Intellectualism, Evolution and the Science of Education in Victorian England

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The Victorian era was an invigorating period in England from 1830's through the turn of the twentieth century. Education was the catalyst of forming the middle class intellectual society in Victorian England. Evolutionary ideas from Charles Darwin and Herbert Spencer sparked mass debate challenging the progression of human intelligence and interpreting the innate naturality of intellectual life. Social hierarchy in early Victorian England reinforced values of traditional British society by way of gender roles, religion, ruling class and education. Political ideology shifted in the late Victorian era as a rise of new liberalism and the shortcomings of liassez-fair economics become apparent in the latter decades of 19th century England.

The 19th century Victorian era was a diverse society that fostered British modernization and integrated mass education to form an intellectual society. My primary research expands on the development of middle class, rise of intellectualism, education, and circulation of literary knowledge, industry and economy. I explored the importance of modernization efforts and the effects of industrialism on middle class society in the Victorian era. As development occurred in 19th century England industrial pioneers aided in the

formation of a formidable middle class to support new Victorian era lifestyle and amenities.

Society in England during the Victorian era saw transformations within the country.¹

England was torn, politically, economically, religiously, ethically, educationally, and morally in the 19th century. Class divides separated aristocrats from gentry in the social circles, but professionally many gentry performed skilled labor for the aristocracy.² The outcomes of life and inequality between those with elite wealth status and those belonging to middle class families were still significant, but changing understanding of women's roles and educational reforms of the mid-19th century made schooling much more accessible to middle class and some poor families.³ Additionally, girls were mostly attending primary schools during the late Victorian era; and for first time a majority of middle class female children occupied the classrooms in English schools.⁴ Prior to educational reforms of the 19th century mostly only girls from wealthier families and aristocrats had the money to provide formal education to females in the family. The aristocracy of Victorian England had a lavish lifestyle to maintain and held closely to interests that could jeopardize that possibility.

In Victorian England the ruling elite and top wage earners lived exceedingly comfortable lifestyles. The reality of the 19th century British economy was that a majority of laborers and families did not live lavishly. Poor economic groups sought disparity against the

¹ Hale, Piers. Darwin's other Bulldog: Charles Kingsley and the Popularisation of Evolution in Victorian England.pp.997

² Annon, Noel. *The Intellectual Aristocracy*. pp.245

³ Spencer, Herbert. *Education: Intellectual, Moral, Physical.* pp.137

⁴ Ibid. pp.139

British elite; they formed revolts and revolutions in protest of the inequalities.⁵ The Victorian era middle class sought more changes with the pen, using their intellect and educational values to project expressions of change.⁶ Education of the masses throughout the Victorian era created a brighter possibility for England by the late 19th century. The circulation of knowledge led to an economy of information. Books were circulated widely and readers explored other interests through novels, journals, periodicals and the passing of letters.⁷

Through the power of 19th century social manifestation, a new epoch lay on the horizon. The middle class of the 19th century was diverse in structure. Those near the fiscal top had discretionary income, allowing them to increase spending for items beyond that of vital necessity.⁸ Jewelry, fine items, tools, clothing and fashion articles, books, toys and decorations are all part of Victorian era middle class living. Lower earning families of the middle class still sought much of the same lifestyle as the higher earners, but depleted their financial resources establishing necessities within the household.

Revolution from industry to ideology defined the Victorian Era as a unique period.

The rising middle class drove demands for new 19th century products and industrial producers responded to demands with implementation of new technologies. Merchants, producers, and publishers increased competitive measures to adapt to the new trends of the 19th century middle class. Increased intellectualism throughout society redefined the popular discussions

⁵ Richards, Robert. Darwin and the Emergence of Evolutionary Theories of Mind and Behavior. pp.110

⁶ Macleod, Jock. Literature, Jornalism, and the Vocabularies of Liberalism. pp.64

⁷ Hale, Piers. *Darwin's other Bulldog: Charles Kingsley and the Popularisation of Evolution in Victorian England.* pp.1005

⁸ Annon, Noel. The Intellectual Aristocracy. pp.249-250

of elite society and preoccupied the formulation of Victorian political ideology. Many people considered the implications of science and pitted the findings against their interpretations of a preferred religious doctrine. 19th century intellectuals supported the framework of evolution theories and offered ideas of coexistence while others contested the results and resisted any relevance to the findings of science. The Victorian era challenged personal beliefs, restructured daily lives, established educational intellectualism, stimulated economic activity and contributed to the societal developments of the modern world.

Nineteenth century industrial trade established the foundation of a formidable middle class. Throughout the Victorian Era 19th century implementation and refinement of tools, and new machinery led to innovations by English industrial pioneers on a technological forefront. New technologies created additional possibilities for the 19th century consumer driven economy. Innovation stemmed within many industrial sectors from tools, furniture, agricultural, machinery, gadgetry, fashion, jewelry, textiles etc. The 19th century middle class demanded new goods, and high quality goods at a value. This demand was only met with new industrial implementations.

The economy in the Victorian era blossomed in response to a rise in development of a middle class and the foundation of an intellectual, educated and sophisticated English

⁹ Dawson, Gowan & Lightman, Bernard. *Victorian Science and Literature*. pp.93

¹⁰ Hale, Piers. Darwin's other Bulldog: Charles Kingsley and the Popularisation of Evolution in Victorian England.pp.983

¹¹ Annon, Noel. The Intellectual Aristocracy. pp.248

society.¹² The functions and demands within the 19th century society stimulated growth and expansion in domestic and international consumption of goods and commodities. The exchange of the goods and services within the marketplace reinforced the stability presented by industrial developments. Growth within industry and segment expansion became common in the 19th century marketplace.¹³ Goods from qualities of varying grades were demanded and received due to economies of scale and technological diversification. Imported goods came in high quality from fine International producers in India, Asia, Europe and exotic lands abroad. Domestic goods ranged in quality depending on specialty and demands. The options of consumer choice and variances in personal style were exhibited in the lifestyles of Victorian era middle class.

Evolution became a critical debate of the 19th century intellectual movement in the Victorian Era. ¹⁴ Charles Darwin fueled debates about the origins and meaning of human life, the value of existence, and gender. ¹⁵ Herbert Spencer had numerous contributions on the subject of evolution, in fairness mostly in agreement with Darwin. ¹⁶ Though Spencer's work on biological thought was justifiable, the history of his contributions was received as positive and evoked spontaneous reactions.

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¹² Hale, Piers. Darwin's other Bulldog: Charles Kingsley and the Popularisation of Evolution in Victorian England.pp.981

¹³ Weiner, Martin. English Culture and the Decline of Industrial Spirits. pp.37

¹⁴ Richards, Robert. Darwin and the Emergence of Evolutionary Theories of Mind and Behavior. pp.274

¹⁵ Secord, James. Victorian Sensation. pp.25

¹⁶ Hale, Piers. Darwin's other Bulldog: Charles Kingsley and the Popularisation of Evolution in Victorian England.pp.977-978

Spencer gave credit to the role of Lamarckism to sociologists and concluded that contemporaries with distinguishing views were misled by an older conceptual system with standards not suited for "modern science". ¹⁷ Spencer gave testimony to the intellectual environment of the 19th century and discovered similarities between Lockean and Kantian epistemologies which bolstered his efforts to construct an argument to support evolution of morality and the science of evolution as intrinsically moral human nature.¹⁸ Spencer was curious as an inventor developing a list of gadgets as a young man. In his later years Spencer became more domesticated with his habits and designed a collapsible fishing pole and works on evolution, education, dissenting religion, and intellectualism in Victorian England. 19 Spencer placed utilitarian importance on the virtue of social and moral science which served as his theory of evolution.²⁰ His work was of ample scope and developed from moral sentiment and strong propensities of an intellectual combination. Further intellectual discourse was concerned with universal thought, politics, religion, and applications of science as the natural authority in the Victorian Era.²¹ Intellectualism was established as criteria for 19th century in the Victorian era and engaged with public sphere which perpetuated the notions and pondered the implications of 19th century society.²²

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¹⁷ Richards, Robert. Darwin and the Emergence of Evolutionary Theories of Mind and Behavior. pp.243

¹⁸ Ibid. pp.245

¹⁹ Ibid. pp.248

²⁰ Richards, Robert. Darwin and the Emergence of Evolutionary Theories of Mind and Behavior. pp.267

²¹ Ibid. pp.255

²² Lightman, Bernard. Victorian popularizers of Science.pp.29

Education played a leading role in developing literacy in 19th century society of England.²³ The circulation and distribution of printed materials was attracted by wide readership bases in the 19th century.²⁴ Circulation of texts and distribution of print and associated discourses fostered the culmination of evolutionary practices applied within the Victorian society.²⁵ Victorian era science and the discussions of theories were practiced within the middle class society. The middle class reached various positions and findings based on personal values, intellect, interest and interpretations of debates in 19th century natural theology.

Class divides segregated the lifestyles of Victorian era society. ²⁶ Prior to the mid-19th century English educational reform income disparity strictly denied educational rights to children of low earning families. In addition to educational reformation efforts, and a thriving economy; population growth in England created opportunity for a class system restructuration based on distributions of wealth. ²⁷ The poorest earners occupied the largest percentage of the Victorian era working class. The reliance on education in an intellectual society was the only path to move up and respond to economic adversity. For the people of 19th century England a proper education was integral in achieving social mobility. ²⁸ The lower ranks of middle class life was upheld by hard working skilled labor professionals, often pushing to gain a comparative advantage and contribute to the family wellbeing.

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²³ Spencer, Herbert. *Education: Intellectual, Moral, Physical.* pp.149

²⁴ Ibid. pp. 153

²⁵ Annon, Noel. *The Intellectual Aristocracy*. pp.243

²⁶ Dawson, Gowan & Lightman, Bernard. Victorian Science and Literature. pp.88-90

²⁷ Weiner, Martin. English Culture and the Decline of Industrial Spirits. pp.42

²⁸ Annon, Noel. *The Intellectual Aristocracy*. pp.243

The lower tier of the middle class was not necessarily less productive than the elite middle class, though the earnings and wealth did not amass equally.²⁹ The elite middle class represented the high society status of Victorian era English living. These were the consumers that propelled the economic engine of industry, trade, and agriculture. Wealth in the middle class was dispersed into the 19th century economy from diverse origins.³⁰ England led consumption of luxury consumer goods, fashion and modern 19th century amenities to contributions of post Darwinian science and the foundation of intellectual British society, elite middle class encouraged superiority that rivaled the elite wealth of royal aristocracy and societal leaders. The wealthiest class only represented a minority composition of 19th century British population; however their wealth influenced the institutions of Victorian era society.³¹ The elite wealth class held exceeding eminence in society and rivaled the status of international wealth from 19th century nobility abroad.

Education changed throughout the Victorian era, from subject specifications to academic duration and attendance.³² In numbers, students from the middle class segment grew tremendously in the 19th century. Males often began continuing education past 8th grade if their families could afford for them to pursue secondary education. A rise in academia and increases in university attendance was supported by middle class families during the Victorian

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²⁹ Ibid. pp.249

³⁰ Richards, Robert. *Darwin and the Emergence of Evolutionary Theories of Mind and Behavior*, pp.71

³¹ Hale, Piers. Darwin's other Bulldog: Charles Kingsley and the Popularisation of Evolution in Victorian England.pp.1005-06

³² Spencer, Herbert. *Education: Intellectual, Moral, Physical*. pp.158

era.³³ More males were studying for artisanal skills, skilled trades and new science practices of university facilitated intellectualism.

Female attendance soared for primary education during the Victorian era thanks to educational reform and family educational emphasis.³⁴ Established middle class families allowed for their daughters to pursue educational careers, often becoming the first woman in the family to do so. Reading, writing, language skills and communication became quintessential within 19th century middle class life.³⁵ Predominantly in more wealthy families and students displaying intellectual aptitude Victorian era women sought further education.

Education in the Victorian era was about progressive enactment of educational resources.³⁶ Tacit knowledge became more formalized and accepted as such in society. Spencer demonstrated his Lamarckism views referenced against new liberal ideologies that were portrayed post publications of Charles Darwin's Origins of Species.³⁷ Imposing personal freedom and individuality within an intellectual 19th century society allowed for the creation of an advanced Victorian society in Spencer's view, and one that posed possibility for true evolution in England.³⁸

Spencer uncovered the nature of psychology and the internal elements of human thinking in the 19th century. Human morality and the introduction of ethics in human society

³³ Annon, Noel. *The Intellectual Aristocracy*. pp.243-244

³⁴ Dawson, Gowan & Lightman, Bernard. *Victorian Science and Literature*. pp.105

³⁵ Annon, Noel. *The Intellectual Aristocracy*. pp.245-246

³⁶ Spencer, Herbert. *Education: Intellectual, Moral, Physical.* pp.172.

³⁷ Spencer, Herbert. *Education: Intellectual, Moral, Physical.* pp.257-258

³⁸ Ibid. pp.313

highlighted intellectual advancement in the eyes of Spencer which supported his theory of intra-generational development and cognitive evolution in the Victorian Era.³⁹

Books, novels, journals, broadsheets, letters and the rise of a reading public led way for changes in personal time and goals within society. Since the implementation of printing presses demand for literature had risen, and availability of text grew. As circulation of printed text increased in England, so too did the audience of readership in the 19th century. Throughout the Victorian era, middle class families were becoming educated and literate. In growing numbers Victorian era children gained access to education in England and correspondingly took up an interest with readership. Love for literature proved insatiable in England throughout the Victorian era. Novels and various topics grew large audiences. Science and medicinal books drew in the intellectual elite.

Books were written to document historical events, question the meaning of life and the origins of earth. All Novels inspired intellectual thought and stimulated a depth of readership interests, Newspapers captured current events, letters kept up connection with social relations and reading became an integrated part of middle class living and a requisite skill in intellectual society. Correspondence tells a story that is open to interpretation, but it highlights the ideologies of the time and allows for a greater insight into Victorian era perspectives, passions, and past-times.

³⁹ Ibid. pp.320-321

⁴⁰ Richards, Robert. Darwin and the Emergence of Evolutionary Theories of Mind and Behavior. pp.277-79

⁴¹ Romanes, George. Mental Differences Between Men and Women.pp.654

⁴² Spencer, Herbert. *Education: Intellectual, Moral, Physical.* pp.19

Intellectualism coexisted with development of middle class Victorian society in England in the 19th century. 43 Education and interest spurred the movement, but social circles supported the ideology of intellect and values of education. In a society of modernization, Victorian era culture ushered a welcome to mass literacy and the flourishing effects of an educated, intellectual society.⁴⁴ Herbert Spencer was criticized for his 19th century vantage points but his understanding at the time was sophisticated and the politics of the Victorian era were complex. Spencer was written into history as an ardent defender of laissez faire economics and an advocate of the unremitting "struggle for existence".⁴⁵ Spencer was associated with 19th century Lamarckian radicalism and caught in the crossroads of Victorian English radical politics. Spencer shared the ideas of Henry Brougham, Harriet Martineau, John Stuart Mill and William Godwin. 46 Richard Hofstadter work has done the most to portray Spencer as a representative of laissez faire and scholars have tried to improve this view of spencer, though often divided over conclusions with Spencer's work.⁴⁷ Historian Robert Richards argued as early as 1987 that Spencer had more influence than Darwin upon 19th century biology and sociology.⁴⁸

Spencer believed the antagonism between population and resources would ultimately resolve itself as humanity evolved toward a stable socialist utopia.⁴⁹ That viewpoint echoed Lamarckism ideology with a laissez faire mentality; though Spencer had a sense of urgency,

⁴³ Annon, Noel. *The Intellectual Aristocracy*. pp.244

⁴⁴ Ibid. pp.244-245

⁴⁵ Hale, Piers. *Political Descent: Malthus, Mutualism and the politics in Victorian England*. pp.67

⁴⁶ Ibid. pp.69

⁴⁷ Hale, Piers. *Political Descent: Malthus, Mutualism and the politics in Victorian England*. pp.70

⁴⁸ Ibid. pp.67

⁴⁹ Ibid. pp.70

perhaps inspired by a familiar "struggle for existence".⁵⁰ Historian Ian McCalman recently argued the fact that Darwin, Joseph Hooker, Thomas Huxley and Alfred Russell Wallace each had the experience of an ocean going voyage which forged a bond between them that was crucial in the campaign to promote and defend evolution in the years following Darwin's 1859 publication.⁵¹ Wallace honored Spencer by naming his first child Herbert Spencer Wallace. The 1860's were a time of change in England, the vast majority of men of science had come to accept that evolution had occurred and an intellectual movement was under way. The discrepancy was in the details, as many 19th century evolutionists took opposition over the nature of human evolution and argued against natural selection.⁵² Some further argued that natural selection was not sufficient explanation to provide definitive cause of the origin of new species. England faced problems which depicted two very different countries. The first of which was the industrial revolution pioneer with free trade and the "workshop of the world" though contrarily inner city's had slums which were perceived to be "breeding grounds for crime, unrest and moral degeneracy". 53 The 1860's mark the rise of "New Liberalism" as liberals abandon the traditional laissez faire political economy and look to socialist legislation to secure the health and wealth of the nation.

Noel Annon painted a picture of a life in aristocratic England and displayed the politics that accompanied the lifestyle. Annon illustrated the changes during the early 19th century that molded the country's culture. Annon Highlighted the importance of family

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⁵⁰ Ibid. pp.71

⁵¹ Ibid. pp.73

⁵² Richards, Robert. Darwin and the Emergence of Evolutionary Theories of Mind and Behavior. pp.159

⁵³ Hale, Piers. *Political Descent: Malthus, Mutualism and the politics in Victorian England*. pp.73

connections in establishing educational relationships and societal hierarchy was echoed throughout the study and the scope of 19th century social history.⁵⁴ Education was an important part of life in aristocracy.⁵⁵ From gentry to aristocracy, families were educating their children in the 19th century.⁵⁶ Educational reform produced a rising middle class of 19th century families that would intermarry and produce children which became scholars and teachers.⁵⁷ It was common to see those names reoccurring throughout generations as professors, tutors and academic schoolmasters throughout the 19th century.⁵⁸ The persistence of intellectualism rose in the Victorian era as Whig culture and cousinhood struggled to retain their antiquated power and influence. Intellectual aristocracy and middle class professionals sought and upheld various high ranking positions. Ruling class were often part of the Colonial service, school inspectors, philanthropic societies or curators of museums.⁵⁹ Members of intellectual families became civil servants or sought posts as publishing house "scribble hacks" in attempt to make their name as a journalist.

Political unrest was a reoccurring theme in 19th century England. Royal Patronage inspired innovative indiscretions which marked the tone of science and intellectual inquiry. Limits of exact science was volatile in the Victorian era, though "rabble-rousing" undergraduates, professors, mathematician-astronomers stirred the evolutionary debates.⁶⁰

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⁵⁴ Annon, Noel. *The Intellectual Aristocracy*. pp.244

⁵⁵ Ibid. pp.245

⁵⁶ Annon, Noel. *The Intellectual Aristocracy*. pp.243

⁵⁷ Ibid. pp.246

⁵⁸ Annon, Noel. *The Intellectual Aristocracy*. pp.244

⁵⁹ Ibid. pp.**24**5

⁶⁰ Hale, Piers. Darwin's other Bulldog: Charles Kingsley and the Popularisation of Evolution in Victorian England.pp.1004-05

Debates about science, had frequent "soirees" regarding religion.⁶¹ Religious debates carried considerable measurement in value interpretation and ideological development.

Darwin's profound book embarked to stir political tension and create controversial implications for orthodox living in 19th century living. Intellectual debate created for even more political adversity through measures of controversial speech. In an intellectual society the importance of appealing to mass rationality became increasingly apparent throughout the 19th century. The Victorian era united liberal imperialists against conservative reformers to objectify their freedoms and beliefs.⁶² The volatility of public interaction supported civil service creations for public rights and allowed for the British political formation of the late 19th century.

Religion catalyzed secular adversity in Victorian society. Religion and religious debate of the Victorian era was impacted by the findings of 19th century evolutionary science. The virtue of political affiliation was not founded by religion, though religious convictions influenced acceptance, value, and alliance in European minds. The Victorian era was shaped by volatile evangelical movements that hinged on leaders to spread the breadth of intellectual life. In many cases upholding the practice of science and forming opinions by the upper middle class provided stability during a revolutionary shift. The role of the church was ever expanding to educate men for service and state which created an overflow of new

⁶¹ Ibid. 998

⁶² Richards, Robert. Darwin and the Emergence of Evolutionary Theories of Mind and Behavior. pp.329-331

⁶³ Ibid. 331-32

professions.⁶⁴ Low roles gradually reformed to include apothecaries, solicitors, professional civil servants, and became members of intellectual formality. Religion was an accepted institution by 19th century English intellectualism movements.

The evangelicalisms were indeed the strongest ingredient in the spirit of pure intellect and principle for those with religious faith in the Victorian era.⁶⁵ Philanthropy drove the religious movements and enlightened society with a prosperity to take constrained bounds into a blossoming yield for the piety of spiritualism.⁶⁶ Religion in the Victorian era British society encouraged Unitarianism within the church. Among the influence and effects of philanthropic evangelicals' philosophical radicalism was the most detrimental tradition in religious solidarity. Even non conformists and allies of the Church of England expressed disagreement over 19th century religious embellishments.

Gender Roles in the Victorian era defined social interaction and stabilized the structure of family living in England. Men and women occupied different roles within the home and marketplace as society attempted to define gender traditions by feminine oppression, and cultural ideology. Males dominated the structure of Victorian era society, physically and mentally. Evolutionary advocates made determinations which devalued the structure of female bodies and highlighted physical inferiorities while marginalizing mental competencies and cognitive developments. Most outcries regarding women's intelligence and

⁶⁴ Hale, Piers. *Darwin's other Bulldog: Charles Kingsley and the Popularisation of Evolution in Victorian England*.pp.1003-04

⁶⁵ Annon, Noel. *The Intellectual Aristocracy*. pp.245

⁶⁶ Ibid. pp.245

inferiority was traced to popular perceptions of mental differences between men and women in the Victorian Era.

In *Mental Differences Between Men and Women* It was expressed that the differences between men and women ranged from sexual characteristics to psychological conditions.

Limits of each gender were apparent in the animal kingdom and human realm. Recognition of masculinity was "merely anatomical" and women were presumably innately less established in distinction and diversity than man.⁶⁷ That is, such that the mental intellect of woman was not of the same classification as male counterparts. The inferiority of women presented itself near the end period of adolescence.⁶⁸

Beginning with brain development males were perceived to be more inquisitive and displayed a brain that amassed more physical size as an organ compared to female counterparts. ⁶⁹ In terms of physicality men portrayed profound physique while woman were often less wide and generally proportionate with smaller bodies. This was perceived to suggest that woman of the Victorian era also had smaller internal organs; including brain cortex. Additionally, Maudsley claimed that women would also have lesser circulation of blood; which was a fundamental sexual distinction. ⁷⁰ Through his evaluation Maudsley contested evolutionary scientific studies and respected views of medical practice in Victorian England with unwavering authority. Dr. Elizabeth Anderson did not agree with his interpretation of women's bodies, or the usefulness of such, nor did she particularly appreciate

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⁶⁷ Romanes, George. *Mental Differences Between Men and Women*.pp.655

⁶⁸ Annon, Noel. The Intellectual Aristocracy. pp.250

⁶⁹ Romanes, George. Mental Differences Between Men and Women.pp.654

⁷⁰ Romanes, George. Mental Differences Between Men and Women.pp.655

his neglect for women's independence or traits that were subjugated upon women and not derived from a natural affinity or innate desires.

Henry Maudsley wrote the "Sex in Mind and Education" fortnightly review in April of 1874. His work attempted to capture the variances in woman's physicality, mental aptitude, educational capacities, opportunity to mate and bare children. Maudsley felt that 19th century Women needed to keep "proper sexual style" for the purpose of positive procreation.⁷¹ It was to his understanding that women whom engaged in academic or scholarly thought would embody major mental differences that would alter the progress of human creation, evolution and recreation.⁷² Specifically Maudsley stated that women of the Victorian era with higher energy expenditure on mental tasks, and scholarly activity would face reduced physical vitality and physiological functions should they decide to exude maternity. Maudsley believed that education for women would cause detrimental effects on their natural maternal instincts and vital procreative ability. According to Maudsley his assertions were not "the expression of prejudice or false sentiment: it is a plain statement of physiological fact". ⁷³

In her reply to Maudsleys article Elizabeth Anderson made an attempt to set straight the facts within the article and highlight the importance of gender neutrality within the structure of gender development in Victorian society. Anderson, a doctor herself and graduate of University of Paris had established the first Woman's only hospital in 1871 and held her medical post of authority with honor. Anderson attempted to overturn the statements

⁷¹ Romanes, George. *Mental Differences Between Men and Women*.pp.658

⁷² Ibid. pp.660

⁷³ Ibid. pp.654, 657

Maudsley asserted in the original article which she had disagreed with. She began by presenting Maudsley's argument and dissenting views, then methodically crafted a counterargument of her own.

Anderson turned to the expertise of Dr. Clarke, and attempted to show how Maudsley's misportrayal of women supported his own work, evidence and mislead his readers about the dangers of granting women too many concessions for equality. Anderson argued for an equal humanity and a society that does not unjustly differentiate between boy and girl children. Changes in mentality and natural understanding develop between adolescence and adulthood and Anderson discredited Maudsley on the basis of lacking adequate evidence.

The Victorian era in England was highlighted by the rise of middle class men with interests in science, theology and the evolutionary ideologies that carried the nature of science, and intellectual society. This work accounts the life of Victorian era middle class, and the progression of 19th century English society through measures of education, intellect, and modernization. Nineteenth century society of Victorian England was a complex cultural puzzle. Popular history rarely promotes the lives and labors of the working class however, that was the group that formed the middle class and created a resilient, educated, and intellectual society in the 19th century. The Victorian era hinged on social reformation, though debates about the political and religious implications delayed progression. Historically recognizable traits regarding the English Victorian era divided 19th century sociability from any other period of social reform. Formalized association of knowledge in the Victorian era

⁷⁴ Romanes, George. *Mental Differences Between Men and Women*.pp.669-70

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whether tacit, academic, scientific, religious or political aided in development of a society with intellectual merit and value. The culture of English 19th century Victorian intellectualism inherently adopted a revised instrumental model of education in pursuit of superior intelligence and supreme natural understanding. English society is marked by the late 19th century movements, and the progression of human evolutionary thinking entrapped permanently in the historic texts of the Victorian era.

References

Annon, Noel. *The Intellectual Aristocracy*. Studies in Social History, London, 1995. pp.243-279.

Dawson, Gowan & Lightman, Bernard. *Victorian Science and Literature*. New audiences for science, women, children & laborers, Volume 5, 2012. pp.78-113.

Ellis, Heather. Generational Conflict and University Reform: Oxford in the age of Revolution. Leidon, Boston Massachutses, 2012. pp.9-174.

Harris, J. *Herbert Spencer 1820-1903*.Oxford Dictionary of National Biography, Oxford University Press, 2010.

Hale, Piers. *Darwin's other Bulldog: Charles Kingsley and the Popularisation of Evolution in Victorian England*. Springer Science and Media, 2011. pp.977-1009.

Hale, Piers. *Political Descent: Malthus, Mutualism and the politics in Victorian England*. University of Chicago Press, 2014. pp. 66-105 and 155-204.

Hesketh, Ian. *Of Apes and Ancestors*. Evolution, Christianity and the Oxford Debate. University of Toronto Press, Toronto Canada. 2009. pp.7-133.

Huxley, Thomas. Westminster Review. Kingsley, Volume 68, Issue 8, 1855. pp. 240-248.

Lightman, Bernard. *Victorian popularizers of Science*. Designing Nature for New Audiences, Chicago University Press, Chicago Illinois, 2007.

Macleod, Jock. *Literature, Jornalism, and the Vocabularies of Liberalism. Politics and Letters of Henry William, 1886-1916.* Macmillan Press ,New York, New York, 2013. pp.13-227.

Momma, Haruko. From Philology to English Studies: Language and Culture in the Nineteenth Century. Cambridge University Press. New York, New York, 2013. pp.2-193.

Morrissey, Thomas A. Finlay SJ, 1848-1940: Educationalist, Editor, Social Reformer. Four Courts Press, Portland Oregon, 2004. pp.7-156.

Richards, Robert. *Darwin and the Emergence of Evolutionary Theories of Mind and Behavior*. University of Chicago Press, Chicago Illinois, 1987. pp.243-312.

Romanes, George. *Mental Differences Between Men and Women*. The Nineteenth Century. British Periodicals,1887. pp.654-671.

Secord, James. *Victorian Sensation*. The Extraordinary publication, reception and secret authorship of Vestiges and of the Natural History of Creation. Chicago University press, Chicago Illinois, 2000. pp.17-126.

Spencer, Herbert. *Education: Intellectual, Moral, Physical.* J. Fitzgerald Press. New York, New York, 1880.

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Weiner, Martin. English Culture and the Decline of Industrial Spirits. Cambridge University Press, New York, New York, 1981. pp.8-127

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