened to see that the land was being enclosed, a process that removed the traditional grazing rights so important to laborers and small landowners. Under the General Enclosure Act of 1801, the land was either thrown into adjacent farms as rough pasture for a nominal rent, or it was used for game-coverts, and often continued in this unproductive state till it was acquired for railroads or buildings at a substantial price.⁶² To Wallace's dismay, "To those that had much, much was given, while from the poor their rights were taken away; for though nominally those that *owned* a little land had some compensation, it was small as to be of no use to them in comparison with the grazing rights they before possessed."⁶³ This was an early indication of what would lead Wallace to support socialist movements, particularly those that advocated the nationalization of land.

Private property, the center of socialist theory was a major source of schism between Owen and Wallace. As a utopian socialist, Owen encouraged the redistribution of land while Wallace insisted on land nationalization in the 1850s based on his personal experiences. Under land nationalization all members of a society would own land collectively. Owen did not condemn the existence of private property but believed that all communal members should own an equal share of land for their private dwelling. This would increase the overall happiness of the community. Based on Wallace's experience in Wales, and later the United States, he observed:

⁶² Jane R. Camerini, ed., *The Alfred Russel Wallace Reader: A Selection of Writings from the Field*, Center Books in Natural History (Baltimore, MD: The John Hopkins University Press, 2002), 29.

⁶³ Camerini, *The Alfred Russel Wallace Reader*, 28-29.

...[T]he ingrained belief that *land* – the first essential of life, the source of all things necessary or useful to mankind, by labour upon which all wealth arises – may yet, justly and equitably, be owned by individuals, be monopolized by capitalists or by companies, leaving the great bulk of the people as absolutely dependent on these monopolies for permission to work and to live as ever were the negro slaves of the South before emancipation.⁶⁴

The population was then forced to submit to these monopolies creating an imbalance of wealth and inequality. Wallace did not directly comment on Owen's acceptance of private property but it was something he did not agree with. The nationalization of land, the coveted source of capital in the industrial period, was a cause Wallace would continue to fight for throughout his life.

As a land surveyor working on behalf of the British government and private firms Wallace was participating in the oppression of the working and lower classes. Between his work and his research, Wallace initially did not provide social commentary on the local communities he came across. He was perhaps too absorbed in his own pursuits to offer much commentary or else he simply wanted to dedicate time to writing down his observations on nature before addressing other matters. Later Wallace lamented, "...I was told that I must collect the payment from the various farmers in the parish who would afterwards deduct it from their rent. This was a disagreeable business, as many farmers were very poor..."⁶⁵ Wallace had sympathy for the farmers' plight as they struggled to cope with the new laws that were taking away common land. He was, unfortunately, part of the systematic re-organization and distribution of land. Grounded on these initial experiences, Wallace gradually developed a compassion for communities oppressed by ruling social classes or apathetic governments.

In "Chapter VI: London Workers, Secularists and Owenites" of the autobiography, Wallace discussed his dissatisfaction with government officials attempting to understand the

⁶⁴ Wallace, *My Life*, 2:194-195.

⁶⁵ Camerini, *The Alfred Russel Wallace Reader*, 57.

working class and his praise of Owen's philosophy. As the time he was writing his autobiography, he was a socialist and well-known advocate for working-class rights; thus, this chapter appeared as a means for him to correct false information concerning their lives. As evidence he stated, "...I heard incidentally a good deal about how they lived, and knew exactly what they earned, and I am thus enabled to correct some very erroneous statements which have been made of late years as to the condition of artisans...before the repeal of the corn-laws."⁶⁶ For Wallace, the working-class artisans were respectable men; thus, he felt the need to defend them against misrepresentation.

In his presidential address given to the Statistical Society in 1883, "Progress of the Working Classes in the last Half Century", Wallace addressed an egregious error made by an official statistical authority, Sir Robert Giffen, in estimating the rise in wages and living standards of skilled artisans. While Giffen argued that in the early nineteenth century, a working-class man would not have been able to afford fresh meat, but Wallace contested this assertion. Wallace concluded, "...these almost incredible errors as to matters of fact teach us that Government officials are quite unfitted to deal with such questions as these, mainly because they know nothing at first hand of the lives of workers and thus omit to take account of some of the most essential factors in the problem at issue."⁶⁷ Presented early in the autobiography this argument appeared disjointed but clearly reflected his later personal views. As he later admitted, he did not fully comprehend the consequences of the enclosure of land undertaken by the government.

Illustrated in Wallace's social commentary, he was not entirely pleased with the state of the scientific community. Wallace believed the scientific community not only possessed

⁶⁶ Wallace, *My Life*, 1:79.

⁶⁷ Wallace, *My Life*, 1:85.

deficient information but also was a restricted, elitist group that sought only to provide for its own satisfaction. He remarked, “Every product of human intellect is more or less valuable; but it does not therefore follow that it is just to provide any special product for those who want it at the expense of those who either do not want or are not in a condition to make use of it.”⁶⁸ For Wallace, knowledge should be respected and given the same consideration as the knowledge obtained by intellectuals, even if it may appear improbable. This knowledge should not be suppressed but utilized for the benefit of society. Wallace’s recommendation was not limited to natural laws but extended to commercial, manmade ‘products’ manufactured in factories. In London and Leicester, Wallace witnessed the effects factory development had on the community. There were workers in the factories, railroads built to transport goods, and more commercial products available for the public to consume. Wallace could not accept that it was ethically correct for these improvements to benefit the factory owners more than the workers. Wallace’s land surveying experience then added to his perception that advancements in human knowledge and technology should improve the standard of living for the masses, not simply the elite. Likewise, land enclosures imposed by the government and landowners needed to be for the benefit of society and not result in the oppression of the lower classes.

Ever the optimist, Wallace reflected in his autobiography that Englishmen were not innately lacking in moral fortitude. In regards to domestic and international affairs he wrote, “I have not so low an opinion of my countrymen as to believe that they really *wish* to keep other peoples subject to them against their will; that they are really *determined* to go on denying that freedom to others which is so dear a possession to themselves...”⁶⁹ It was the new capitalist system and those that abused their privileges that led the country astray. If Britons of all classes

⁶⁸ Wallace, *My Life*, 2:58.

⁶⁹ Wallace, *My Life*, 2:225

were offered universal education, they would naturally conclude that a socialist government was the only solution to improve society through the voluntary organization of labor for the good of all mankind. By showing evidence from grand social experiments and his own observations of primitive cultures in which people existed harmoniously without class structures, Wallace hoped to persuade others to join his socialist undertaking. Confidently, he believed that it was not the desire of all human beings to subjugate others to increase personal wealth. People merely needed to understand the rational, logical truth that socialism was the only way the future of humanity would thrive.

In the course of his autobiography, Wallace made an effort to defend contemporary criticisms of Owen's theory on the formation of character and included a short biography of his life. He admired Owen as one of the more remarkable, original, and truly admirable characters who adorned the nineteenth century.⁷⁰ Owen had emphasized that an individual's character was formed by his or her environmental situation, resulting in good or bad tendencies. Wallace recognized that Owen's theories contradicted traditional religious and political views of human character formation and rejected the traditional emphasis on coercion and punishment. In the traditional view, "...if they willfully transgressed any of these laws or customs of their rulers and teachers, the only way to deal with them was to punish them, again and again, under the idea that they could thus be *deterred* from future transgression."⁷¹ In response, he argued, "...acting on the principle of absolute free-will, every government has alike failed to abolish, or even...diminish, discontent, misery, disease, vice, and crime; and that, on the other hand, Owen *did*, by acting on the principle of the formation of character enunciated by him, transform a discontented...antagonistic population of 2500 people to an enthusiastically

⁷⁰ Wallace, *My Life*, 1:91.

⁷¹ Wallace, *My Life*, 1:89.

favourable...comparatively moral community...”⁷² Owen had proven by the grand experiment of New Lanark that a good environment could improve the temperament of a community.

Wallace’s optimistic outlook and adamant defense of Owen illustrate the impact these teaching had on him throughout the course of his life.

Wallace’s brief biography of Owen detailed his upbringing, position as manager, and New Lanark experiment that encompassed nearly two thirds of his account of his time in London. Aside from his devotion to Owen’s teachings, the combination of this biography and defense was a means for Wallace to persuade his audience about the value of Owen’s research and, to a greater extent, socialism. He insisted that if Britain had followed Owen’s model, “In that case we should not have now found ourselves, after another century of continuous increase of wealth and command of nature, with a much greater mass of want and misery in our midst than when he first so clearly showed the means of abolishing them.”⁷³ Although he claimed that the intention for his biographical sketch of Owen was to educate readers on his life, the language Wallace used suggested that he also wanted to advocate the benefits of socialism.

Encouraged by utopian socialists, Wallace actively sought practical solutions for issues arising in the working class. In response to the rise of unemployment in the urban districts, for example, Wallace suggested that laborers should immigrate to America. Frances Wallace, Wallace’s older sister, was one such emigrant. She worked in the American South for several years as a governess to land-owning families. She frequently wrote to her brothers about her occupation and her general daily activities. In early 1848, a letter by Wallace was printed in “The Annals of Progress”, a supplement to *The People’s Journal*. He argued that if workers immigrated to America, they would prosper even in the face of slavery. Immigrants entering the

⁷² Wallace, *My Life*, 1:90.

⁷³ Wallace, *My Life*, 1:104.

popular port of New York City, however, quickly discovered that there was a surplus of labor and jobs overstocked. The southern states, Wallace claimed, were rarely alluded to in Britain because of the onset of slave labor.

A relation of mine has just returned from Georgia and Alabama, and gives a delightful account of the plenty of food and land, and the healthiness of the climate...*The example of free labour, and what it can do, before their eyes, would do more for the abolition of slavery, by appealing to the pockets of the planters, than can all the writings of the abolitionists, which only excite ill feelings, and may perhaps tend to prolong the evil through a spirit of oppression.*

If half a dozen of our working-men would go and settle in a southern state, they would be sure to obtain a good living with little labour: and I think all will see that they would be doing much more for the poor slaves than they could effect in any more direct way.⁷⁴

Owen's utopian socialist philosophy influenced the development of Wallace's personal social ideas and, ultimately, his scientific research. For Owen, controlling the environment would improve the flaws of human character resulting in a more harmonious community. Although Wallace disagreed with continual use of private property, Owen's social theory remained with him throughout his life.

During his time land-surveying in Neath, Wales he had access to limited funds. He found solace in nature and collecting specimens, tasks he believed he never would have pursued if his family or profession were affluent. Wallace was grateful that these conditions culminated in his pursuit to become a naturalist. In his autobiography, he concluded:

It is, that many of the conditions and circumstances that constitute our environment, though at the time they may seem unfortunate or even unjust, yet are often more truly beneficial than those which we should consider more favourable. Sometimes they only aid in the formation of character; sometimes they also lead to action which gives scope for the use of what might have been dormant or unused faculties (as, I think, has occurred in my own case); but much more frequently they seem to us wholly injurious, leading to a life of misery or

⁷⁴ Charles H. Smith, ed., "Emigration" (S002A: 1848)," *The Alfred Russel Wallace Page*, last modified June 2011, accessed July 10, 2015, <http://people.wku.edu/charles.smith/wallace/S002A.htm>.

crime, and turning what in themselves are good faculties to evil purposes....This is my present view.⁷⁵

It was a combination of conditions, circumstances, and environment that was responsible for shaping how a person will develop. Under the right circumstances dormant abilities could be awakened within an individual that he or she did not know they were capable of doing. Based on his personal experience and observations, Wallace hypothesized that if these circumstances were modified to encourage good characteristics then society would improve. In retrospect, he admitted that during this period of his life he had not made the connection between the emergence of evil and the failing of the current society to manage it but these connections emerged his later research. He was consciously aware that these perceptions from his youth would play a greater role in his scientific and personal pursuits.

A notorious newspaper, *The Satirist, or the Censor of the Times*, in circulation in Wales during this period provided Wallace with an opportunity to reflect on popular literature and its influence on middle-class Welshmen. The episode illustrated the importance of print media as an environmental influence. Regarding the character of the newspaper Wallace remarked, "...it no doubt reflected the ideas and pandered to the tastes of a very considerable portion of the public in all classes of society, it is not very surprising that most of the young men of the middle class that came across my path should have been rather disreputable in conversation, though perhaps, not always so in character."⁷⁶ *The Satirist* gained its infamous reputation in the early nineteenth century for its penchant for vulgarity, obscenity, and scandal. The editor, Barnard Gregory, was subsequently charged with libel in 1843. Wallace's criticisms on the vulgarity of the newspaper were supported by the description in the case. According to court documents the newspaper

⁷⁵ Wallace, *My Life*, 1:197.

⁷⁶ Wallace, *My Life*, 1:127.

contained, "...obscene, lewd, filthy, and disgusting articles, paragraphs, stories, verses, anecdotes, and sayings, to the great offence and scandal of the subjects of this realm, against good morals, and in open violation of the laws of this realm..."⁷⁷ These publications were not uncommon in the nineteenth century and such salacious articles reflected public demand for certain this entertainment.

Wallace believed that being exposed to this unethical or crude behavior did not negatively affect his character or habits through his life. His upbringing, he believed, solidified his disposition towards shyness remarking on his childhood, "This, I think, is a rather striking example of the effects of home influence during childhood, and of that kind of education of which Robert Owen depended for the general improvement of character and habits."⁷⁸ In contrast the very different home lives of the readers of *The Satirist* perhaps explained their enjoyment of such scandalous entertainment. People, he believed, were the products of their environment.

In Wallace's account of his own youth, he used several episodes as case studies to demonstrate the plausibility of Owen's theory about the influence of nature on an individual's development. Scholars, such as Fichman, have identified Wallace's interactions with the Welsh farmers as the reason he would later turn to land nationalization and socialism.⁷⁹ Wallace himself, however, admitted that the negative views he held regarding the Enclosure Acts did not occur to him at the time he was surveying. He merely believed that the government was implementing these actions for some unspecified positive reason that would benefit the masses. Wallace recounted, "But at the time of which I am now writing such ideas never entered my

⁷⁷ "Barnard Gregory v. C.F.A.W. Duke of Brunswick and H.W. Vallance May 31, 1843," in *The English Reports: Common Pleas*, ed. Max Robertson (Edinburgh, UK: William Green & Sons, 1913), 135:868, Google Books.

⁷⁸ Wallace, *My Life*, 1:128.

⁷⁹ Fichman, *Elusive Victorian*, 13.

head. I certainly thought it a pity to enclose a wild, picturesque, boggy, and barren moor, but I took it for granted that there was some right and reason in it, instead of being as it certainly was, both unjust, unwise, and cruel.”⁸⁰ This was one of the few instances where Wallace noted the stark differences between his present views at the time of writing his autobiography and his past views. Such distinctions were not always clear but it illustrated his attempt to demonstrate the evolution of his ideals.

A previously unpublished article inserted into his autobiography provides a second example of the evolution of Wallace’s views. Penned sometime between the autumn and winter of 1843, the article narrated the daily lives of Welsh farmers in Bryn-coch where Wallace, was working as a land-surveyor. Wallace felt inclined to write a short account of the Welsh farmers after learning about their customs hoping he might get it accepted by some magazine as being sufficiently interesting for publication.⁸¹ Wallace stated, “In the following pages I have endeavoured to give a correct idea of the habits, manners, and mode of life of the Welsh hill farmer, a class which, on account of the late Rebecca disturbances, has excited much interest.”⁸² As Wallace indicated, he hope to use the publicity of the Rebecca Riots, a series of protest riots conducted by local farmers from 1839 to 1843 in south Wales in response to taxation laws, to ensure the article’s publication but, ironically, he scarcely addressed the riots in his account. This dull but meticulously written article presented an early anthropological study of the Welsh customs and farming techniques, as well as, geological and botanical survey.

The description of Welsh farmers in this article clashed with Wallace’s later perceptions as recounted in his autobiography. The main body of the autobiography provided a respectful

⁸⁰ Wallace, *My Life*, 1:157.

⁸¹ Wallace, *My Life*, 1:196.

⁸² Wallace, *My Life*, 1:205.

account on his interactions with local Welshmen with very few unsavory encounters. In contrast, in the unpublished article Wallace described the farmers as "...persons in a state of complete ignorance..."⁸³ They adhered to their customs, superstition, and substandard farming techniques because they were ignorant. Resistant to change, the Welsh hill farmers were exceedingly traditional in their farming techniques since it was the way of their forefathers. Wallace further reported, "All that I have hitherto said refers solely to the poorer class, known as hill farmers. In the valleys and near the town where the land is better, there are frequently better educated farmers, who assimilate more to the English in their agricultural operations, mode of living, and dress."⁸⁴ Those towns adhering to modern English culture were more prosperous while the farmers remained poor. England was considered culturally superior to Wales. This narrative contradicted Wallace's assertion in the autobiography that he always held the lower classes in high regard.

Further evidence for the young Wallace's low opinion of the Welsh farmers comes from a letter written to his younger brother, Herbert Wallace. Wallace described his negative impression with the farmers in Glamorganshire, Wales in a poem:

A wild & savage race are they
Who work far from the light of day
A race whose minds are dark
Who have [?] no intellectual ray
Whose only joy is drunked fray
Or dangerous midnight lark...⁸⁵

⁸³ Wallace, *My Life*, 1:217.

⁸⁴ Wallace, *My Life*, 1:214.

⁸⁵ Wallace, Alfred Russel. ([1842]). [WCP339.339: Letter to Herbert Edward ("Edward") Wallace, dated [16] [March] [1842]]. In: Beccaloni, G. W. (Ed.). Wallace Letters Online . <<http://www.nhm.ac.uk/research-curation/scientific-resources/collections/library-collections/wallace-letters-online/339/339/T/details.html> >[accessed 21 February 2016]

Despite this negative perception, Wallace did sympathize with the plight of the Welsh farmers. In his journey across Wales recounted in the autobiography Wallace observed that Welsh farmers were proud people willing to brag about the quality of their produce or meat. In the article young Wallace specified, “The consequence is that the poor farmer works from morning to night after his own fashion, lives in a manner which the poorest English labourer would grumble at, and as his reward, perhaps, has his goods and stock sold by his landlord to pay the exorbitant rent...”⁸⁶ The young Wallace understood that the farmers were exploited and their working conditions were deplorable but was convinced their customs contributed to their situation. The farmers were in turn partly responsible for their own impoverished situation. These opinions paralleled Liberal political outlooks rather than socialist beliefs; the poor were responsible for living in unsanitary and poor conditions. Instead of seeking welfare aid from the government they should put more effort into improving their living conditions.

The young Wallace associated the Welsh devotion to religious belief with ignorant superstition. Wallace admitted that he did not have particularly strong religious convictions even though as a child he regularly attended Anglican mass with his family. He later acknowledged his religious skepticism in an article he wrote while in Leicester. As this early article indicates, Wallace’s skepticism predated his study of the controversial theologian David Strauss. Strauss proposed the theory that the miracles attributed to Jesus in the Bible were mythical. Towards the Welsh farmers he criticized, “As might be expected from their ignorance, they are exceedingly superstitious, which is rather increased than diminished in those who are able to read by their confining their studies almost wholly to the Bible... Witches and wizards and white witches, as

⁸⁶ Wallace, *My Life*, 1:215.

they are called, are firmly believed in, and their powers much dreaded.”⁸⁷ This negative language clashed with Wallace’s later propositions for social equality and land nationalization. This change from a harsh bias during his initial surveying to empathy illustrated that his continued personal interaction with the working class were influencing his perception on the source of their unfortunate living conditions.

In the autobiography, the monologues that break the narrative reveal Wallace’s thoughts on certain issues at the time he was writing. For example, after a lifetime of experience and advocacy for land nationalization, he could not prevent himself from directly addressing the injustices he saw enforced on the Welsh farmers. In regards to private landowners he passionately wrote:

But all the robbery, all the spoliation, all the legal and illegal filching, has been on *their* side, and they still hold the stolen property. *They* made laws to legalize their actions, and, some day, we, the peoples, will make laws which will not only legalize but justify our process of restitution. It will justify it, because, unlike their laws, which always took from the poor to give to the rich – to the very class which made the laws – our will only take from the superfluity of the rich, not to give to the poor or to any individuals, but to so administer as to enable every man to live by honest work, to restore to the whole people their birthright in their native soil, and to relieve all alike from a heavy burden of unnecessary and unjust taxation. *This* will be the true statesmanship of the future, and it will be justified alike by equity, by ethics, and by religion.⁸⁸

The monologue utilized emotionally charged language to persuade his audience of the injustice of enclosure. It does not appear to be direct propaganda since he based his rhetoric on the injustices he perceived amongst the poor farmers and working classes rather than fictitious, exaggerated claims.

During these initial travels to London and the Welsh countryside Wallace first encountered directly the problem of British poverty. Over time, such experiences would lead him

⁸⁷ Wallace, *My Life*, 1:217.

⁸⁸ Wallace, *My Life*, 1:157-158.

to socialism. The young Wallace, however, believed that impoverished Welsh farmers were responsible for their own deplorable situation because they refused to adopt modern agricultural techniques. Like a good English Liberal, he blamed Welsh superstition and ignorance for Welsh poverty. Wallace's perceptions of the lower classes changed overtime as he interacted and personally socialized with them. This transition was important because it showcases Wallace's essential empiricism, his lifelong insistence on the value of personal observation and experimentation.

CHAPTER THREE: 'THE COMMON PEOPLE': MESMERISM EXHIBITIONS AND THE WORKING CLASS

Fichman termed Wallace an 'Elusive Victorian', emphasizing that it was difficult to place him in a neat category because of his numerous occupations and diverse interests. Shermer called him a 'heretic' arguing by definition the Wallace's scientific pursuits and beliefs were against the accepted authoritative scientific community in the nineteenth century. Other historians and scientists alike have theorized that Wallace's career can be explained as a rebellion against England's hierarchical society. Wallace, however, was neither rebellious nor unusual in his early intellectual pursuits in natural history. Early Victorian England was flooded with radical theories that sought to explain varying aspects of the natural world and human nature. There was no unified understanding of 'science,' and with few formally institutionalized fields of study. While fields such as medicine and chemistry retained a more structured method of procedure, the study of what would become zoology and botany remained in flux, although the Linnæan System gave order to these emerging disciplines. As new theories of natural history emerged in the eighteenth century the Linnæan System provided a universal system for naturalists to follow to ensure that organisms, flora and fauna, were internationally identifiable. In 1735 Carl Linnaeus had established a standard classification method that systematized the study of living organisms. Naturalists then applied the Linnæan system to determine the proper hierarchy of nature. Wallace remarked, "The Linnæan System was upheld as being far the most useful as a means of determining the names of plants, and the natural system was treated as quite useless for beginners, and only suited for experienced botany."⁸⁹ Wallace was aware that in order to participate in the scientific community he needed to acquaint himself with the accepted

⁸⁹ Wallace, *My Life*, 1:199.

terminology. He studied multiple books on the Linnæan classification of local British fauna and insects.

While the Linnæan system allowed for uniform classification, there were still lingering questions about the natural world that remained hotly contested. Some naturalists adhered to the theory of divine creation; they believed that a supreme divine deity was responsible for the pre-ordained structure of nature and that living animals, fauna, and, controversially, fossils were created simultaneously. In the late eighteenth century, the belief in divine creation was challenged when naturalists specializing in the study of the physical earth, the first geologists, began to argue that fossils could not be the remnants of modern living animals. While some fossil specimens and living animals did share physical similarities, there were too many distinctions to view fossils as remnants of modern species. James Hutton, a Scottish geologist, first proposed the theory of uniformitarianism: that natural and geological processes are and that these processes responsible for the geological formation and destruction were the same throughout time. He suggested that the age of the earth could be determined by understanding these processes. Unfortunately, Hutton's writing style was incredibly dense and his fellow naturalists could not fully understand his theories or argument. In 1802 his devoted friend John Playfair, mathematician and professor of natural philosophy at the University of Edinburgh, published a comprehensible collection of Hutton's works in *Illustrations of the Huttonian Theory*. Playfair's rewrite of Hutton's manuscripts and notes enabled uniformitarianism to become an introductory theory for the new field of geology; yet uniformitarianism did not obtain popular recognition or support amongst geologists until Charles Lyell published *The Principles of Geology* in 1830. Knowledge concerning the study of Natural History was

changing. Older established theories for the formation of the earth and the laws governing nature were coming under scrutiny by new naturalists.

It was in this climate that Wallace entered into his impromptu education in the early nineteenth century. Additionally, new areas of science were emerging from naturalism. Natural history largely remained the same until the mid-eighteenth century. As Fichmann argued, “The issue of professionalization is crucial to an assessment of Wallace's life and career. In the latter half of the nineteenth century, the definitions of professional ‘science’ and ‘scientist’ were far from resolved - and remained so until the early decades of the twentieth century.”⁹⁰ The tension between the authoritative scholars of natural history and self-trained naturalists played a key role in the course of the century. The majority of practicing naturalists were independent, self-trained men generally, with some financial means of supporting their research. While naturalists such as Hutton obtained university degrees, they educated themselves on natural history. There were still many more naturalists from the working- and middle-classes who educated themselves primarily through fieldwork and experimentation. Naturalists in positions of authority generally came from affluent families with the means to receive university educations and support their research. Class tensions certainly affected how research was received in the academic community.

Self-trained naturalists such as Wallace were fairly common in the early nineteenth century, the profession of the naturalist developed primarily from the study of botany beginning in the late seventeenth century. David Allen’s *The Naturalist in Britain* traces the professionalization of the naturalist to the nineteenth century. Allen remarks, “The study of plants had obvious practical applications for the infant science of medicine, and as a result of this, alone of the various branches of natural history, could count at this time on organized

⁹⁰ Fichman, *Elusive Victorian*, 3.

support from a professional quarter.”⁹¹ The Royal Society of London, founded in 1660, was concerned with promoting the intellectual pursuit of a wide range of topics that did not allow members to specialize in a particular field of research such as Britain’s native fauna. Members were concerned with the broad speculation rather than the collection of specimens or data in the field. The Society did create a communication network of prominent British botanists but they chose to keep company amongst themselves in the unofficial ‘Temple Coffee House Botanic Club’ founded in 1698.

After the death of its most famous president, Sir Isaac Newton, in 1727 the Royal Society faced an intellectual decline with fewer discoveries or publications. By the mid-eighteenth century, botanists within the Society had become so engrossed in their own research and personal aspirations that they failed to train new botanists to continue research in the field. Allen remarks, “Naturalists, it is true, are probably seldom created *ab initio* by teaching; by they are at least ‘confirmed’ by well-timed help and encouragement.”⁹² The new generation of botanists that emerged in the midcentury relied not on their contemporary generation but the old guard of the ‘Temple Coffee House Botanic Club’. The Enlightenment, which spread the conviction that nature could not only be understood rationally, but also controlled by mankind, would further inspire botanists and naturalists with the resources to continue their research.

A key episode in the career of Gideon Mantell provides an example of the tensions that existed between self-trained naturalists and the established hierarchy of professional naturalists. Mantell was a trained surgeon and an armature paleontologist known for his discovery of the Iguanodon fossil. Mantell’s education, like Wallace, predominately came from different sources until he began his apprenticeship under a surgeon when he was 15 years old. He received his

⁹¹ Allen, *The Naturalist in Britain*, 4.

⁹² Allen, *The Naturalist in Britain*, 15.

formal medical certification from the Royal College of Surgeons in 1811, then moved to Lewes, Sussex to begin his work as a physician. He spent his limited spare time pursuing geology. After hearing about Mary Anning's discovery of a large crocodile fossil, later identified as an ichthyosaur, Mantell was inspired to hunt for fossils along with his wife, Mary Ann. In 1822 Mantell and his wife discovered several teeth in a local quarry, then slowly excavated bones belonging to a reptile he named Iguanodon. George Cuvier, a French naturalist, dismissed Mantell's fossils as merely rhinoceros teeth. Sir Richard Owen, curator of the British Museum of Natural History, received samples of Mantell's fossils but determined the fossils were mammalian, not reptilian. Allegedly, Owen even sought to claim Mantell's discovery as his own since his reputation exceeded Mantell's in the scientific community. Since Mantell was an amateur paleontologist and geologist, it was easy for established geologists to dismiss his findings.

The expansion of the British Empire brought both wealth and prestige to overseas travelers. Merchants prospered by importing foreign goods such as silk and porcelain to sell. Achieving a fortune abroad became the goal of the younger sons of the aristocracy and gentry, men hoping to increase their status in society, and naturalists seeking intellectual respectability. The literature of early Victorian England reflected this growth of class mobility using the Empire as a backdrop. As Raby explains, "Going abroad was such a common social phenomenon that novelists and dramatists put it to all sorts of uses: a convenient device for getting rid of characters, or allowing them to come back unexpectedly, rich, ruined, mad, or perhaps heroic and amazingly transformed after a thorough moral shaking-up."⁹³ Travel narratives were also exceedingly popular since they provided audiences with fantastical stories of foreign lands

⁹³ Peter Raby, *Bright Paradise: Victorian Scientific Travellers* (Princeton, NJ: Princeton University Press, 1996), 223-224.

seemingly within their reach. Aspiring naturalists saw imperial travel as an opportunity to explore uncharted territories to collect specimen to sell, particularly new species, and to make new discoveries that would increase their prestige in the scientific community.

Scientific expeditions prior to the nineteenth century were generally state sponsored. The most notable was in 1769 when the Royal Society commissioned Captain James Cook to track the transit of Venus. The British government also showed interest in this voyage in hopes that sailors could navigate the oceans using Venus' orbit. Raby highlighted, "If the world's oceans were charted, the navy could control them, and the knowledge of depths and tides could then be placed in the hands of the next instrument of power, the British merchant."⁹⁴ There were multiple advantages for purely scientific voyages yet these trips were still costly and time consuming, and such expeditions remained few until the mid-nineteenth century. Naturalists needed to self-fund their own overseas expeditions. Famously, Charles Darwin personally funded his voyage on the *HMS Beagle* as the ship's naturalist and the captain's companion in 1831. Consequently, generally only upper- or upper-middle class naturalists could afford to go abroad.

One common method for less well-off naturalists to study the natural world was to travel domestically. During this period in which he worked with his brother William as land-surveyors in Wales, Wallace took advantage of these travels to studying local British fauna. He acquired books on plants in Britain to educate himself on the plant samples he sketched and collected. With his minimal knowledge of Latin, Wallace memorized the Linnæan names of the plants. After exhausting sources on British fauna, he bought books on European fauna. He then became affiliated with local organizations dedicated to educating the public in the pursuit of natural history. The Kington Mechanics' Institute was opened in 1841 and Wallace became informally

⁹⁴ Raby, *Bright Paradise*, 5.

affiliated with the organization. Dedicated to educating the working-class, Mechanics' Institutes throughout Britain and the empire contained libraries and held public lectures to dissuade men from gambling and drinking in their spare time. Wallace took advantage of these gatherings to further his education and meet other likeminded individuals.

In January 1844, at the age of twenty-one, Wallace made a pivotal move to Leicester. He later acknowledged, "My year spent at Leicester must...be considered as perhaps the most important in my early life."⁹⁵ In Leicester he met beetle enthusiast Henry Walter Bates; their shared enthusiasm would later inspire them to travel to the Amazon. In Leicester's local library Wallace read perhaps the most influential book of his life, Thomas Robert Malthus' *An Essay on the Principle of Population*, which ultimately contributed to his independent formulation of the theory of natural selection in 1858. It was also in Leicester that Wallace began to experiment with mesmerism.

Realizing that work as a surveyor was becoming scarcer, he sought a post in a school where he could possibly teach English, sketching or surveying. He found a position at the Collegiate School in Leicester teaching English reading, writing, and drawing under Headmaster Rev. Abraham Hill.⁹⁶ Aside from a few attempts to undermine Wallace's knowledge of Latin, he found the students to be well behaved and was stunned when their illustration skills quickly equaled his own personal drawn charts. Occasionally, Wallace would accompany the senior boys to public lectures and mesmerist demonstrations.

Several short publications submitted to magazines and letters provide insight into Wallace's diverse interests during this period. It may appear extraordinary that a man dedicated to adhering 'historical facts' and experimentation could be interested in phrenology or

⁹⁵ Wallace, *My Life*, 1:240.

⁹⁶ Wallace, *My Life*, 1:229.

mesmerism, both now classified as pseudosciences. However, in the nineteenth century these were considered valid methodologies for understanding human behavior with an array of supporting evidence. Wallace continued his self-education in Leicester, reading extensively from the local library, attending public lectures, and exploring the local landscapes, and collecting specimens. As Raby notes, “To help him answer those questions [about the natural world], he constructed his own programme of study...without any systematic discipline, and with limited and erratic access to state-of-the-art scientific thinking.”⁹⁷ Wallace had great confidence in his abilities to rationally analyze the natural world but his research was limited to libraries or books he could afford to purchase. His social network consisted of his family and friends he met during his land-surveying expeditions. Prior to meeting Bates, Wallace was not acquainted with any professional naturalists. Even with these disadvantages he continued pursuing what he believed to be a rational, studious education. He did not limit his research to time-honored disciplines but was also open-minded to new theories circulating in early nineteenth-century England.

In the eighteenth century, German physician Franz Mesmer proposed that animals and humans exerted an invisible force that could be utilized in healing patients. By the early nineteenth century there were mesmerists across Europe attempting to harness this perceived natural force for medicinal or surgical pursuits. Particularly in France, mesmerists used their skills during surgical procedures to ease the patients suffering. In 1826 mesmerist Charles Dupotet persuaded the Académie de Médecine to convene a committee to determine the validity of mesmerism. The committee attended mesmerism demonstrations and recorded their observations. The most striking account was a surgical procedure held using mesmeric techniques. Mesmerist and surgeon Jules Clocquet performed a breast amputation on a patient

⁹⁷ Raby, *Alfred Russel Wallace: A Life*, 3.

named Madame Pantin. Reports indicated that Pantin was placed in a trance and felt no pain during the surgery. Despite Pantin's death the operation was considered successful. Alison Winter recounted, "Five years later, the committee concluded their investigations, judging the phenomena to be real. They confirmed the reality of effects ranging from simple (but extreme) "insensibility" to a number of astonishing new cognitive abilities and physical links in which subjects moved in an echo of the mesmerists and read without the use of their eyes."⁹⁸

Eyewitness accounts from the committee and other observers indicated that there was some truth to the mesmeric phenomenon.

Despite this acceptance of mesmerism as a beneficial technique with practical application in the medical field, most Victorian scientists dismissed mesmerism as a pseudoscience with no valid physical evidence to support its claims of mental manipulation. There is evidence to support that some mesmerists were deceiving their audiences and not all witnesses were convinced by these demonstrations. Nevertheless, traveling mesmerism shows were exceedingly popular in Britain in the 1840s where they attracted mostly working- and middle-class audiences including interested scientists. Mesmerism was a method that Victorians used as a means of understanding themselves. There was no concept of the unconscious mind in the nineteenth century. Mesmerists and experimenters shared the notion that they were producing an unusual state of mind in their subjects. Winter argues, "For historians, then, mesmerism provides a window onto how Victorians portrayed relations in their own society - to use their terms, relations of sympathy, power, authority, and inequality. In certain circumstances mesmeric experiments had a significant impact on how people formulated claims about the nature of

⁹⁸ Alison Winter, *Mesmerized: Powers of Mind in Victorian Britain* (Chicago, IL: University of Chicago Press, 1998), 42.

influence.”⁹⁹ Understanding the influences of the human mind appealed to Wallace. He had previously agreed with Owen’s theory that the environment could influence a man’s character. With mesmerism, Wallace witnessed the willingness of the working class to expand their knowledge and their rationality. He developed a deep respect for the working class as respectable individuals capable of reason and not prone to social immoralities.

Typically, mesmeric demonstrations consisted of the mesmerist entertaining audiences by subjecting an individual, either an assistant or volunteer, to a series of hand motions that would place the person's mind in a trance-like state. This would make the individual's body easy to manipulate and their mind open to suggestive commands. The number of advertisements circulating in south Britain in the 1840s indicates there surely was interest by the public to see these demonstrations. Not all mesmerism shows were well received. There were incidents in which locals forced mesmerists out of town when it was discovered his assistant was feigning his trance or that he could not mesmerize volunteers. Furthermore, from the late 1840s onward mesmerism was generally met with increasing skepticism from the academic community. Mesmerists continued to argue for mesmerism’s practical applications but critics remained vocal.

Interest in their demonstrations continued well into the early 1850s. Spencer Hall, a mesmerist traveling in south Britain, openly stated his motivations for holding his demonstrations predominately for working-class audiences. Hall claimed that he spoke for the ‘common people’ of the English provincial communities. For Hall, the ‘common people’ included factory workers, artisans, and small tradesmen in the working-class. Winter recounted, “Hall wished to champion these constituencies' intellectual validity. The ‘crushing despotism’ of so-called professional men and academic ‘professors’ with respect to the traveling lecturer was

⁹⁹ Winter, *Mesmerized*, 8.

evidence...of the classless and professionless nature of real knowledge.”¹⁰⁰ To combat the authority of professional academics, Hall published extensively about his experiments in journals. He provided explanations of his techniques to encourage readers to practice mesmerism. Hall believed that knowledge of the natural world was accessible to anyone who chose to study it.

Wallace frequently accompany the older schoolboys to public lectures, most notably Hall’s mesmerism demonstrations. This was the first time Wallace was introduced to mesmerism exhibitions. With his scientific perspective he was critical of Hall’s techniques but also incredibly impressed. According to Wallace’s account during the lecture Hall did not present himself as a showman or conjurer.¹⁰¹ Volunteers were regularly placed under mesmeric trances. He recounted, “[Hall] also showed us how to distinguish between the genuine mesmeric trance, and any attempt to imitate it. In consequence of this statement, one or two of the elder boys tried to mesmerise some of the younger ones, and in a short time succeeded; and they asked me to see their experiments. I found that they could produce the trance state...”¹⁰² Wallace then conducted his own experiments with three students and found he possessed the power to mesmerize them. He could even replicate each of Hall’s demonstrations. From Wallace’s perspective of facts and experimentation he concluded that mesmerism was a real phenomenon.

Phreno-mesmerism was another popular theory circulating in traveling mesmeric demonstrations. Developed by Franz Joseph Gall in 1796, phrenology specified that areas of the brain coincided with different function of an individual’s personality and mental capabilities. These areas could then be measured on the head to analyze a person’s psychological character.

¹⁰⁰ Winter, *Mesmerized*, 130.

¹⁰¹ Wallace, *My Life*, 1:232-233.

¹⁰² Wallace, *My Life*, 1:233.

The combination of both theories, Winter reasoned, "...offered the first means of giving experimental proofs of the relationship between parts of the brain and particular behaviors."¹⁰³ Since Wallace did not have access to phrenology books, he purchased a small phrenology bust illustrating the different regions of the human head. During his experiments with his students, he placed pressure on different regions of their head to determine their reaction and discovered that, indeed, the phrenology bust was accurate. This provided Wallace with further evidence that mesmerism and phrenology were valid theories concerning the human mind.

Wallace prided himself on his ability to discern fact from fiction. His earliest memories included performing small experiments to determine whether claims written in narratives or periodicals were plausible. Retrospectively, he wrote, "If I had one distinct mental faculty more prominent than another, it was the power of correct reasoning from a review of the known facts in any case to the causes or laws which produced them, and also in detecting fallacies in the reasoning of other persons."¹⁰⁴ Although Wallace's scientific process was limited to his access to publications and personal observations he rigorously ensured that all his information was precise.

Hall and Wallace shared a belief in the rational intelligence of the working-class or 'common people' of the English provincial communities. They worked closely with members of the working class and, through their observations, concluded that workers were rational and capable of higher intelligence if given the opportunity. Mesmerism was merely one example of how public knowledge was disseminated amongst the population. In addition Wallace and Hall shared their resentment to perceived scientific authority. Through their shared experiences these men concluded that so-called professionals had a tendency to dismiss the research of other naturalists who were perceived as substandard due to their education or social class. Wallace was

¹⁰³ Winter, *Mesmerized*, 118.

¹⁰⁴ Wallace, *My Life*, 1:223.

encouraged by his findings but consequently he wrote, "...I also satisfied myself that almost universal opposition and misrepresentation of the medical profession were founded upon a combination of ignorance and prejudice."¹⁰⁵ Like Hall, Wallace sought to spread evidence that mesmerism was valid. In a letter to the editor published on May 10, 1845 in the magazine *The Critic* under a column titled "Journal of Mesmerism" Wallace sought to refute an article on the effects of galvanism in mesmerism.

Seeing in your journal an account from a correspondent, of some mesmeric experiments with metals, I beg to send you a brief account of a few experiments I have made on the same subject, the results of which, however, *do not agree* with those of your correspondent, and it is for that reason I send them, as I think that it is only by the accumulation of a variety of facts that an explanation will be found.¹⁰⁶

Wallace emphasized his firm belief in facts and experimentation to discredit the articles conclusions. Despite Wallace's confidence in his own research, he was still merely a self-trained naturalist with no acknowledge reputation in the scientific community. Letters such as this one were one means by which he attempted to further his reputation. It is understandable that his language invoked a serious tone.

Considering Wallace's strict adherence to facts and evidence it was not surprising that he expressed doubts on religion and biblical texts. His father was a traditional Anglican and the family regularly attended service. At times when the family would not attend service his father would read an old sermon instead. Wallace, however, recalled that he did not enjoy attending service and considered it dull. From Wallace's account, it appears that outside weekly services he did not grow up with a strict adherence to religious doctrine. There was no rigidly imposed set

¹⁰⁵ Wallace, *My Life*, 1:293.

¹⁰⁶ Charles H. Smith, ed., "Journal of Mesmerism (S1aa: 1845)," *The Alfred Russel Wallace Page*, last modified June 2011, accessed July 10, 2015, <http://people.wku.edu/charles.smith/wallace/S001AA.htm>.

of belief to rebel against or deep-rooted investment in orthodox Christianity, and Wallace soon lost what little religious faith that he had.¹⁰⁷ While travelling in Wales, William occasionally borrowed books from friends. One such book was David Strauss' *Life of Jesus*, in which, Strauss argued that the miracles described in the Gospels were myths compiled after the death of Jesus and his disciples. Wallace recalled, "...in my then frame of mind it seemed equally conclusive to me, and helped to complete the destruction of whatever religious beliefs still lingered in my mind."¹⁰⁸ From this point on he considered himself to be non-religious and more closely described as an agnostic. He merely looked at religion from a scientific perspective. He did not have strong investment in religion; thus he did not undergo a crisis of faith nor any religious doubt.

Owen's socialist ideology continued to infiltrate Wallace's thoughts through his experiences in Leicester. Wallace began to emphasize in his writings that an individual's education could propel him or her to a different understanding of the world. Wallace had suffered financial hardships, educated himself, and achieved a sympathetic perspective on the plight of the working class through his experiences. Earlier in his life, Wallace was closely interacted with working-class carpenters in London while living with his younger brother John. He found them to be kind, skilled men working diligently to support their families. As Raby explained, "For Owen, the industrial structures of society could be transformed to obtain freedom, rather than enslavement, for those who worked in them; each individual was the product of circumstance, and circumstances could be changed to produce an earthly paradise."¹⁰⁹ Wallace understood how working-class men lived thus he was sympathetic to their financial

¹⁰⁷ Raby, *Alfred Russel Wallace: A Life*, 12.

¹⁰⁸ Wallace, *My Life*, 1:228.

¹⁰⁹ Raby, *Bright Paradise*, 77.

struggles. Thanks to his father, Wallace was constantly surrounded himself with books and continued to self-educate himself as much as possible. He was a product of his circumstances. Furthermore, based on his experiments with mesmerism he understood how outside influences could affect the individual mentally and physically.

Wallace contended that, as automated manufacturing replaced skilled craftsmen, the government was exploiting laborers by decreasing hourly wages arguing through investigations that working-class laborers were making more than in previous years. These reports failed to note that the cost of foodstuffs had increased over time and that while newly manufactured goods, such as clothing, were inexpensive, they were not durable and needed to be constantly replaced. Consequently, the workers were in a worse economic position.

In 1843 Wallace prepared a public lecture on the importance of educating. This speech, never delivered but later published in his autobiography, offers a rare insight into his personal views when he was merely 20 years old. Wallace believed his cosmopolitan education provided him with the opportunity to acquire different skills, he wrote, "...in opposition to the idea that it was better to learn one subject thoroughly than to know something of many subjects."¹¹⁰ Wallace discussed how knowledge from previous generations is lost, discoveries and errors, because there are no written records. This left future generations to repeat this process with little progress in knowledge. He explained, "But the wonder-working press prevents this loss; truths once acquired are treasured up by it for posterity, and each succeeding generation adds something to the stock of acquired knowledge..."¹¹¹ He did not make a distinction between professional or commonplace knowledge. Wallace regarded all forms of knowledge as equally valuable. This implied that he was also including members of the working class in his lecture. By participating

¹¹⁰ Wallace, *My Life*, 1:201.

¹¹¹ Wallace, *My Life*, 1:204.

in organizations such as the Mechanics Institute they were acquiring new forms of knowledge and, ideally for Wallace, possessed a desire to learn about the natural world. If all knowledge was equally valuable, then all members of a society were equally capable of providing valuable knowledge for future generations.

Wallace's appreciation of knowledge also extended to his family. There were multiple letters written in the Wallace family that acknowledge Wallace's research as an amateur naturalist and his love of knowledge. On January 11, 1840 John received a letter from Wallace joyously praising, "I was very Glad to hear that you belonged to the Literary Society and hope that you will not give it up...I shall now expect you to write very often and tell me any thing that happens...Tell me what you have been reading any thing particular you hear see or in fact any thing to fill up a letter..."¹¹² John, as a carpenter in London, validated Wallace's hopes that the working-class men could gain further education through the availability of information via books.

Within this active culture that increasingly supported the education of the masses, Wallace was part of a new generation participating in the expansion of knowledge. The Mechanics' Institute offered men with a means to broaden their minds and, potentially, contribute to the scientific community. Richard Perry, a member of the Kington Mechanics' Institute remarked, "How many of our great men, of whom as Britons we may justly be proud, have arisen from comparative obscurity; but we shall find that all who have become really great

¹¹² Wallace, Alfred Russel. (1840). [WCP337.337: Letter to John Wallace, dated 11 January 1840]. In: Beccaloni, G. W. (Ed.). Wallace Letters Online . <<http://www.nhm.ac.uk/research-curation/scientific-resources/collections/library-collections/wallace-letters-online/337/337/T/details.html> >[accessed 5 July 2016]

have had the desire, and in some degree at least, the means of obtaining knowledge...”¹¹³ There was hope amongst the members of the Institute that they could rise from their present conditions to become respectable, educated men in society.

Wallace’s proposed lecture offered insight into Victorian ideas of civilization and barbarism during a time of imperial conquest. Wallace concluded his draft by asking, “...[C]an any reflecting mind have a doubt that, by improving to the utmost the nobler faculties of our nature in this world, we shall be the better fitted to enter upon and enjoy whatever new state of being the future may have in store for us?”¹¹⁴ Such intellectual development would allow humans as ‘intelligent beings’ to distinguish themselves from, what Wallace termed ‘brutes’. While Wallace’s rhetoric here certainly reflects discussions in the nineteenth century about the distinction between civilization and the ‘savage’ that accompanied the conquest of new territories, it also offers an understanding of Wallace’s personal perception. He gained his education primarily through self-education, personal experimentation, and reading a wide variety of books. Furthermore, Wallace showed some resentment towards men in positions of intellectual authority who dismissed evidence if it came from sources below their perceived hierarchy. Optimistically, he believed that his self-education could help him in his intellectual pursuits and that he could ascend as a naturalist despite his background.

¹¹³ Richard Parry, *The History of Kington; with an Appendix* (Kington, UK: Charles Humphreys, High-Street, 1845), 69, Google Books.

¹¹⁴ Wallace, *My Life*, 1:204.

CHAPTER FOUR: LAND NATIONALIZATION AND SPIRITUALISM

Wallace's adherence to empirical knowledge guided his pursuits as a naturalist and led to great discoveries in his later career. He remained adamant that facts were the means to ensure the validity of a theory and used this philosophy within his personal research. Empiricism enabled Wallace to make his most monumental discoveries such as the theory of natural selection and the founding of biogeography. However, as a result of his experiences in his youth he was also susceptible to embracing radical scientific theories that did not always conform to the mainstream scientific community. In Wallace's experience, simply because the larger community did not accept a theory did not necessarily mean that it was false. This willingness to stand against the mainstream met with mixed responses from his colleagues and fellow naturalists.

On April 26, 1848, Wallace and Bates set sail for Pará, Brazil to transverse the majestic rainforests in search of new and exotic organisms. In a letter to the Mechanics' Institute Wallace described his inspiration for the voyage: "...I had dwelt so much on enthusiastic descriptions most naturalists give of the surpassing beauty of tropical vegetation, and of the strange forms and brilliant colours of the animal world..."¹¹⁵ Although this voyage proved disastrous, with the burning of the *Helen* and all his work on his journey home in 1852, a second expedition to the Malay Archipelago solidified Wallace's reputation as a eminent Victorian naturalist. In 1858, he presented his paper "On the Tendency of Varieties to Depart Indefinitely From the Original Type" to the Linnæan Society. This work placed him as the independent, co-discoverer of the theory of natural selection. He further established his reputation as the founder of biogeography

¹¹⁵ Wallace, *My Life*, 1:269-270.

and the creator of the Wallace Line. Wallace had ascended into a prominent life as a respected naturalist.

In the midst of his scientific research, Wallace continued to speak out against the ill treatment of laborers by the government, capitalists, and landowners. The publication of his travel narrative *Malay Archipelago* in 1869, particularly Wallace's condemnation of civilization as a form of barbarism, drew the attention of John Stuart Mill. In a discussion with Mill on social evils, Wallace contended that the evil in the world was not the result of an omnipotent God but man's own faults.¹¹⁶ Once this was realized, society could eliminate evil propensities. Good environmental conditions would add variety in human nature and the development of the human race. Wallace argued:

It is, the undoubted benefit to all the members of a society of *the greatest possible diversity of character*, as a means both towards the greatest enjoyment and interest of association, and to the highest ultimate development of the race... We are more and more getting to see that very much, perhaps all, the vice, crime, and misery that exists in the world is the result, not of the wickedness of individuals, but of the entire absence of sympathetic training from infancy onwards.¹¹⁷

The only remedy that Wallace observed to this deficiency in social character was Owen's experiments at New Lanark. He continued to hold to Owen's convictions for the improvement of society. By changing the conditions of society Wallace believed that the social evils could be modified into beneficial characteristics.

On May 19, 1870, Mill wrote to Wallace enclosing a program of his newly proposed Land Tenure Reform Association and asked him to become a member of the General Committee. Wallace remarked, "Its objective was to claim the future 'unearned increment' of land values for the State power of resuming possession of any land on payment of its net value at the time,

¹¹⁶ Wallace, *My Life*, 2:255-256.

¹¹⁷ Wallace, *My Life*, 2:255.

because, as I pointed out, the greatest evil was the *monopoly* of land, not the money lost by the community.”¹¹⁸ Although Wallace was not an official member of the association, his interaction with Mill on issues of land reform ensured him an open channel to Britain’s political networks of political and intellectual elites.

In 1881, the Land Nationalization Society was founded, and Wallace, against his wishes, was chosen as president. In Wallace’s judgment, the Society “...effected the great work of convincing the highest and best-organized among the manual workers as represented by their Trades Unions, that the abolition of land-monopoly, which is the necessary result of its private ownership, is at the very root of all social reform.”¹¹⁹ Its fundamental principles were to lay down certain fundamental principles, capable of logical demonstration, and by means of an association for the purpose of educating the public on the subject. Utilizing both persuasive argument and the constant appeal to facts, the Society sought to demonstrate the evils of the current land system in Britain and the benefits of land nationalization.¹²⁰ Socialists agreed that free access to land was the crucial first step to creating a socialist government. Access to land was the most essential and basic necessity for the welfare of society. In March 1882, the publication of *Land Nationalization: its Necessity and its Aims*, gave, in compact form, the only general account of the evils of Britain’s land system as it existed in England, Ireland, and Scotland.¹²¹ This book reflected Wallace’s present views as represented in his autobiography published two decades later.

From late 1886 to 1887, Wallace conducted a lecture tour through the United States that familiarized him with American land policies. Unimpressed, he believed that America held

¹¹⁸ Wallace, *My Life*, 2:54.

¹¹⁹ Wallace, *My Life*, 2:273.

¹²⁰ Wallace, *My Life*, 2:273.

¹²¹ Wallace, *My Life*, 2:261.

potential for a prosperous agricultural industry but retained bad habits learned from their Britain cousins. Wallace remarked that the most insidious evil Americans inherited was the belief that land could be owned by individuals and exploited by capitalist for profit. He was disheartened to witness large portions of land in Utah portioned out for sale to private individuals or companies while the towns remained on much smaller territory. This solidified his resolve that the misuse of land was a global crisis committed by industrious nations resulting in mass subjugation.

In this later part of his life, Wallace also transitioned from moderate to full socialism. This was partly the result of his life experiences and partly a response to new publications openly promoting socialist ideology. The social question remained unanswered well into the nineteenth century but this did not deter theorists from attempted to solve the issue. Wallace believed that socialism was the only way to improve society for the benefit of all thus forged ahead in incorporating it into his literary works. In his experience, an uncompassionate government subjugated the working class and laboring poor. In his propositions for social remedies, there were indications that Wallace followed Karl Marx's communist model to explain the rise of socialism in society through the shared connections between the proletariat of every country. In March 1884, Wallace contended, "...the labourer will receive, as Karl Marx and other social reformers maintain that he should do, the whole produce of his labour, and he will obtain the general result without any aid from Government..."¹²² Wallace, however, unlike Marx he did not advocate for the revolutionary destruction of the capitalist government but rather a unanimous agreement that policies be changed to benefit all members of society through the equal distribution of wealth.

¹²² Wallace, *My Life*, 2:266.

Wallace was critical of the unequal distribution of government spending that favored the interests of one social class. On December 2, 1869, *Nature* magazine published a proposal drafted by the committee of the British Association that ‘employed professors and men of science’ required state funding.¹²³ He objected to the fact that state funding should be used to support specific class educational system rather than the national interests of all citizens. In a short misnamed article, “Government Aid To Science”, Wallace commented, “The broad principle I go upon is this – that the State has no moral right to apply funds raised by the taxation of all its members to any purpose which is not directly available for the benefit of all.”¹²⁴ Wallace insisted that state should take more responsibility in the well-being of British society, but not at the expense of favoritism.

In 1889, Wallace declared himself a socialist after reading Edward Bellamy’s *Looking Backward, 2000 to 1887*. Every argument Wallace had heard against socialism was proven baseless in the face of Bellamy’s narrative. This book convinced him that socialism alone could secure for mankind a continuous mental and moral advancement.¹²⁵ Set in Boston, Massachusetts, the narrative follows the protagonist Julian West, who falls into a deep coma and wakes in the year 2000 to discover the benefits of socialist society. Wallace had long integrated socialist theories in his social propositions and writings but, with his new conviction, he moved to openly discuss socialism as the next step in social reform. His socialist views also began to permeate his scientific publications.

In the course of his autobiography, Wallace provided two separate yet similar definitions for his interpretation of socialism that revolved around the voluntary nature of this political

¹²³ Wallace, *My Life*, 2:54.

¹²⁴ Wallace, *My Life*, 2:55.

¹²⁵ Wallace, *My Life*, 2:285.

philosophy. He first defined socialism as, "... 'the voluntary organization of labour for the good of all.'"¹²⁶ To this definition, he added, "... 'The use, by every one of his faculties for the common good, and the voluntary organization of labour for the equal benefit of all.'"¹²⁷ Socialism was not a political policy that could be imposed violently on society. Instead, Wallace argued, newly educated working class and laborers would lead a willing society towards socialist reform. Rational individuals would see that socialism, promoting social equality and welfare, was the most logical step for society to pursue.

Economic wealth was no indication for a nation's social well-being. According to Wallace's statistical research, despite Britain's industrial affluence number of paupers in England and Wales did not decrease over the century, instead fluctuating persistently around 860,000. In *Land Nationalization*, he remarked, "The political economist points with pride to the vast increase of our wealth; but he ignores the fact that *distribution* of that wealth is more unequal than ever, and that for every single addition to the exceptionally rich there are scores or hundreds added to the exceptionally poor."¹²⁸ Laborers were thus completely dependent on the landowners and capitalists to earn a living and could not afford to refuse work or risk starvation. The working class had no voice in expenditure of wealth that was gained through the exploitation of their labor.

By the turn of the twentieth century, Wallace published openly on his theory that the working class would usher in a new age in global society. In a short article, "Anticipation and Hopes for the Immediate Future" published in 1900, Wallace expressed hope that the workers, the real source of wealth in any nation, were becoming more educated and organized. In his steps

¹²⁶ Wallace, *My Life*, 2:286.

¹²⁷ Wallace, *My Life*, 2:292.

¹²⁸ Wallace, Alfred Russel, *Land Nationalization; its Necessity and its Aims*, (London, UK: Swan Sonnenschein & Co, 1906). 5, Google Books.

toward social progress he called for an end to militarism, the subordination of bureaucracy to the people, and the simplification of the legal system for equality in justice. The most important step, Wallace argued, was "...to organize labour, to abolish inheritance, and thus give equality of opportunity to everyone alike. This alone will establish, first, true individualism...and this being obtained, will inevitably lead to voluntary association for all the purposes of life, and bring about a social state adapted to the stage of development of each nation, and of each successive age."¹²⁹ Unlike Marx who called for a revolutionary communist uprising by the proletariat, Wallace believed that this process would be gradual and completely voluntary for the good of society. In addition, Wallace deviated slightly from Owen's ideology that shunned individualism. Society would likely pass through a stage of true 'individualism,' in which complete 'equality of opportunity' would later be established.¹³⁰

Through his extensive personal observations conducted in his formative years, as well as his later travels to America, Wallace experienced growing discontent with the modern state's organization and misappropriation of land. For the first time in human history, Wallace alleged, manual and intellectual workers alike, were putting aside international jealousies and appreciating the good qualities inherent in each of them.¹³¹ He had hope in the workers' abilities to conclude that they shared a common goal to create a fair, just society. Wallace declared, "The people are always better than their rulers...It is then in the People alone that I have any hope for the future of Humanity."¹³² For Wallace, the working class and laboring poor, those that drove industry and created national wealth, would lead society forward into a new socialist age.

¹²⁹ Wallace, *My Life*, 2:222.

¹³⁰ Wallace, *My Life*, 2:290.

¹³¹ Wallace, *My Life*, 2:222.

¹³² Wallace, *My Life*, 2:222.

Notably, the most controversial theory that Wallace supported, ultimately resulting in his isolation from the mainstream scientific community, was his devotion to spiritualism.

Spiritualism developed into a hotly contested theory by the later part of the century, openly shunned by Thomas Huxley and Darwin. It was predominately his support of spiritualism that biographers identify as the underlying reason for calling Wallace as a ‘heretic’.¹³³

Wallace’s support of spiritualism arose from his acceptance of mesmerism while living in Leicester in 1843. In *On Miracles and Modern Spiritualism*, published in 1875, Wallace provided an account of this transition, one that resembles that in his autobiography. He described his attendance at the mesmerism exhibitions and his experiments on the older schoolboys under his tutelage, as well as his subsequent experiments in South America. Wallace understood that there were forces acting on the mind that could not be seen with the naked eye. He stated, “In the simplest phenomena of Animal Magnetism...spirit acts upon spirit, through the intermediation of a peculiar relation between the magnetic or life power of the two organisms...”¹³⁴ The presence of a ‘spirit’ provided a valid explanation for the unseen forces acting on the physical human body and material world.

Wallace foresaw that his readers would demand the facts supporting spiritualism exist within natural laws and empirically tested. In support of this endeavor, Wallace contested that this hypothesis was entirely ignored by science and vaguely speculated on by philosophy.¹³⁵ He remarked, “According to this hypothesis, that which, for want of a better name, we shall term ‘spirit,’ is the essential part of all sensitive being, whose bodies form but the machinery and

¹³³ Slotten, *The Heretic in Darwin's Court*, 8-9.

¹³⁴ Wallace, *On Miracles and Modern Spiritualism*, 102.

¹³⁵ Wallace, *On Miracles and Modern Spiritualism*, 100.

instruments by means of which they perceive and act upon other beings and on matter.”¹³⁶

Similar to testing other scientific hypotheses, the existence of the ‘spirit’ required the rational judgment of the range and nature of facts while rejecting other plausible explanations. He remarked, “This hypothesis of the existence of spirit... must be judged exactly in the same way as we judge any other hypothesis – by the nature and variety of the facts it includes and accounts for, and by the absence of any other mode of explaining so wide a range of facts.”¹³⁷ Wallace advocated for the scientific investigation of spiritualism but was met with adamant resistance from the scientific community. Predominately, this was the result of the principles of spiritualism as an unseen force making it difficult for naturalists to perceive as a testable theory. The facts were thus limited to personal experiences and testimonials from reliable individuals.

Wallace attempted to present an empirical study of spiritualism by utilizing extensive narrative accounts to demonstrate the validity of this phenomenon. He prided himself on his ability to document meticulous notes while conducting his personal, extensive experimentations. In his defense of spiritualism, Wallace gathered accounts from numerous eyewitness and examiners ranging from all levels of society. He focused on knowledgeable, socially prominent men to demonstrate that other educated men accepted the phenomenon as valid after their extensive research. For instance, in regards to the account of a respected judge he remarked defensively, “I would now ask whether it is possible that Judge [J. W.] Edmonds can have been deceived as to these facts, and not be insane.”¹³⁸ He thus embraced the logical fallacy that if spiritualism was a discernibly false practice, then it would be difficult to accept that these

¹³⁶ Wallace, *On Miracles and Modern Spiritualism*, 100.

¹³⁷ Wallace, *On Miracles and Modern Spiritualism*, 104.

¹³⁸ Wallace, *On Miracles and Modern Spiritualism*, 88.

educated men, including himself, were deceived when their accounts retained similar narratives and encounters.

Spiritualism was a difficult phenomenon to empirically prove since it relied heavily on an individual's 'open' senses. Naturalists were increasingly skeptical of spiritualism's claims to communicate with a spiritual realm since there was very little to physically see or touch. Wallace argued that the facts for spiritualism were proven in the only way that facts were capable of being proven, "...by the concurrent testimony of honest, impartial, and careful observers."¹³⁹ He contended that if an individual was open to experiencing spiritualism the 'spirits' were more likely to interact with them. Since skeptics, including Wallace's friends, refused to participate, he compensated by providing extensive testimonials in the hopes it would persuade others.

Wallace saw spiritualism, like socialism, as a means of improving social conditions. As Fichman has argued, "...Wallace's earliest philosophical musings reveal an appreciation of the imperative to reconcile his scientific findings and methodology with his beliefs about the nature of knowledge and the diverse array of human beliefs and actions."¹⁴⁰ Spiritualism could allow individuals a glimpse into the afterlife and the possibility of communicating with their departed loved ones. The 'spirits' interaction with the physical world were regulated by laws as research into this phenomenon progressed and it was Wallace's intention to persuade others that these investigations were worthy of serious consideration by the scientific community.

In the course of his autobiography and *On Miracles*, Wallace presented numerous accounts of spiritualism to his audience. Participating in several séances in America and Britain Wallace used his experience as a naturalist in an attempt to objectively observe these rituals. He recalled, "I was particularly interested in phenomena of this kind, and by experiments made

¹³⁹ Wallace, *On Miracles and Modern Spiritualism*, 104.

¹⁴⁰ Fichman, *The Elusive Victorian*, 78.

alone and silently, completely satisfied myself that the effects were not due to suggestion or to the influence of my own mind.”¹⁴¹ Wallace insisted that the accounts presented from his personal experiences were true and there was no chance of trickery or deception.¹⁴² Wallace, however, never attempted to conduct his own séances. Instead, he relied on ‘professional’ mediums for contact the alleged spiritual realm. This skewed his perception to the validity of spiritualism but did not deter him from gathering evidence.

Wallace regarded spiritualism as an experimental science that, after further study, would add greater knowledge on man’s true nature and interests. The challenge was persuading his colleagues to participate in these experimentations. It was difficult for Wallace’s friends and acquaintances, principally fellow naturalists, seriously to consider the phenomenon of spiritualism. He attempted to convince several friends to actively participate in séances and spiritualist experiments with very little success. Professor John Tyndall, in a letter printed from the autobiography, critically inquired:

Supposing I join you, will you undertake to make the effects evident to my senses? Will you allow me to reject all testimony, no matter how solemn or respectable? Will you allow me to touch the effects with my own hands, see them with my own eyes, and hear them with my own ears? Will you, in short, permit me to act towards your phenomena as I act, and successfully act, in other departments of nature?¹⁴³

Tyndall’s concerns reflected the same objections articulated by the scientific community. It was difficult for naturalists or scientists to conduct empirical research on spiritualism when the evidence relied heavily on visual and auditory sense depended on the alleged magnetism of the participants. In addition, the reported medians often controlled the outcome of the séances. Consequently, skepticism was a common occurrence. While Wallace had previously contested

¹⁴¹ Wallace, *On Miracles and Modern Spiritualism*, 120.

¹⁴² Wallace, *On Miracles and Modern Spiritualism*, 129.

¹⁴³ Wallace, *My Life*, 2:296.

against the authority of elite naturalists in his formative years he now encountered a new challenge. As a respected naturalist of the scientific community, he now needed to work to convince his peers that this phenomenon was worthy of investigation. Wallace retained his receptive attitude concerning scientific discoveries but it was not an attitude frequently shared.

Wallace's advocacy of spiritualism met with open hostility from the mainstream scientific community. Darwin was disheartened to discover that his colleague was transgressing into contentious research and expressed disappointment about these developments. Some naturalists were not surprised by Wallace's new research interest. When Huxley discovered Wallace's support of spiritualism he wrote, "I am neither shocked nor disposed to issue a Commission of Lunacy against you."¹⁴⁴ Wallace presented this letter in his autobiography as evidence that there were men not yet impartial enough to appreciate the wealth of evidence supporting the existence of spiritual influence in the natural world. In contrast, he provided extensively accounts in *On Miracles* from other educated men to demonstrate that there were others that believed in the similar convictions to prove that he was not alone in his scientific pursuit to understand spiritualism.

Wallace remained convinced for the remainder of his life that spiritualism was a scientific theory that conformed to the laws of nature. He argued stubbornly, "The evidence is here so abundant, coming from various parts of the world, and from persons differing widely in education, tastes, and religion, that it is difficult to give any notion of its force and bearing by short extracts."¹⁴⁵ He was satisfied with the evidence of his own senses and personal ability to remain open to the possibility that there were forces in the natural world that required a special sort of perception to understand. By remaining receptive to these ideas he believed that the

¹⁴⁴ Wallace, *My Life*, 2:298.

¹⁴⁵ Wallace, *On Miracles and Modern Spiritualism*, 80.

‘spirits’ were responding and manifesting to him while other skeptical researchers could not witness these phenomenon as a result of their negative approach. Wallace’s optimistic outlook permeated *and* obscured his critical approach to spiritualism.

Wallace strove to vehemently defend the principles he believed would lead to a positive progression of scientific knowledge of the natural world. He learned during his formative years that not all contested theories were essentially wrong and could be proven through further experimentation. His conversion to socialism and spiritualism were a natural progression from his life experiences that demonstrated to Wallace that unconventional theories could provide valuable insights. Wallace was not heretical nor did he intentionally set out to defy the rational consensus of the scientific community. He merely sought to defend his scientific and political beliefs using the skills he learned as a Victorian naturalist.

CONCLUSION: FACTS ARE STUBBORN THINGS

Wallace grew up in a period of immense political change that resulted in opportunities for him to travel the country in pursuit of his self-education. Wallace had dedicated himself to the study of natural history, empirical experimentation, and the quest for promotion of social equality. These pursuits originated in his youth then gradually shifted over time to in accordance with his personal experiences. Most notably, his persistent pursuit of empirical facts and what he deemed reliable information solidified these unorthodox beliefs.

As the first chapter illustrated, current biographies generally exclude significant portions of Wallace's early life. Wallace was shaped by both the financial instability and intellectual stimulation provided by his family. His self-reliance, his shyness, and his lifelong thirst for knowledge are rooted in his early experiences. Chapter two illustrated Wallace's exposure to Robert Owen's utopian socialism and his travels as a land surveyor in Wales. He became enthralled at the prospect presented by Owen that by manipulating the environment to improve the character of individuals, society, too, could be improved. Owen's theory of character development in his grand experiment at New Lanark demonstrated that such feat was entirely plausible, given the correct circumstances. Wallace witnessed the effect of environmental influence whether the result of a scandalous publications or persistent local customs on individuals while traveling through Wales. He hoped that the implementation of Owen's theories could improve the nature of society for the benefit of all. Chapter three demonstrated the origins of his adherence to unorthodox theories. If he could prove such theories through personal experimentation, Wallace felt convinced of their validity. His years of land surveying in Wales constituted a transitional period in Wallace's social outlook. He moved from condemnation of the poor as ignorant and superstitious to a belief that all were those worthy of social equality.

This study thus concluded with a brief glimpse into Wallace's future as a socialist and spiritualist. His belief in mesmerism provided the framework for his conversion to spiritualism. With the aid of extensive testimonial evidence and personal experience he advocated for the scientific community to consider its implications in naturalism. Likewise, Wallace's conversion to socialism matured from his earlier experiences. His socialist ideology thus permeated various aspects of his life from his political avocation to his scientific research. Despite the trials and tribulations that Wallace encountered, he was determined to pursue his self-education as an aspiring naturalist. Actively participating in Victorian popular culture significantly influenced his perception of the natural world and society. Wallace sought to remedy social ailments by employing his experience as a naturalist.

Wallace was not a rebellious heretic who set out to overturn the scientific community. He was merely seeking answers to questions by utilizing the most extensive research available to him. His work with mesmerism convinced him that there were forces acting on the human mind that could not be physically seen but interacted with to stimulate a different form of consciousness. These popular public exhibitions taught Wallace that there was evidence to support the mesmerist claims since he was able to duplicate the results in his experiments. Ever the diligent naturalist, his personal experience and research of extensive testimonial evidence proved to him that there were other theories available to understand the natural world. The theory of natural selection, too, was hotly contested in the nineteenth century before the scientific community accepted it. Wallace's adherence to spiritualism demonstrated his effort to ensure that another theory he concluded was valid received serious attention.

After Wallace's conversion to socialism in 1889 his subsequent scientific publications reflected this transition by invoking socialist theories such as in his theory of color distribution

amongst Birds of Paradise. It is my hope that future researchers and historians will explore the links between avenues into Wallace's socialist ideology and scientific research – while taking his formative years into consideration.

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