Summer 8-28-2013

The Love of Learning in the Industrialized Age: Useful Knowledge, Imagination, and the Education of the Nineteenth-Century British Working Classes

Shannon Clark Koropchak
Washington University in St. Louis

WASHINGTON UNIVERSITY IN ST. LOUIS

Department of English

Dissertation Examination Committee
Miriam Bailin, Chair
Guinn Batten
Matthew Erlin
William McKelvy
Robert Milder
Philip Sewell

The Love of Learning in the Industrialized Age: Useful Knowledge, Imagination, and the Education of the Nineteenth-Century British Working Classes

by

Shannon C. Koropchak

A dissertation presented to the
Graduate School of Arts and Sciences
of Washington University in
partial fulfillment of the
requirements for the degree
of Doctor of Philosophy

August, 2013

St. Louis, Missouri

Table of Contents

Acknowledgements

As isolating as the dissertation process has felt at times, I have always been aware of the role that support from so many individuals in my life has played in my ability to return productively to the glowing screen of my computer or the pages of my notes. My first thanks must, of course, go to Miriam Bailin, my patient advisor who realized quickly that I needed a great deal of thinking time and that I needed to be able to see the project in its entirety before I could productively proceed. "I think you need to write your introduction first," is probably the single most helpful piece of advice (and intellectual shove) I received in my entire graduate school experience. I also greatly appreciate the comments from my committee members, Guinn Batten and Bill McKelvy.

I am eternally grateful to my many colleagues and dear friends who have read countless drafts of my chapters, half-chapters, and ill-conceived ideas. Particular thanks go to Amy Sattler, Ryan Lowe, Ina Seethaler, and Anna Deters who have on multiple occasions helped me to reshape and rethink my work so that I could finally lumber over my greatest intellectual hurdles.

And where would anyone in Duncker Hall be without the numerous kinds of support from Kathy Schneider and Dorothy Negri? Kathy has always managed to make me walk out of the office thinking, "I can do this." And Dorothy has always reminded me that I should have a life and interests beyond the office.

Since the dissertation is as much of an emotional struggle as it is a mental one, I think fondly of the support of friends from afar. In particular, Ms. (Anna Teekell) WU has always been there to shake me like a magic eight ball when a new perspective or answer was necessary.

From my family I have gained the support of incredibly bright and loving individuals. Thanks go to my father for our many philosophical education discussions, my mother for helping me hone my intellectual elevator speech, and my sister for helping me put the research process in the proper perspective. None of them has ever entirely understood the focus of my dissertation, which makes the numerous hours they have spent listening, smiling, and nodding to my ramblings about it all the more impressive and appreciated.

Finally, I am grateful for the blunt but kind questions and suggestions from my partner, Mike Craig. You kept me on track (or reset me when necessary) in more ways that you know. In addition, this dissertation would have been fueled entirely by red beans and rice, pizza, and cereal if it had not been for you.

Introduction

"This is the first class in English spelling and philosophy, Nickleby," said Squeers, beckoning Nicholas to stand beside him. "We'll get up a Latin one, and hand that over to you. Now, then, where's the first boy?"

"Please, sir, he's cleaning the back-parlor window," said the temporary head of the philosophical class.

"So he is, to be sure," rejoined Squeers. "We go upon the practical mode of teaching, Nickleby; the regular education system. C-l-e-a-n, clean, verb active, to make bright, to scour. W-i-n, win, d-e-r, der, winder, a casement. When the boy knows this out of the book, he goes and does it. It's just the same principle as the use of the globes. Where's the second boy?"

"Please, sir, he's weeding the garden," replied a small voice.

"To be sure," said Squeers, by no means disconcerted. "So he is. B-o-t, bot, tin, bottin, n-e-y, ney, bottinney, noun substantive, a knowledge of plants. When he has learned that bottiney means a knowledge of plants, he goes and knows 'em. That's our system, Nickleby: what do you think of it?

It's a very useful one, at any rate," answered Nicholas. (123)

When asked to comment on the questionable teaching system at Dotheboys Hall, Charles Dickens's Nicholas Nickleby responds perhaps with the safest answer he can give; "It's a very *useful* one." By responding simply, "I believe you," and "not remarking the emphasis of his usher," Mr. Squeers appears to expect Nickleby's response; it certainly raises no questions about Nickleby's perception of his "regular education system." To the twenty-first-century reader, the combination of education with "use" appears equally familiar. The reader understands how when forced to choose an adjective to describe an education system, *any* education system, "useful" might come to mind as a platitude of instruction. And yet Dickens's satire of the boys' school also presents the reader with the confusing task of determining what, exactly, might be useful in a system that sends children out to weed once they have learned how to incorrectly spell "botany."

Although primarily attempting to satirize the utilitarian principles of use, Dickens's passage and its combination of useful goals with confusing methods and confused information highlights the unexpected complexities of centering education on "use." Representing the

growing nineteenth-century expectation that education be "useful" - useful precisely because it appeared to be a straightforward, self-evident standard by which to educate the English people – Dickens also points to a general nineteenth-century English confusion about the meaning of the term, particularly as it relates to education. Rather than one self-evident definition of "useful," the passage presents numerous definitions that, at times, both contradict and overlap one another. The lessons' primary focus on everyday tasks and information implies the importance of relevance to the common lives of the lower-middle class boys. Suggesting what these everyday tasks might be, the passage also refers to the connection between thought and physical activity (weeding and cleaning). Yet in the mention of Latin and the study of globes there is also the possibility of moving beyond everyday tasks through information. The joke, of course, is that these boys and their lessons (weeding and cleaning) are far more useful to the school than it appears the school can be to them. But even this joke touches upon the possible larger social uses of education in which the individual's education leads to society's improvement.

Despite such common evidence of the term's complex and often confusing meaning, critics old and new assume "useful" to be a self-evident term limited to the study of science and mechanics, excluding the imagination and literature, separate from emotion, and often separate from interest or pleasure. As is evident in the passage from *Nicholas Nickleby*, Dickens depicts useful knowledge and useful tasks as apart from the imagination and imaginative exercises.[1] In both *Nicholas Nickleby* and *Hard Times* Dickens develops a world for the utilitarian school and a world for the imagination (the Crummles' theatre troupe and Sleary's circus) and suggests by their geographic separation that use cannot overlap with the imagination. Agreeing with Dickens' division of the terms in his critical work, *The English Common Reader,* Richard Altick argues that there was "no reading for pleasure until the late nineteenth century" (96). Altick

claims that schools produced "little association between" the concepts which, in part, created a population which focused on the need "to multiply and spread the blessing of machinery mechanics, chemistry, metalergy, [and] hydraulics" rather than the joys of reading and learning (2). Drawing from his own, rigid, educational experience under the direction of his father, James Mill, John Stuart Mill assumes that a focus on useful knowledge necessitates the separation of emotional development from intellectual development (*Autobiography* 121). And researching, in part, the social backlash against the utilitarian perspective Mary Lenard describes in *Preaching Pity* the tendency of the mid-nineteenth century social problem novels to react against the useful movement and serve as "intervention from the heart not the head" as if the two forms of intervention were mutually exclusive (7). [2]

However, such perceptions of "useful" fail to take into account the contextual nature of the term, which becomes particularly important when discussing the period's educational plans and goals. Certainly, the term's strong connection to class caused its meaning, at times, to depend on who was "using" the education. Focused on and made prominent by the rising middle classes as a counter to the upper classes' apparent uselessness and leisure lifestyle, useful education was an attempt to prepare their sons for careers, generally, in business.[3] The usefulness of education then became particularly complex as the middle classes began to see the larger social uses of education, as they also began to see education as a tool with which to effect

[2] Although Joel Mokyr, in *The Gifts of Athena,* acknowledges "a great deal of important knowledge, including economic knowledge, involves people and social phenomena: knowledge about prices, laws, relationships, personalities, the arts, literature, and so on" he still chooses to focus his work on "knowledge of natural phenomena" and the relationship between knowledge, technology, and the economy (3). Similarly, in his work, *Useful Knowledge,* Alan Rauch recognizes "the problematic nature of terms such as useful" but focuses his research on the processes of knowledge production, collection, and informal dissemination, and only implicitly considers the meanings of use and useful (41). And in *Intellectual Politics and Cultural Conflict in the Romantic Period* Alex Benchimol describes the "utilitarian logic" as ruthless – implying its lack of variety/flexibility (124).

[3] For example, the 1824, January 1st issue of the *Westminster Review* criticized the classical curriculum "forming part of the education of a very important part of the community, to whom, at least as it is at present communicated, experience proves it to be utterly useless" (rpt. in Simon 100).

changes in society. Recognizing "useful" as a situational term, I am specifically interested in the education of the working classes because, in many ways, the lack of educational structures available to the working classes eventually forced the question of what people needed to know among the education reformers. In turn, a focus on the middle-class construction of working-class education brings forth a heated debate about the purposes of education, what people needed to know, and what people needed to gain from a general education curriculum.

In this debate, the focus on usefulness brings forth many questions including: what do people need to know to be a part of the nation; how do teaching methods affect how people are able to apply their education; what is the purpose of a general education; what does it mean to be generally educated; what are desired and undesired uses of education; and what constitutes the use of a particular subject matter? These questions situate my work alongside that of Alan Rauch and his study on knowledge production and dissemination in the nineteenth century, *Useful Knowledge*, Mary Poovey's *The History of the Modern Fact*, and Jan Golinski's *Science as Public Culture*, as well as projects on reading and learning practices such as David Vincent's *Literacy and Popular Culture,* Richard Altick's *The English Common Reader*, and Raymond Williams' *The Long Revolution.* These works all address different versions of the middle-class enlightenment and education reforms that led to the development of the public education system for the working classes**.** But in their focus on specific middle-class perspectives, these works tend to separate the Romantic reformer from the Victorian, the religious reformer from the scientific, and, above all else, the utilitarian from other education reformers.

My work attempts to challenge these distinctions and the limiting definition of the term "useful" they employ by looking at the broader conversation about the usefulness of education. By recognizing that the Romantic scientists, traditional utilitarians, Tory social problem

novelists, Radical social problem novelists, religious education reformers, agnostic education supporters, supporters of a humanities-based curriculum, and supporters of a science-based curriculum *all* considered the "uses" of education in some sense, I am able to identify the overlaps, as well as the distinctions among these groups' definitions of useful knowledge. Identifying such overlaps then allows me to establish a broader definition of useful as well as a more specific understanding of what it meant to be generally educated in the nineteenth century. Prior to entering the study of these debates, an overview of the English educational system available to the working classes in the late-eighteenth and early-nineteenth centuries from and in which the education debates grew seems, in all meanings of the term, useful.

Working-Class Educational Atmosphere

The history of English working-class education is a history of continually filling the holes in the long-standing educational system, rather than constructing one or even just a few plans for addressing the nation's educational needs. At the end of the eighteenth century, the educational system consisted primarily of privately endowed grammar schools and Sunday schools. While access to the grammar schools and the university system that followed was fairly strictly limited to the middle and upper classes, there were a few places designated in most schools for exceptional working-class students. Outside of the few grammar school places, young working-class children may have had access to the limited education (learning one's letters) provided at Sunday schools. As social reformers in the early nineteenth century determined that the possibilities for working-class education needed to be expanded, and as the government chose to

take no action on the matter, the reformers started forming their own voluntary elementary school systems (children were not required to attend).[4]

Intended entirely for the working classes, the elementary schools established distinct curriculums and pedagogical methods in order to teach the largest number of children the subjects deemed most necessary for their working-class positions in factories, the fields, or middle and upper-class homes. Thus instead of teaching Latin, Greek, mathematics, and logic, as the grammar schools did, the elementary schools focused mostly on reading, writing, and arithmetic. The first voluntary society, the British and Foreign Society, was founded in 1808 on the principles of a non-denominational Christian teaching. Because the Anglican Church deemed non-denominational teaching, which taught the Bible without comment, unacceptable, it founded the National Society in 1811. Following the similar pedagogical theories of Joseph Lancaster (British and Foreign) and Andrew Bell (National), the British and Foreign and the National Societies worked quickly to establish schools across the nation.[5] Focusing on "efficiently" teaching the greatest number of students, the societies used the Lancaster and Bell theories to establish monitorial teaching systems. In such systems a single teacher might instruct over a hundred students by first teaching a group of older students - monitors - who then taught the lessons to groups of younger students (Silver 10, Simon 149). Although both praise and criticism for the teaching methods abounded in the period, the two societies bore the primary responsibility for educating working-class children for more than twenty years.[6]

---

[4] Grammar schools were for the middle and upper classes and taught reading, writing, mathematics, Latin, Greek, while the elementary schools were designated for the lower classes and generally focused their curriculum on reading, writing, arithmetic (Digby and Searby 33).

[5] Other religious groups founded similar societies, for example, the Weslyans, but they were always smaller and less well-funded (Goldstrom 111).

[6] Various critics praised the monitorial system's efficiency and criticized its inability to provide students with more than (at best) superficial knowledge and the most basic skills. In his 1810 essay in the *Westminster Review* Lord Henry Brougham argues the monitorial system could "be extended to persons in the lower ranks of society, at a price within the reach of all but the poorest, and to them also, with a very moderate assistance from their happier

When the government finally involved itself in the voluntary school system, it preferred to provide the existing societies with money rather than consider a national education system. While the English government's reluctant establishment of a public school system may appear to be an unsurprising political choice to save money and other government resources, it was neither the norm in the region, nor did it help the government remain distant from the education question for long. In both Ireland and Scotland the systematization of the elementary school system occurred much earlier. Scotland had a long history of parish and burgh schools, which were open to members of all classes, and which as early as 1696 had some parliamentary support (Scotland 53).[7] Similarly, in Ireland by 1830 there was an established national school system with little Church involvement. And although the English government's investment started in 1833 with only 20,000 pounds to build schools (Simon 165), by 1858 the government was distributing 900,000 pounds for all of Great Britain (Scotland 232) and running a group of school inspectors through the Education Secretary's office (Goldstrom 138, 159). Yet even in 1870, when the government established state-run board schools, it did so initially to *supplement* the educational coverage provided by the two primary voluntary societies (Digby and Searby 19). Only in1880, did the state finally assume primary control of the public, elementary education system and make schooling mandatory for all children (Digby and Searby 9).[8]

Education reformers realized that the formal education structures were insufficient for completing the enormous task of educating the working classes, and thus proceeded to introduce numerous informal institutions, societies, clubs, and publications from which the English working classes could seek information and education. Numerous kinds of lending libraries

---

brethren…" (rpt. Trowbidge 121). S. J. Curtis and M.E.A. Boultwood note that James Kay-Shuttleworth "called it 'Monitorial Humbug'" and felt that "the monitorial system was a failure" (59).

[7] The 1696 Parliament Act of Settling Schools "provided some funds and means of enforcement" for the burgh schools (Scotland 53).

emerged. As Richard Altick explains, even in towns which could not afford permanent libraries "itinerating libraries" often sprung up to "[circulate] between villages" (221). In addition, starting in 1824, the middle classes founded hundreds of Mechanic's Institutes across the country in which adult working-class students could attend lectures and gain access to libraries focused on math, science and, technology (Altick 190). But the middle classes were not the only instigators for working-class education**.** In fact, members of the working classes often participated in group education through mutual improvement societies. For example, these societies often encouraged members to present and discuss their original papers (Rose 58). Although many of the alternative educational institutions for the working classes were short-lived, they played a key role in the educational atmosphere of the late eighteenth and early nineteenth centuries. When older students wanted to learn, when members of the working classes could not find places in the voluntary schools, or when they desired information or books other than those provided in the voluntary schools, these institutions and clubs tried to fill in the gaps left by the formal school system.

The Education Reformers

In the midst of the numerous working-class educational structures were, what often sounded like, a cacophony of voices, pulling the schools, institutes, and curriculums in numerous directions simultaneously. Not surprisingly, critics such as Raymond Williams frequently divide the reformers by their intentions ("genuine," "protective," "practical") (*Long Revolution* 140), in an attempt to create order from the chaotic education debates. However, by comparing two eighteenth-century reformers, Hannah More and Rev. William Turner, I find the means by which to compare reformers from apparently opposing opinions and perspectives throughout my dissertation. Working in the late-eighteenth century on educational reform, More and Turner

help establish the two primary reform groups into which most other groups can be categorized. More serves as one of the founders of the reform group most concerned with the religious instruction of the working classes who believed they should learn no more than reading, writing, and arithmetic, and Turner serves as one of the first who believed that moral instruction should only be a part of a broader curriculum. Despite their obvious differing intentions and definitions of a complete, working-class education, a core set of beliefs about general education still emerges.

The first passage comes from More's *Cheap Repository Tracts* comprised of short moral stories for the working classes. The second passage comes from Turner's "A Sermon, Preached at the Chapel in Hanover-Square, Newcastle, for the Support of the New College, Manchester.**"**

> "Sir," said the boy, "I can't go; I am so big I am ashamed."
> "The bigger you are, the less time you have to lose."
> "But, sir, I can't read."
> "Then it is high time you should learn."
> "I should be ashamed to begin to learn my letters."
> "The shame is not in beginning to learn them, but in being contented never to know them."
> "But, sir, I am so ragged."
> "God looks at the heart, and not at the coat." (343)

> "'…[M]ay it not endanger the credit of the cause you mean to serve, if you train up young men, of low birth and manners, to fill a station confessedly respectable[?]'" This, however, is a discovery which I have yet to make, that the ability of attaining truth and wisdom, and making proficiency in sound and useful knowledge, is annexed to any particular rank…A mind disposed to serious thought, a turn for the acquisition of knowledge, and a capacity for higher improvements, especially if he possesses an active, chearful, and benevolent spirit, are the leading qualifications which I should seek for in a youth whom I should wish to encourage to devote himself to the ministry of the Gospel (16-17).

Each passage demonstrates a new social interest in everyone, even those who are "ragged" becoming educated in some sense. More's minister depicts illiteracy as a "shame," a notion that, in an age in which only "33 percent of laborers and servants could sign the marriage register,"

should be recognized as a remarkable social transition (Vincent 12). And Turner quickly dismisses an imagined opponent's concern that "men, of low birth and manners" should not be trained in the New College. Additionally, each passage suggests that the shift in social perception is related to a Christian principle of social and moral amelioration. Minister Wilson tries not only to convince the young Dick Giles to attend school, but also tries, as More's tool, to convince any young child reading the story to "learn [his or her] letters." And in Turner's faith that any "mind" with "a capacity for higher improvement" may successfully attempt study in the ministry, he dispels the opposition's concern that working-class men will "endanger the credit of the cause you mean to serve." Instead the passage implies that "making proficiency in sound and useful knowledge" can only benefit rather than harm an individual, the ministry, and, society at large. Therefore, even though Turner advocates for and offers a far broader set of subjects to the working classes at the Newcastle upon Tyne Literary and Philosophical Society than More would ever support, he shares with More a basic belief in the need for general education and its possibility of producing social benefits. [9] These basic beliefs exist at the heart of the middle-class reformers' debates and allow me to develop productive comparisons of reformers frequently categorized by critics as representing opposing views.

This dissertation, then, undertakes a cultural study of the debates surrounding the development of working-class, public education and the significance of the middle-class perception of useful knowledge to the developing education system. In my attempt to consider useful knowledge from a variety of perspectives and my recognition that these debates occurred in numerous genres, I have selected a wide variety of texts: education manifestos such as those

[9] The "Descriptive and Historical Account of the Town and Country of New Castle upon Tyne" lists the following as just a few of the courses Turner taught at the Society by 1800 "Mechanics, Hydrostatics, and Pneumatics," "Electricity and Galvanism, and the Philosophy of Chemistry," "Chemistry and its application to the arts," "Optics and Astronomy, "the Advantages of Natural History, in the three departments of Zoology, Botany, and Mineralogy" (472).

of Maria Edgeworth and Matthew Arnold, educational literature such as that written by Harriet Martineau, Elizabeth Gaskell and Charles Kingsley, informational magazines such as that published by the Society for the Diffusion of Useful Knowledge (SDUK), and the regular reports of educational institutions such as the Literary and Philosophical Society of Newcastle Upon Tyne and the London Working Men's College. The numerous connections among these varied texts and opinions (for example, Harriet Martinea was a member of the Manchester Literary and Philosophical Society and Charles Kingsley helped found the London Working Men's College) reinforce the sense of a cohesive yet varied debate about the working-class educational system.

The tale of English education is the tale of the middle-class education reformers' struggle to help people develop the tools to spark individual thoughts and interests within a generalized educational system. It was a struggle to systematize an expanded curriculum – the struggle to systematize the educators' own passion for learning in their students – and the struggle to systematize continued learning beyond the educational system. In my exploration of the middle-class reformers I find them to be, despite critical perceptions, deeply invested in considering how people learn and producing, in their estimation, the best possible education for the working classes. The education reformers, at their core are thinkers, lovers of knowledge and worshippers at the altar of education. By exploring the middle-class perspective I recognize that my picture of the working-class education system remains incomplete. Therefore, ultimately, this is not a study of how the working classes thought and responded to the education system. Instead, it is a study of how the middle classes believed the working classes thought and an investigation of how the middle classes' own thought processes affected their development of the working-class education structures.

In an effort to explore the middle-class educational development, I begin my dissertation in 1781with the founding of the first literary and philosophical society and end in 1907 with the merging of working-class and middle-class perceptions of education at the London Working Men's College. These boundaries allow me to consider the scientific roots of many of the reformers' opinions and trace the middle-classes' struggle through the nineteenth century to understand how their students think and learn. By selecting a group of individuals with varied opinions about what topics should be at the core of a general education - Joseph Priestley, Maria Edgeworth, Harriet Martineau, George Eliot, John Stuart Mill, James Kay-Shuttleworth, Matthew Arnold, Thomas Henry Huxley, Frederick Denison Maurice, Frederick Furnivall – and highlighting the similarities in their perceptions of knowledge and learning rather than declared differences, I am not only challenging the critically understood separation between the Romantic reformers and the Victorian education reformers, but I am also challenging the nineteenth and twenty-first century believed separations between literature and science, interesting and useful information, the imagination and the useful, critical thinking and useful learning. Focusing on how the reformers thought about knowledge and the learning process reveals connections among many of the mental tasks associated with the imagination and useful learning, interesting and useful knowledge, the study of literature and the study of science. These connections ultimately indicate that contrary to popular criticism, the nineteenth-century conception of useful knowledge for the English working classes was varied, often expansive, and capable of overlapping with the imagination, curiosity, and critical thinking.

My first chapter discusses the connection between the expanding curriculum, the focus on useful knowledge, the social interest in working-class education, and the scientific revolution of the late eighteenth century. Since the utilitarians are the group most associated with

"usefulness" and educational reform, I begin my dissertation's investigation of the term with the educational manuals of early utilitarians such as Maria Edgeworth, Henry Brougham, and Harriet Martineau. Through their recognition of potential, as well as existing, knowledge, the utilitarians not only present a definition of useful knowledge that appears to include nearly every fact, but they also encourage the use of a "grounded imagination" that may dream of future projects and discoveries while remaining rooted in the details of reality. Through moments of potentiality in the fictional works of Maria Edgeworth, Harriet Martineau, and selected non-fictional articles from the Society for the Diffusion of Useful Knowledge's *Penny Magazine,* the chapter demonstrates the connection between a focus on potentiality, usefulness, and a grounded imagination.

My second chapter considers industrial novels such as Elizabeth Gaskell's *Mary Barton,* Charles Kingsley's *Alton Locke*, and George Eliot's later *Felix Holt* as they epitomize the grounded imagination and its connection to the debate about useful knowledge. The novels highlight a single character with a significantly higher education and teaching ability whom I term "the working-class intellectual." The tendency of the intellectual to breakdown or disappear in climatic moments when less well-educated characters most need guidance, offers two key insights into the period's definition of useful knowledge and beliefs about the traits of a useful education. First of all, the intellectual's failure to predict or inform others in time about his negative predictions indicates the extreme usefulness of informed foresight. Secondly, since the novels generally attribute the intellectual's inability to mentor his followers through all situations to his narrow self-education; the novels take part in the growing social sense that the most useful education is a structured education.

My third chapter focuses on the liberal education reformers of the mid to late-nineteenth century, their idealized curriculum, the educated self they posit, and the working classes' resistance to their liberal curriculum. Although current criticism tends to focus on the reformers' reasons for educating the working classes, I broaden my research to investigate what the reformers believe useful knowledge is and what it can do to and for a person. To do so, I center the chapter's first section on Charles Knight's later publication, *The English Cyclopaedia* and the education manifests of James Kay-Shuttleworth, Matthew Arnold and Thomas Henry Huxley. Organized into similar categories as the other reformers' proposed curriculums, the *Cyclopaedia* becomes a useful resource for exploring the education and ideal effects dreamed of by the reformers. The comparison reveals that a useful, general education should expand a person's understanding of himself in relationship to the world and produce a person capable of critical thinking and deep understanding of key subjects, all of which should serve as the foundation for the person's continuing education.

The second half of the chapter then centers on the liberal reformers' struggles to impart their curriculum and educational theories on the working classes. Focusing on the theories of Frederick D. Maurice and the other rich texts published by the Working Men's College, I argue that even as the reformers attempt to establish a new educational system and curriculum, they are haunted by their own traditional educational pasts. Generally educated in the traditional grammar and university systems, they often struggle to recognize when their students cannot perceive education the way they do. In particular, the reformers struggle to see and bridge the gap between their more abstract definition of useful knowledge and the more materially bound definition frequently used by their working-class students.

My coda considers the continuation of the useful knowledge debate into the twenty-first century. Focusing on the online Kahn Academy as a twenty-first -century Society for the Diffusion of Useful Knowledge, I explore its content and methods in relationship to E. D. Hirsch's *Cultural Literacy*. Despite Hirsch's concerns that the growing tendency to regionalize and even individualize education causes younger generations to lack basic cultural literacy – the ability to recognize and communicate a shared collection of cultural references (for example, Sputnik or Robinson Crusoe), I argue that, in fact, the Kahn Academy participates in the current trend of on-line knowledge diffusion by attempting to cultivate socially-aware autodidacts.

In the twenty-first-century-age of the internet and its seemingly infinite supply of information, the useful knowledge debates remain widely relevant and alive. With the general population swimming in a sea of often unfiltered, unorganized information, the term "useful" once again presents itself as a means of categorizing the available information. Yet the struggles of the eighteenth and nineteenth-century reformers to complete this task, to pin down a clear, useful curriculum should remind us that defining useful knowledge requires prolonged effort and extensive debates. But, most importantly, their efforts should remind us to approach the question, "What is useful knowledge?" with an open mind and a willingness to be surprised by the answers.

Bibliography

Altick, Richard D. *The English Common Reader:A Social History of the Mass Reading Public 1800-1900*. Chicago: U of Chicago P, 1957. Print.

Benchimol, Alex. *Intellectual Politics and Cultural Conflict in the Romantic Period: Scottish Whigs, English Radicals, and the Making of the British Public Sphere.* Burlington, VT: Ashgate, 2010. Print.

Curtis, S. J. and M. E. A. Boultwood. *An Introductory History of English Education Since 1800.* London: U Tutorial P, 1966. Print.

Dickens, Charles. *The Life and Adventures of Nicholas Nickleby. The Complete Works of Charles Dickens. Vol. 4. Leipzig, GE:* Frederick Fleischer, 1839.

Digby, Anne and Peter Searby. *Children, School and Society in Nineteenth-Century England.* New York: Macmillan, 1981. Print.

Goldstrom, J.M. *The Social Content of Education, 1808-1870; a Study of the Working-Class School Reader in England and Ireland* Shannon, Ireland: Irish UP, 1972. Print.

Golinski, Jan. *Science and Public Culture: Chemistry and Enlightenment in Britain, 1760-1820.* New York: Cambridge UP, 1992. Print.

The Kahn Academy. 2008. Web. 25 Feb. 2013.

Lenard, Mary. *Preaching Pity: Dickens, Gaskell, and Sentimentalism in Victorian Culture.* New York: Peter Lang, 1999. Print.

Mill, John Stuart. "Autobiography." rpt. in *John Stuart Mill on Education.* Ed. Francis W. Garforth. New York: Teachers College P, 1971. 41-133. Print.

Mokyr, Joel. *The Gifts of Athena: Historical Origins of the Knowledge Economy.* Princeton, NJ: Princeton UP, 2002. Print.

More, Hannah. "Black Giles the Poacher." *The Works of Hannah More Complete in Seven Volumes: The Repository Tales.* vol.1. New York: Harper & Bros., 1835. *Google Books.* Web. 10 Feb. 2013.

Poovey, Mary. *A History of the Modern Fact: Problems of Knowledge in the Sciences of Wealth and Society.* Chicago: U of Chicago P, 1998. Print.

Rauch, Alan. *Useful Knowledge: Victorians, Morality, and the March of the Intellect.* Durham, NC: Duke UP, 2008. Print.

Rose, Jonathan. *The Intellectual Life of the British Working Classes.* New Haven, CT: Yale UP, 2001. Print.

Scotland, James. *The History of Scottish Education.* vol. 1. London: U of London P, 1969. Print.

Silver, Harold and Pamela Silver. *The History of a National School 1824-1974.* Boston: Routledge & Kegan Paul, 1974. Print.

Simon, Brian. *Studies in the History of Education, 1780-1870.* London: Lawrence & Wishart, 1960. Print.

Trowbridge, Ford. H. *Henry Brougham and His World: A Biography.* Chichester, UK: B. Rose, 1995. Print.

Turner, Rev. William. "A Sermon Preached at the Chapel in Hanover-Square, Newcastle, for the Support of the New College, Manchester." Newcastle, UK: S. Hodgson, 1800. *Eighteenth Century Collections Online.* Web. 10 Feb. 2013.

Vincent, David. *Literacy and Popular Culture: England, 1750-1914.* New York: Cambridge UP, 1989. Print.

Williams, Raymond. *The Long Revolution*. New York: Columbia UP, 1961. Print.

Chapter 1: Diffusing Useful Knowledge and Dreaming from the Ground: The Scientifically Imaginative Utilitarians

Plans are the fantasies of the practical life. Amitav Ghosh

When you are on the frontier of knowledge between what is known and unknown, reaching out into that abyss, sometimes you do actually have to make stuff up that might be true so that you can organize a research plan to find out whether or not it is…This is the creativity of discovery. Neil DeGrasse Tyson

No organization more clearly demonstrates the complexity of the term "useful" and its lexical family than the early-nineteenth century Society for the Diffusion of Useful Knowledge. The first issue of the group's weekly *Penny Magazine* promises a selection of "useful and entertaining" information (1). But from a glance at the first issue's contents the modern reader is hard-pressed to identify what use can be found in the following list of articles: a description of Charing Cross, a description of Van Diemen's Land, a description of the "Antiquity of Beer," a short story "Fair Play," 17th century amusements described by John Locke, information about "the vigilance of the American moose," a description of the American deer and grizzly bear in the London Zoological Gardens, a brief mention of famous birthdays during the week (e.g. Rene Des Cartes), an argument that "excellence is not limited by station," an obituary for Reverend George Crabbe, "A Quaint Sermon on Malt," a "Description of Poland," and explanations of several relatively new phrases (e.g, "power of steam"). The uncertain identification of the "useful" in the magazine's contents highlights the problematic nature of a number of critical assumptions about the nineteenth century's interest in useful knowledge. While the utilitarians were by no means the only group to consider the usefulness of knowledge, no other group so overtly interested itself in use or drew so much attention to the concept. Therefore, I start my larger study with an exploration of the utilitarian movement, its intentions and intellectual boundaries.

From the Victorian period to the present day, critics of the utilitarian movement, of whom there are many, critique the utilitarians for their fixation on "use." But in doing so, critics take for granted the definition of use and the boundaries of the knowledge that the utilitarians consider useful. Critics generally ignore the term and assume that it is self-evident, define it as pertaining only to technical or scientific knowledge, or, in more narrow studies of single utilitarians, identify nuances within the term but do not consider the larger implications of those nuances.[10] Even Alan Rauch's extensive study, *Useful Knowledge,* fails to address the variety of topics and the varied effects of gaining knowledge that utilitarians considered socially useful.[11] Rauch assumes that useful knowledge is somehow concrete, almost tangible, without mystery or uncertainty. With their focus on a "self-evident" and narrow definition of use, critics from the Victorian Charles Dickens to the more contemporary Valerie Gray and Richard Altick portray the utilitarian reformers and their useful knowledge as entirely divorced from the imagination, limited rather than expansive, and superficial rather than comprehensive.

Unconvinced that the utilitarians so clearly draw their intellectual lines between natural history and the imagination, between chemistry and "the vigilance of the American moose," this chapter aims to more thoroughly explore the utilitarian perspective and thought processes, specifically the thought processes of the utilitarian education reformers, who were most responsible for defining and disseminating useful knowledge. Works such as Priestley's

[10] Charles Dickens famously accuses the utilitarians of focusing on nothing but "Facts" in *Hard Times* (7) while leaving the content and the nature of the useful facts generally unexplored. Richard Altick argues, "Useful knowledge was the good, solid, employable facts of mechanics and chemistry, metallurgy and hydraulics–facts that could be applied in the workshop and on the railway line, to produce goods more cheaply and efficiently, to communicate and transport more swiftly. In addition, "useful knowledge" was a set of economic and political principles" (130). In Valerie Gray's monograph on Charles Knight, chief editor for the Society for the Diffusion of Useful Knowledge, Gray insists that "Knight was no Utilitarian and *was* given to flights of wonder, imagination, and fancy that were strictly forbidden in the Gradgrind educational system" (126). Implied within her separation of Knight from the Utilitarians is a narrow definition of useful knowledge and a description of the Utilitarian perspective.

[11] Alan Rauch argues that useful knowledge was moral, could be applied to everyday life, and thereby could improve the lives of many people on a regular basis (19).

Miscellaneous Observations Related to Education, William Godwin's *The Enquirer*, Maria and Richard Lovell Edgeworth's *Practical Education*, Harriet Martineau's *Illustrations of Political Economy*, and Charles Knight and Lord Henry Brougham's various publications of the Society for the Diffusion of Useful Knowledge, illuminate the breadth rather than the narrowness of the educational utilitarian perspective and its useful knowledge.

Central to my exploration are the theories of the mid-eighteenth century philosopher David Hartley, who greatly influenced the education reformers. Hartley theorizes that all complex ideas develop from the association of simpler impressions or sensations and that all actions and thoughts are caused by previous thoughts – a process that necessarily leads to personal and social improvement (*Hartley's Theory* 18, xxvi, 28). Although many critics recognize the significant influence of Hartley's ideas on the utilitarian perspective, the connection between Hartley's theories of "association" and "necessity" (how the reformers thought) and their curriculum development (what they thought about) remains largely unexplored.[12] In other words, critics do not explore the *connections* between Hartley's theories of knowledge intake, arrangement, and development and the utilitarian definitions of useful knowledge and the imagination**.**

Examining the education reformers' emphasis on connection and association and the knowledge they disseminate reveals their perception that learning and imagining exist as overlapping rather than separate intellectual processes. This revelation joins a relatively new critical perspective on the perceived connections between the intellectual processes, which as of yet does not include the utilitarian perspective. For example, Richard Holmes' 2008 investigation of the late-eighteenth and early-nineteenth century Romantic scientific connection

[12] *In James Mill on Education* and *Joseph Priestley and the Idea of Progress,* W.H. Burston and James J. Hoecker describe the significance of Hartley's associationism from purely psychological perspectives (14-19, 101-102).

between the subjective and the objective perspectives ends as a general call for understanding "what makes scientists creative, as well as poets or painters, or musicians" (469).[13] Despite indicating his belief in the fundamental connection between science and the imagination, Holmes' research ends in the 1830's and draws a distinction between the romantic scientist and the Victorian scientist – suggesting that the unity of the terms dissipates or disappears after the 1830's. The works of the education reformers indicate instead that the connection between useful knowledge and the imagination, perhaps first made by the scientist educators of the late 18th and early 19th centuries, continues in the hands of the educators with scientific mindsets in the later 19th century. Thus much of this chapter will explore how education, particularly the new education of the working classes, stimulated a relationship between useful knowledge and the imagination.

After all, the reformers' useful project for public education is itself a dream; they firmly believe that through the extensive powers of education, society will be transformed into a happier state. Two concepts, in particular, fuel this dream and their bridge between useful knowledge and the imagination: potentiality and the grounded imagination. Emerging from the combination of Hartley's associationism and necessary progress, potentiality is the utilitarian dream of a better future that will certainly arrive through the medium of social education. Yet potentiality also stresses the acceptable uncertainty within the definition of useful knowledge. Rather than appearing limited, useful knowledge to the utilitarians appears limitless when any piece of current knowledge can potentially connect to another unknown piece of future knowledge. Dreams of this limitless future, which the material details of the present moment prompt, in part, create the reformers' grounded imagination. In turn, the utilitarian grounded

[13] Richard Holmes argues that while "Romanticism as a cultural force is generally regarded as intensely hostile to science, its ideal of subjectivity eternally opposed to that of scientific objectivity…I do not believe this was always the case, or that the terms are so mutually exclusive" (xvi).

imagination broadens the critics' definition which often limits "the imagination" to immaterial whimsy. Simultaneously focused and broad, the grounded imagination encourages the reader to remain aware of the link between reality and his dreams.[14]

The education project of the associative reformers then involves training a student to connect the present moment to potentiality, the material reality to the imagination, and the knowledge of the present moment to the knowledge of the past. Critics often accuse the utilitarians of developing a general education curriculum and relationship to knowledge that promotes superficial rather than in-depth understanding, rote memorization rather than critical thinking.[15] However, the reformers' theoretical works greatly emphasize the thinking process and development of connections between various pieces of information. And the reformers' fictional works, already an overlap among useful information and the imagination, illustrate how to connect pieces of information and moments of life particularly through their primary hero, the industrious dreamer. No automaton spouting unconnected facts, the industrious dreamer demonstrates the importance of considering potentiality and drawing connections between past experiences and knowledge to present and future circumstances. With vast intellectual capabilities, the dreamer embodies potentiality, specifically the great potential that the reformers see in the working classes and the future British society.

While many critics accuse the utilitarian reformers of having one-track minds and limited notions of education and intellectual experience, their theoretical and practical works demonstrate a far greater use of the intellectual spectrum and a far greater focus on the

[14] Useful knowledge, the reformers demonstrate, is connected, vast, and not necessarily directly applicable to society.

[15] Such criticisms often refer to the monitorial education system, which, as Raymond Williams states in *The Long Revolution*, "[used] … monitors and standard repetitive exercises [and] allowed one master to teach many hundreds of children simultaneously in one room" (136). The false assumption is that this is the primary utilitarian method, that all utilitarians supported the monitorial system, and that they were satisfied with the results of teaching by rote.

intellectual processes of thinking and learning. At least in their intentions, the utilitarian education reformers' minds, and the minds they hope to mold, appear flexible and vast – more inclined to associate rather than exclude information – more likely to dream rather than limit mental exploration.

Association and Potentiality

In the mid-eighteenth century, both David Hume and David Hartley draw from John Locke's theory that humans are formed by their environment. In their separate works, *An Enquiry Concerning Human Understanding* and *Theory of the Human Mind, on the Principle of the Association of Ideas,* they explore the processes by which ideas coalesce and interact in the brain to form patterns of thought and behavior. Later in the eighteenth century, primarily because he disliked Hume's theological treatises, eminent chemist[16] and education reformer Joseph Priestley chose to follow and publicize Hartley's ideas of association rather than Hume's (Schofield, *1733-1773* 57). Almost single-handedly, Priestley's editing and publishing of *Hartley's Theory of the Human Mind, on the Principle of the Association of Ideas; with Essays Relating to the Subject of It* caused a largely unrecognized work to spread and influence philosophers and education reformers of the late 18th and early 19th centuries (Pichanick 12) including Jeremy Bentham, James Mill, William Godwin, Richard and Maria Edgeworth, Harriet Martineau, and Lord Henry Brougham.[17][18]

[16] Joseph Priestley is credited with discovering oxygen (Kramnick 3).
[17] James Mill discusses Hartley's influence in his work, "Education" (58). Valerie Pichanick describes the Edgeworths as Hartleians (15). Harriet Martineau describes reading and being significantly influenced by Priestley's version of Hartley's theories in her *Autobiography* (102).
[18] Many education reformers were also influenced by philosophers of the French Enlightenment. For example, before adopting Hartley's ideas, Richard Edgeworth attempted to raise his eldest son according to the "child-centered" educational theories in Jean-Jacques Roussea's É*mile* (Harden 25). As Elizabeth Harden notes, when "The experiment with Richard … failed, Edgeworth turned away from Rousseau to find another educational approach" (5).

As his central principle, Hartley argues that complex ideas and impressions form by combining and associating simpler ideas and sensations. Furthermore, he argues that the order in which a person receives and associates impressions or sensations greatly affects how and how strongly he or she associates the ideas. Because it both demonstrates the concept of human malleability (Hoechner 104) and promises consistent results for systematically diffused ideas and knowledge (108), "associationism" then emerges as one of the most significant theories for the late eighteenth and early nineteenth-century education reform movement.

Social embodiments of association as a learning tool began to emerge through the foundation of literary and philosophical societies throughout England in the late eighteenth century. These societies, of which Priestley was a member of two, (the exclusive Lunar Society and the more public Manchester Literary and Philosophical Society) were groups of (initially) men of learning who wanted a forum for sharing their work and ideas. The introductory remarks and arguments for founding such societies all point to the same conclusion: "science, like fire, is put in motion by collision" (Manchester Literary and Philosophical v). The founding members hoped that by associating and "[colliding]" their work they could further advance their ideas and research. In particular, as the Newcastle society founder, Rev. William Turner, emphasizes, the societies wished to combine the work of the miner or mechanic and the "speculative philosopher" (Watson 36). In more general terms, the societies hoped to connect theory and practice to achieve more successful results in both realms.

In many ways, the societies were as much centers for developing how to teach knowledge as they were for developing the knowledge itself. Founded in 1793, the Newcastle-upon-Tyne Literary and Philosophical society started a lecture series in 1803 for the purpose of "[providing] preparatory information to those who wish to further pursue studies in a more regular and

scientific way" (Watson 213). Open to anyone who could afford the three shillings for a single lecture or two guineas for the whole series, the society's plan indicates an interest in both the information and the "[system]" or manner by which it disseminates the information (Watson 281).[19] The society viewed the series not just as presentations of knowledge or sources of social entertainment, but as "educational courses" with intended results based on the systematic ordering of the information (Watson 211). And the distinct educational intent of the lecture series highlights the connection between those who collected or discovered information and those who disseminated it – those who thought about what they wanted to know and those who thought about what other people should know.

Consequently, intellectuals interested in both science and education flocked to the Lit and Phil Societies (as they were often called). Richard Lovell Edgeworth was a member of the Lunar Society and through his membership his daughter, Maria, became acquainted with the society's structure and many of its members. Harriet Martineau belonged to the Newcastle-upon-Tyne Literary and Philosophical Society and Lord Henry Brougham, though not a member, expressed his approval of the Newcastle Society's work (Watson 48).[20] Thus in the societies' formal (associative) organizing principles and their connected courses encouraging non-members to gain new information one recognizes the same beliefs about the human learning process.

In particular, the societies demonstrated the positive effects of combining information, subjects, and theories in order to produce more useful results. No doubt, the society members selected papers for meeting presentations based on their usefulness. In the nine papers presented during the Manchester Literary and Philosophical Society's first year (1781-82), use, utility, and

[19] The society eventually lowered the course prices-making them more affordable for members of the working classes (Watson 216).

[20] I greatly appreciate the Newcastle-upon-Tyne Literary and Philosophical Society staff for digging relentlessly through their archives to discover the starting date of Martineau's membership (1841).

practicality appear ten times as significant reasons for the papers' claims along with many other more indirect references toward the possible benefits of their proposals**.** The questions remain though, how did the society members and education reformers define use and how did the associated learning process affect that definition?

Perhaps most obviously, the strong emphasis on the association of ideas meant that the reformers did not view subjects or fields as isolated but rather as connected; useful knowledge was deliberately connected knowledge. Researchers of science history, Jan Golinski and Alan Rauch, agree that the sciences existed in the late eighteenth century as a connected area of study available to amateurs and a general audience (8, 39). Thus Priestley was a chemist and Edgeworth was an amateur engineer yet they both saw great value in learning about the natural sciences and history because, as Hartley argues, all fields are "very much involved with each other; so that it is impossible to make any considerable progress in one, without the assistance of most or all of the rest" (*Observations* 355; vol. 1)**.** Hartley's comment hints at the necessary human involvement in any connection of subjects; although men such as Priestley and Hartley see the fields as being naturally "involved" so that it is "impossible" for one subject to "make any considerable progress…without…assistance," a human mind must make the connections in order for the "assistance" or the "progress" to occur. Rauch takes the need for human involvement one step further when he defines useful knowledge as "socially concerned" (19). Knowledge must connect to other people, not just other fields, he argues, in order to be considered useful (19). With strong ties to the worlds of knowledge production and knowledge dissemination, the reformers used education as their most direct means to create social effects with knowledge.

In the reformers' educational writings the need for subject and social association translated into a strong support for a more diverse curriculum that included history, natural history, mathematics, chemistry, and some literature. [21] Maria Edgeworth, who published *Practical Education* under her father's careful editing recommends "voyages and travels," works by "Franklin" and "[Priestley]," "[histories]," and "Dialogues, dramas, and well written narratives" to her audience of middle-class parents. Despite varying opinions on what constitutes an association between subjects (Priestley might not see a connection between dramas and chemistry), the reformers make it clear that in order to fully understand and apply the lessons of one subject a student must understand its most associated subjects. However, when applied to education, the principle of useful knowledge being social knowledge appears to lead one in circles; if knowledge becomes useful by being associated and "socially concerned" and education functions as a medium for both connecting areas of knowledge and creating social effects, then cannot any knowledge become useful through education? The reformers' strong belief in Hartley's theories of "human understanding" suggest that the answer is "yes."

By coupling the association of subjects with Hartley's idea of progress, the reformers develop the most significant education concept for the utilitarian reform movement – "potentiality." Although the reformers do not use any one term to indicate the ever-present possibility of new ideas, they fill their works with visions of the future and assumptions about coming discoveries. Harriet Martineau's characters in *Illustrations of Political Economy* frequently look toward the future in the midst of their labor to dream about "the schoolhouse" they will build or the "new inventions and discoveries which will help [them] to procure comforts" (89). And in a reversal of perspective, Jervas, the lead character from Maria

[21] The current school system available to the middle, upper, and to a limited extent, lower classes emphasized classical training in Latin, Greek, some mathematics, and little to no science (Digby and Searby 12, 32).

Edgeworth's *Popular Tales* looks backwards to realize that "everything I learned accurately was, at some time or other of my life of use to me" (29). Jervas, Edgeworth claims, has always been successfully led by his current knowledge to new ideas and situations. By insisting that every piece of knowledge has been used eventually, he affirms the one-time potential that all his knowledge had for becoming useful. Jervas' achievement of potentiality demonstrates the perceived certain progression from potential to achievement. For like Hartley the reformers link the principle of association to the idea of progress.

Both education and research were a means of improving oneself and society by producing new ideas and new associations. Hartley guarantees such improvement through his principle of "necessity" (Hartley 334). The principle argues that everything is part of a great chain of events in which "each action results from the previous circumstances of body and mind, in the same manner, and with the same certainty, as other effects do from their mechanical causes"(Hartley 334). The certainty of the causes and effects of events (in which people mechanically respond to sensations and ideas in order to avoid pain and maximize pleasure) meant that people inevitably made choices that were best for them and thereby best for society. Their best choices in turn create a better more orderly world and a greater and greater proportion of happy people.[22] Potentiality is then the belief in the future better world and the significant role of education and undetermined knowledge in achieving that world.

Associationism's promise of consistent results and the mechanical certainty of progress probably draw the most fire from critics who argue that the perception of the human mind as mechanical, quite rightly, overlooks the many influences on the thought processes. Two of the three primary criticisms of associationism which W.H. Burston identifies in the preface to his

[22] Jeremy Bentham credits Joseph Priestley and his work with Hartley's theories with the theory of the greatest happiness for the greatest number of people (Schofield 207).

edition of *James Mill on Education* revolve around the mechanical nature of the theory. Critics argue, Burston states, that the mind does not, in fact, "[absorb] without discrimination the environment which it experiences" and that "most people would say that the process of perception was not purely mechanical: motivation affects what we notice – for instance, we notice what interests us" (16). Critics latch onto claims by Mill such as "the object of education, therefore, is to provide for the constant production of certain sequences, rather than others…" and assume that associationism can only produce limitations for a developing mind (54). Not surprisingly, critics assume that the "certain sequences" demand a rigid order of ideas and knowledge consumption that can vary little, if any, between different subjects to produce "successful" educational results. Yet the reformers' focus on progress and potentiality as part of these sequences reveals an unexpected flexibility within their belief in mechanical certainty.

Viewing society as a chain of events always moving forward creates the sense that new knowledge not only connects to and depends upon earlier pieces of information, but also grows out of what is already known and eventually helps create uncertain future knowledge. As the preface of the first volume of the Manchester Literary and Philosophical Society states, "A spirit of inquiry glows in every breast. Every new discovery relative to the natural, intellectual or moral world, leads to a farther investigation" - which presumably leads to new discoveries (vi). Such certainty about unknown "discoveries" that they will make and "inventions" they will create allows Martineau's characters to dream about a better life with greater "comforts." Their progress toward greater comfort, just as Jervas' progress through life depends on the knowledge they obtain and the discoveries they seem certain they will make. Despite looking backward rather than forward, Jervas' realization about the usefulness of "[every]" piece of his past knowledge implies his optimism about the future application of knowledge he currently

possesses and eventually will possess.[23] Therefore, the combination of the inevitable sense of progress and its forward gaze with the concept of association confirms that the reformers believe almost *any* knowledge could be categorized as useful. Almost any knowledge could potentially one day connect to other knowledge and lead to an important discovery or invention.

Returning to the Society for the Diffusion of Useful Knowledge's *Penny Magazine* from this perspective presents the initially confusing array of articles as a prime example of the vastness of perceived useful knowledge and the presumed overlap between use and entertainment. From 1832 to 1846 the Society (hereafter the SDUK), a group founded by Lord Henry Brougham and dedicated to educating the working class, published, among many other things, the *Penny Magazine.* In the magazine's preface the editor, Charles Knight, describes its purpose as providing "a universal convenience and enjoyment...to all classes" in "a useful and entertaining Weekly Magazine" (1). Since the majority of the issues' contents vary as significantly as the first issue, including articles on the history of "Sugar," "Statistical Notes" on "populations and rates of increase," Shakespearean sonnets, and descriptions of possible "Holiday Walks," initially it might seem unclear whether the Society draws a line between the useful and the entertaining or whether it intends each article to be useful *and* entertaining (April 21, 1832 25, 26, 30). But comparing the contents of the magazine to one of the other reformers' many theoretical descriptions of knowledge application helps affirm that the SDUK perceived potential use in almost all of its articles. In their 1798 *Practical Education*, a guide for educating children, Maria and Richard Lovell Edgeworth describe how parents should interpret the actions

[23] The necessary uncertainty in the future discoveries and inventions is then the primary distinction between the potential and "the providential" which Catherine Gallagher identifies in the industrial fiction of writers such as Martineau. While the providential also gazes toward the future, it compares the "what is" with the "what should be" rather than the "what could be." Although the reformers connect the two concepts, the potential, in relation to the providential remains certain about general progress while comfortably uncertain about what precisely that progress in knowledge and invention will be (Gallagher 220).

of a young boy in the midst of investigating the source of a rainbow (57). "It is very obvious" Maria writes, "to any person free from prejudices, that this child was not idle whilst he was meditating upon the rainbow on the floor; his attention was fixed; he was reasoning, he was trying experiments" (57). Determining the source of the rainbow, Edgeworth argues, is useful for this young boy because it engages his "reasoning" skills. In other words, the situation and the topic prompt thought and reflection. Based on this requirement, the reader can as easily imagine an article on "The Cause of Rainbows" or an "Experiment about Rainbows" following the *Magazine's* history of "Sugar," as she can imagine that Edgeworth would recommend that parents allow children to wonder where sugar comes from or why it is so popular. Thus throughout their fiction, education manuals, and journals the reformers present an interest in nearly anything a person may come to know with a faith that it will someday be of use.

As the description of the child investigating the rainbow indicates, broadening the definition of useful knowledge simultaneously broadens the definition of use and the actions associated with "use." Rauch argues that the nineteenth century emphasized a social use of knowledge (19). In particular, Rauch points to Mary Shelley's *Frankenstein* as an example of a problematic use of personal knowledge for its own sake. Knowledge for its own sake appears selfish, isolated, and quite possibly (monstrously) destructive.[24] While I agree that the associative nature of the reformers' perspective clearly includes an association between the individual and the society, Edgeworth's example demonstrates that the association needs to neither be immediate nor direct. Describing the young boy's (one of her brothers) extensive experimental process, she writes,

> a little boy of nine years old, was standing without any book in his hand, and seemingly idle; he was amusing himself with looking at what he called a rainbow upon the

[24] Rauch interprets Shelley's negative depiction of Frankenstein's isolated experiments as a social criticism of science for its own sake. In the tale, isolated knowledge is not only not useful, but it is also dangerous (96-128).

> floor:…he said he wondered what could make it; how it came there. The sun shone bright through the window; the boy moved several things in the room, so as to place them sometimes between the light and the colours which he saw upon the floor…As he moved things he said, "This is "not it;" "This hasn't anything to do with it." At last he found, that when he moved a tumbler of water out of the place where it stood, his rainbow vanished…(55-56).

While use still implies action in this example ("this child was not idle"), and while Edgeworth describes the boy going about the room moving different objects, the primary action is not physical but mental (57). She points to his lack of a "book in his hand" as a marker of his "[seeming] [idleness]" and thereby highlights a parent's possible specific concern for an absence of mental engagement in the moment. Use need not be physical. Edgeworth then carefully describes the boy's thought processes - his repeated determinations that "This is "not it."" Similar to a book in hand, the repetition of the boy's spoken determinations demonstrates his mental focus and the perceived usefulness of such mental exertions.

Beyond his mental focus, the spoken thoughts demonstrate the boy's use of "reasoning" and the *use* of knowledge for its own sake as part of personal improvement (57). In her work *The Victorian Social Problem Novel*, Josephine Guy explains that in the Victorian period "there was seen to be a continuity between the individual's good and what was good for society as a whole" (47).[25] More rational, happier individuals combine to create a more rational, happier society. In other words, improving one's mind implied eventually applying that mental improvement in a social situation. Although Guy's point is quite similar to Rauch's, Rauch seems to indicate that knowledge not directly and quickly applied can be problematic; there is no *potential* use of Victor Frankenstein's experiments, he implies. In contrast, the example of Edgeworth's young boy indicates that the application of knowledge needs only to be indirect to

[25] Although Edgeworth predates the Victorian period, her thoughts on use match those of the education reformers who follow her. The boy's journey around the room after the source of the rainbow seems little different than the SDUK's recommended Holiday Walks during which everything should be observed.

be useful. The problem-solving skills, Edgeworth explains, are part of "the early cultivation of the understanding" which the child will use, presumably, throughout life in all manner of important situations (57). Her designation of the skills as "early cultivation" simultaneously indicates their importance as foundational intellectual skills and the indirect manner in which the boy will eventually apply those "early" skills as he refines and improves them over the years. The knowledge and critical thinking skills the boy gains in such a moment alter his mind by developing stronger connections between his observational and problem-solving skills. And his knowledge about the source of the rainbow contains potential use that he may eventually directly or indirectly apply to a social situation. However, in the moment, he develops these skills and collects this knowledge with neither the direct nor indirect applications in mind.

Instead, the example demonstrates the perceived acceptable relationship between, and even overlap of, "use" and knowledge for its own sake. The boy only unconsciously "[cultivates]" his mind through the process of obtaining knowledge. No book or "rigid preceptor" prompts his reflections; in the moment, he collects the information purely out of curiosity (56). Almost thirty years after Edgeworth's example, Lord Henry Brougham, founding member of the SDUK, prefaces the organization's *Library of Useful Knowledge* with a discussion about the simple joy of learning and its simultaneous separation from and relation to use.[26] Brougham's preface eagerly argues that

> The mere gratification of curiosity; the knowing more to-day than we knew yesterday; the understanding clearly what before seemed obscure and puzzling; the contemplation of general truths, and the comparing together of different things, - is an agreeable occupation of the mind; and beside the present enjoyment, elevates the faculties above low pursuits, purifies and refines the passions, and helps our reason to assuage their violence (2).

[26] The SDUK published the *Library of Useful Knowledge* from 1827-1848.

Although Brougham articulates some uses of pure curiosity, for example, "elevating the faculties above low pursuits," he reaches its use, as Edgeworth's young boy surely reaches it, only after reveling in the enjoyment of "[gratifying]…curiosity." In this moment, he considers the uses as "beside the present enjoyment"- separate from the joy but a certain, eventual result of the moment's "gratification." Edgeworth's encouragement of the boy's sudden exploration demonstrates the same belief that the boy's current pure curiosity will become future use. With their faith in the potential use of all knowledge and the use of simply improving the mind through thought, the reformers can appreciate a situational and temporary moment of knowledge f or the sake of curiosity**.** And the conclusion that use and enjoyment or use and knowledge for its own sake may overlap then complicates the common criticism of utilitarianism that its interests and intellectual focuses are narrow. Rather than seeing the world of use and useful information as limited, the utilitarian education reformers portray a learning experience that is vast, all-around, and available to anyone.[27]

In many ways, the critical confusion about the reformers' perception of use appears to stem from a simple matter of perspective. Many of the first utilitarian reformers were scientist educators. As the education reform movement progresses through the first half of the nineteenth century, it carries with it the habits of mind (similar to those demonstrated by the young rainbow hunter) that it first learns from the Lit and Phil societies – habits we might refer to today as scientific. Rather than viewing the reformers as shifting away from science and its habits of careful observation, as several critics argue[28], it is far more accurate to describe the sciences as shifting, temporarily, away from education. In her work *Science as Public Culture: Chemistry*

[27] The vastness of the utilitarians' definition of useful knowledge raises numerous questions about the utilitarians' educational goals for their miscellaneous presentations of information. Such questions about the eclectic nature and methods of, for example, the *Penny Magazine,* will be addressed later in the chapter.
[28] Brian Simon argues in *Studies in the History of Education* that the utilitarian "optimism in progress took the place of science" (167).

and Enlightenment in Britain, 1760-1820, Jan Golinski affirms the early connection between chemistry and education. She writes, "even while [chemists] devoted themselves to improving the techniques and instruments of chemistry, they voiced a commitment to making the science accessible to as wide an audience as possible. Education and communication seemed to them a natural complement to the continuing development of specialized apparatus and skills" (237). But while the Lit and Phil societies, of which many of these chemists were members, quickly made a connection between their research and discoveries and social education, later nineteenth-century scientific societies appear far less interested in making such associations.

Founded in 1831 as a more democratic scientific association (as opposed to the exclusive Royal Society) the British Association for the Advancement of Science left behind the educational connection made by its parents (literal and figurative).[29] Despite founding the association in the midst of the education debates, the group's members waited twenty years before formally joining the education movement. And as Roy MacLeod notes, in the interim the association showed little even informal interest in public education (28). Analyzing the work of Priestley and Humphrey Davy, one of Priestley's scientific successors, Golinski explains the shift, just as do many critics, as a shift toward more "specialist expertise [which] requires exclusive knowledge and discourse, intensive practical training, elaborate and expensive apparatus" (285). "These requirements," Golinksi explains, "are in evident conflict with the values of science as a public or civic enterprise…" (285).[30] In other words, the need for more expertise and training made it difficult to combine research with public education, and thus from

[29] The Lit and Phil Societies have a literal parentage connection because several members of the Societies bore children who joined the Association. Friedrich Wilhelm Herschel and his son John Herschel are one example.
[30] Rauch's work develops a similar conclusion about the specialization of knowledge in the mid-nineteenth century, although he argues that the shift occurs a few decades later than Golinski (39).

the scientist's perspective, public education became less of a medium for extracting use (even potential use) from knowledge.

But as the Association focused on the sciences from a new perspective of isolating specialization, the education reformers continued to view the world and education from their initial, general scientific perspective. In *The Age of Wonder* Richard Holmes describes John Herschel's 1830 work, *A Preliminary Discourse on the Study of Natural Philosophy*, as one of the last romantic scientific works, in part, for its support of the idea that "Everything in nature became interesting and significant, nothing was beneath notice" (443). However, *The Penny Magazine,* which ran until 1846, and its primary competitor, *Chambers's Edinburgh Journal*, which continued under various titles until 1956, regularly echo this sentiment. First published on March 31st, 1832, the *Penny Magazine* soon (on April 21) began describing a process of observation that would allow for the collecting and processing of information on "Holiday Walks" (30). By teaching readers to observe carefully the natural phenomena on their walks, the magazine affirms Herschel's claim that "Everything in nature [is] interesting and significant." The magazine argues that "it requires a habit of observation to enjoy [everything] thoroughly; and that habit is only acquired by degrees, and by observing one thing at a time" (30). If readers follow the process of "observing one thing at a time" "nothing" should escape their "notice." These strong echoes, if not reaffirmations, of the scientific process of observation in the utilitarians' educational works demonstrate a continuation of rather than a shift away from the romantic scientists' approach to knowledge.

In many ways the utilitarian roots seem to run just as deep in the scientific tradition. As the nineteenth century progresses, these roots in the careful observation and connection of information keep potentiality and its uncertainty and vastness alive in the education reform

movement. What changes for the education reformers between the late-eighteenth and early-nineteenth centuries is the greater and greater focus of their project on the working classes. And their focus on the education of the working classes brings the utilitarian perception of useful knowledge into an even more intimate relationship with potentiality and thereby the imagination.

Working Class Education, Potentiality, and the Grounded Imagination

More than machines or scientific discoveries, the education reformers saw education and increasingly the education of the working classes as the social embodiment of potentiality. For at the start of our period, the late-eighteenth century, an educated working class appeared to be nothing more than a possibility. As Richard Altick explains in his work *The English Common Reader: Social History of the Mass Reading Public 1800-1900* "by 1780 [general] literacy rates were [still] scarcely higher than in the Elizabethan period" (just above 50 percent) (Altick 30, Digby and Searby 4). At the working class level, the statistics were far lower. According to David Vincent's *Literacy and Popular Culture: 1750-1914,* "in the late eighteenth century 33% of laborers and servants could sign the marriage register" (12). And as many critics quickly point out, it is unclear what "signatures in church registers actually mean for literacy" (Digby and Searby 3). The definition of literacy was and is often still taken for granted. Critics from Raymond Williams to Jonathan Rose point to the fact that several levels of literacy and education exist (Williams, *Long Revolution* 166, Rose 94) meaning that even less than 33% of laborers and servants would probably meet the reformers' standards for the ability to read and understand a text.

In response to the recognized lack of literacy and education, the utilitarians began including and developing a working-class education project alongside their initial project for reforming the middle-class curriculum. At the end of the century several Lit and Phil Societies

began opening their libraries to the public and suggesting courses similar to the ones eventually offered at the Newcastle society.[31] Around the same period, the utilitarian literature begins to reference more directly the working classes as possible beneficiaries of their reforms. In his short 1787 work, "An Account of a Society, for Encouraging the Industrious Poor" Priestley mentions only that "the poor should be taught to read and write" (16).[32] Ten years later in his general education treatises, *The Enquirer,* William Godwin makes the case for providing a wider set of critical skills to all children; "Though our children should be destined to the humblest occupation," he writes, "that does not seem to be a sufficient reason for our denying them the acquisition of the some of the most fundamental documents of human understanding" (55). Included in his chapter "Of the Study of the Classics," Godwin insists that the study of "Latin" and "[grammar]," subjects that a child would study after learning to read and write, will help "[refine]" the "mind" of any student (55, 53). Fourteen years after offering a similar perspective in *Practical Education* (1798), Maria Edgeworth dedicates her entire *Popular Tales* collection to the "[amusement] and [instruction]" of the "seventy thousand readers" who are not "nobility, clergy, or gentlemen of the learned professions" (1). From this point on, the education reformers almost always include by implication or by direct address the working classes in their larger education project.[33]

The utilitarian demand for education reforms at all levels coincided with the increasing and increasingly vocal unrest among the working classes. As previewed by Edgeworth's, Priestley's, Godwin's, and Mill's curriculum revisions and expansions, the 1810's marked the

[31] At the January 9, 1782 Manchester Lit and Phil Society meeting, Thomas Barnes suggests starting a mechanic's school for young tradesmen or manufacturers (Manchester Memoirs 85-86).
[32] Robert Schofield credits Priestley with founding one of the first Sunday schools for the poor. Such Sunday schools predominantly taught, as Priestley suggests, basic reading and writing (242-244; vol. 2).
[33] James Mill in his 1818 work "Education", *Chambers's Edinburgh Journal,* and all of the SDUK's publications directly describe and address the working class as one their primary audiences.

beginning of the middle-class public demand for reforms to the general education system.[34] The same decade included a period of great economic distress in which numerous labor groups organized public displays of both peaceful and violent dissatisfaction.[35] Thus the reformers touted the lack of working-class education as a primary cause of the social unrest and increased education as the primary and most effective solution. In his 1825 “"Practical Observations upon the Education of the People Addressed to the Working Classes and Their Employers,” Lord Henry Brougham declares,

> I can hardly imagine, for example, a greater service being rendered to the men, than expounding them to the true principles and mutual relations of population and wages; and both they and their masters will assuredly experience the effects of the prevailing ignorance upon such questions, as soon as any interruption shall happen in the commercial prosperity of the country (5).

Viewing both knowledge and society as interconnected, the reformers believed that the healthy functioning of society depended on the individual physical and intellectual health of each of its members. And intellectual health depended upon receiving “true principles” and accurate knowledge.

In response to the education project, contemporary and modern critics of the reformers argue that they are patriarchal, merely interested in controlling behavior, and unwilling to allow for imaginative intellectual exercises. In 1957 Richard Altick, for example, writes,

> Joseph Priestley, one of the most advanced and influential educational theorists of the time, said nothing about cultivating imagination or the aesthetic sense. Although he provided for the reading of good literature, both modern and classical, it was not as an end in itself but always with a more or less extraneous purpose, such as that of encouraging morality or enlarging worldly knowledge (44).

[34] Since the schools received no money from the government until 1833 and were run primarily by the Church until 1879, I hesitate to call the system a public education system.
[35] The Luddite rick burnings that occurred throughout the decade and the Peterloo march of 1819 are two of the most well-known examples of working-class protest.

Yet an investigation of the knowledge they diffused and their manner of diffusion depicts a far less rigid picture of the utilitarian reform schemes. In fact, on many occasions, the utilitarians' utopian vision of the possibilities afforded by education depicts an education scheme that highly encourages and, in fact, depends upon a practical dreamer and his practical dreams.

Part of the misunderstanding has emerged from critics' (ironically) narrow definition of the imagination and imaginative tasks. Over one hundred years later, Altick makes the same claim about the boundaries of the imagination that Charles Dickens demonstrates wonderfully in his 1854 satirical novel *Hard Times*: a thought must wander entirely freely to be an *imaginative* thought. Dickens opposes the rigid school of Bounderby and M'Choakmchild to Sleary's circus - depicted as a place of wonder, whimsy, and love. In the school Bounderby declares, "Teach these boys and girls nothing but Facts. Facts alone are wanted in life. Plant nothing else, and root out everything else. You can only form the minds of reasoning animals upon Facts: nothing else will ever be of any service to them" (7). His speech locates Dickens's perception of the utilitarian perspective solely in the material reality. In contrast to the school where "two and two are four," Sleary's circus is an unorganized combination of a "graceful equestrian Tyrolean flower-act," a dog's "astounding feat of throwing seventy-five hundred-weight in rapid succession backhanded over his head, thus forming a fountain of solid iron in mid air" and the dog's owner's "chaste Shaksperean quips and retorts" (14). The juxtaposition of the two settings defines the circus, and thereby the imagination, as a place of wonder and fantasy almost entirely separate from reality (Lougy 249) - a place where someone may lose herself in the moment and enjoy herself intentionally. Despite Dickens' satirical tone and exaggerated examples, Altick's criticism that Priestley recommends literature "not as an end in itself but always with a more or less extraneous purpose, such as that of encouraging morality or enlarging worldly knowledge"

seems only a few steps away from accusing Priestley of encouraging "nothing but Facts" (44). Like Dickens and many other critics, Altick argues that the utilitarians have divorced the imagination from the learning process and more generally from life.

Yet this critical perspective recognizes only a narrow portion of the imagination and its intellectual tasks within the utilitarians' definition of the term. In turn, the critical perspective denies the connection between the serious knowledge of the sciences and the imaginative process. But as the qualities of potentiality demonstrate, potentiality involves much thinking about ideas or things that do not yet exist and times that have not yet come. It also involves some sort of belief in the importance of uncertainty, some sort of consideration for things that never may come to be, and a great deal of idealism about what may come. In his work *Studies in the History of Education,* Brian Simon describes the utilitarians as having "a mystical optimism in progress" (167). Although I disagree with his further claim that their "optimism in progress took the place of science," his use of the term "mystical" appropriately describes their strange certainty about the uncertain future. Their awe of the world of knowledge to be discovered meant that they were industrious dreamers. In other words, they established a connection between their imaginative thoughts and the material world by applying their fantasies to the material world.

However, it becomes quickly apparent that the reformers often do not view their idealistic plans as fantasies. Therefore, an additional part of the critical confusion about the utilitarian reformers' perception and use of the imagination stems from the utilitarians' own confusion about the concept. Hartley ranks the imagination as the second lowest mental process only higher than "sensation" (203). Priestley and most other reformers are uncomfortable with making literature a significant portion of the new curriculum (*Observations* 207), in fact, the

SDUK banned fictional works from their publication. Harriet Martineau describes herself as a woman "With small imaginative and suggestive powers" (*Autobiography* 670), James Mill recommends high windows to prevent daydreaming in schools (Simon 82), and Maria Edgeworth recommends that parents limit access to travel narratives "for boys of an enterprising temper, unless they are intended for a seafaring life, or for the army" (*Practical Education* 336). Yet all of the reformers write excitedly about a better imagined future brought about by education and many of them write fictional literature as a means of educating the working classes. The seeming contradiction indicates that the reformers sometimes unconsciously distinguish nuances both within fiction and the imagination. In fact, when writing educational texts for the working classes or theoretical education texts for the middle classes, the reformers do not avoid using the term "imagination" or its forms and synonyms positively. Therefore, a more whimsical imagination exists, but so too a "grounded imagination" exists whose use they very much cultivate in their readers.

The grounded imagination exists partly as a connection between the material world and potentiality, between "the what is" and "the what could be." While I envision the romantic imagination, as conceived by its proponents, as a loose balloon floating where it may, the utilitarian grounded imagination appears more as a kite, able to explore the skies but always attached to a careful observer on the ground. The reformers' own fictional literature both demonstrates grounded imaginative exercises in its characters and is a grounded imaginative exercise by the reformers. In the preface to her *Illustrations of Political Economy*, Harriet Martineau writes that many books "give us [a science's] history; they give us its philosophy; but we want its *picture*. They give us truths, and leave us to look about us, and go hither and thither in search of illustrations of those truths" (xi). Martineau identifies the lack of necessary

connection between abstract thinking and "illustrations of those truths" in the material world. And she determines that her work will serve as a connection between "the facts" (the what is) and "the reasons" (the theory and the what could be) (xii). In the image and the illustration Martineau recognizes a valuable tool of the learning process. The imagined image serves as a connection not only between fact and theory but also between the present moment and its facts and potentiality**.**

Both Martineau and Maria Edgeworth mean for their educational fiction to demonstrate factual concepts through their scientific, observation-like descriptions. Therefore, when characters in Martineau's *Illustrations of Political Economy* dream of better futures, the physical environment around them tends to prompt their dreams. Towards the end of "Into the Wild," a tale about a group of colonists who must rebuild their settlement after its destruction, the main character "[directs] [his wife's] attention to the particular circumstances on which he [founds] his hopes" (116). Staring out upon the settlement, the husband asks his wife to imagine with him. "See, my dear,…On that fall of the stream will be our mill; in that nook our saw-pit; behind that inclosure our forge. The stables for the bullocks are to be built yonder" (116). In a similar fashion, standing on the site of a planned forest prompts the young narrator of "Brooke and Brooke Farm" to imagine (57) She thinks, "It was a delight to the imagination to picture what they would be a hundred years hence, when hanging woods would ornament a landscape at present bare and barren" (57). In such moments, the land before the characters that calls forth future plans quite literally grounds their dreams. The same physical site serves as a location for their observations and their imagination. And particularly for the reader, the detailed dreams inspired by the details of reality presented in a fictional illustration somewhat conflate the details of the present and the details of the future. Catherine Gallagher argues that Martineau, due to her

faith in the truth of the political economy theories she illustrates, "believed not only that values can be easily induced from facts, but also that facts can even more easily be deduced from values" (220). So true are the theories and values that the illustrations of their future outcomes appear as factual as the present moment's facts in her stories. In many ways then, the illustration serves not just as a bridge between the present and the potential, but also as a combination of the two terms and realms (reality and the imagination). The described imagined mill includes no less detail than the existing "fall of the stream."

Yet the semi-concrete image of the present does not limit the grounded imagination– the kite can fly still higher. Different from *Chambers' Edinburgh Journal,* the *Penny Magazine's* primary competitor, which includes no illustrations, the *Penny Magazine* includes intricate engravings with each issue of various described places, objects, and animals. Like Martineau's and Edgeworth's verbal illustrations, the engravings help to ground the reader's imagination in specific details.[36] But the accompanying text of many of the illustrations describes associations far outside the specific details of the present material world. Quite often, the articles wander from the present details to the details of the past and ideas associated with the historical information. And when connecting present fact and history the grounded imagination seems to surpass the imaginative capacity of even the potential future. Frequently, the *Penny Magazine* includes descriptive articles of domestic and exotic places of interest which encourage the visitor to imagine and even become swept up in the past events or present beauty of a site.[37] Using the

[36] When recommending prints for children in *Practical Education*, Edgeworth explains that "Prints for children should be chose with great care" particularly so that "Some idea of the relative sizes of the animals they see represented would then be given, and the imagination would not be filled with chimeras" (12, 13).
[37] While Valerie Gray argues that Charles Knight, the *Penny Magazine's* publisher was never a utilitarian who fully sympathized with the Society for the Diffusion of Useful Knowledge's goals and perspectives (112, 43), Knight's similarity to many professed utilitarian's educational works supports a more nuanced depiction of utilitarianism rather than Knight's exceptional work within the movement.

observation skills explained in the original "Holiday Walk" articles, the author of the June 30, 1832 article, "The Cave of Elphanta" describes for the reader a vivid scene:

> The darkness that obscures the interior of the temple, which is dimly lighted only by the entrances; and the gloomy appearances of the giant stone figures ranged along the wall, and hewn like the whole temple, out of the living rock, - joined to the strange uncertainty that hangs over the history of this place, - carry the mind back to distant periods and impress it with that kind of uncertain and religious awe with which the grander works of ages are generally contemplated (121).

The insistence on detailed observation and description as well as the engraving accompanying this particular article cause the reader to imagine (bring to mind the image) of the particular scene. The following wandering of the author's "mind back to distance periods" demonstrates the power the utilitarians grant to the material world (whether consciously or unconsciously). In her autobiography, Martineau agrees with her dear friend and intellectual colleague, Mr. Atkinson when he writes, "The intellect, in a general sense, is simply an observing faculty. The highest efforts of reason and of imagination are but an extension of observation" (606). Martineau may describe the imagination as only "an extension of observation," but her own work and the descriptions of locations in the *Penny Magazine* demonstrate how far the imagination might extend from the present material world.

Even Godwin who, of the reformers, appears to express the greatest support for imaginative exercises independent of observational skills and the material world, recognizes the significant influence of the material world on the imagination. Although in one moment of *The Enquirer* Godwin argues that "the man of talent gives full scope to his imagination…unindebted to the suggestions of surrounding objects," he argues on the same page that "Every object is capable of suggesting to him a volume of reflections" (32). The material world can produce deep and varied thought. And, it turns out, even the "unindebted" thoughts that he claims are

most significant to the man of talent are related "by aid of memory [to] the books he has read" (32). Thus the most explicitly extended version of the utilitarian reformers' imagination appears quite similar to the wandering thoughts of the *Penny Magazine's* author in the cave. The author of "The Cave" admits that the concrete details before him inevitably join with abstract pieces of knowledge - "the strange uncertainty that hangs over the history of this place" - to bring forth an emotional response – the "uncertain and religious awe." (32). Different from the *Penny Magazine* author, Godwin implies that books should serve as an intellectual's primary source of stimulation and inspiration. (His comments on the subject all emerge in his article entitled "Of an Early Taste for Reading" (32)). But when Godwin privileges the "sagacious reasonings" and influence of books on his thought process, he still acknowledges an external source (a book) for his imaginative thoughts. The mind and the imagination remain indebted to external influences no matter how wandering a person's thoughts may be.

The clear connection of the *Magazine's* and Martineau's depictions of the wandering mind to Hartley's associationism helps determine that the process of wandering is not the sole source of the reformers' complicated relationship with the imagination. Hartley insists that since all thoughts are associated

> an idea cannot be said to be voluntarily introduced till it be previously determined by some of its associates. If I desire to introduce a visible idea of any kind, an *individuum vagum*, and that of a horse offers itself, it was not owing to the command of my will, that it was an horse and nothing else, but to the connexion which the idea of an horse had with some other idea or impression which then happened to take place (72).

In other words, some received sensation or prior connection in the brain instigates each thought, whether it is brought forth voluntarily or involuntarily. When the reformers resist the imagination in any manner, they resist not because they believe that people might create fanciful thoughts that have no connection to the real world - their understanding of the mental processes

prevents this possibility. Instead, the concern seems to be that people will use the material world to transport themselves into an immaterial realm and never try to connect their thoughts about the immaterial realm back to the material. Such a mental task is probably harder and more rare than one might think. Even Sleary's circus reconnects with the real world by saving the day (and Mr. Gradgrind's son) at the end of the novel (209). But to the reformers, disconnected thoughts remain a real threat to intellectual and social development.

Further defining the limits of the reformers' grounded imagination, then, is the inherent contradiction that ideas originate from association but without deliberate intervention they might not be reconnected to existing or newly forming ideas about the material world. In particular, Maria Edgeworth's more frequent negative use of the term "imagination" in several of her *Popular Tales* serves as a clue about the appropriate role of the imagination in daily intellectual life. Edgeworth negatively portrays characters who dream and do nothing with their dreams. For example, in **"**Tomorrow**"** the main character, Basil, recognizes his mental ability and repeatedly plans to produce from his dreams a great work. He imagines his travel narrative, and "in the plenitude of confidence in [his] own powers, octavos and quartos [shrink] before [him], and a folio [appears] too small for the various information and the useful reflections, which a voyage to China must supply" (450). He dreams of his immense potential. However, procrastination so paralyzes the character that his story, written as a journal entry that he "[begins]…today" to help him end his habit of procrastination, ends unfinished (443). The character realizes none of his dreams and, as the "editor" notes, the "fragment [is] found in an old escritoire, in an obscure lodging in Swallow Street" (506). While the story claims that "there is no reasoning with imagination" (485), the collection of tales (and the utilitarians, more generally) argue instead that one can reason with the imagination as long as one shifts

continually between the material reality and imaginative thoughts such as those created by potentiality. The kite cannot exist eternally aloft. However, the imagination only develops over time and with significant mental training.

The Industrious Dreamer: Training the Working Class to Recognize Potentiality

As William Godwin explains, "Genius requires great care in the training, and the most favourable circumstances to bring it to perfection" (17). A strong Hartleian like the rest of the utilitarian reformers (St. Clair 72), Godwin's reference to training implies that a person of strong intellect must learn how to arrange and apply his or her knowledge; he must learn how to shift appropriately between his useful knowledge and his imagination. And when a person receives no "great care," no "training" (as, he argues, is the case with most "peasants") "[genius] will languish, sicken, and die" (17, 16, 17). Recognizing that many members of the working class will receive no or inadequate care from other sources, the reformers who write for the working classes (Edgeworth, Martineau, Knight, and Brougham) attempt to provide training from without that will encourage training from within. As Martineau explains, the reformers tend to "illustrate" certain behaviors and thought processes. For this reason, the umbrella strategy for the reformers' training is "the industrious dreamer." The industrious dreamer is the reformers' ideal – an aspiration for what the working classes can become (thoughtful, observant, associating) if they follow his example and make the most of the varied educational possibilities life affords them. The industrious dreamer illustrates making appropriate connections between dreams and reality and, more generally, he illustrates the connections between life choices and life comforts and successes.

As a demonstration of the reformers' training methods, the industrial dreamer, then, helps to recuperate the perception of the utilitarians as educators. Associated most strongly with pure

rote memorization of superficial facts, the industrious dreamer tales, which remain largely ignored by critics, portray a far more complex educational method and desired set of intellectual results.[38] Tales of the industrious dreamer tend to be, despite their varied lengths, depictions of large portions of characters' lives and long-term life patterns, so that the reader witnesses the results of the complex life choices. While the use of illustration might suggest encouraging a simple mimesis of the industrious dreamer's choices, the complexity of the behavior to be followed often prevents simple imitation; the reader may mimic the thought patterns of the dreamer, but he must supply his own thoughts and information. A particularly effective example of the industrial dreamer story is "Lame Jervas," from Maria Edgeworth's 1812 collection *Popular Tales.* It is a rags-to-riches story of a young boy who works in the mines, learns to read and write with the help of the mine owner, and eventually becomes financially successful due to his wise application of his education. Framed as a narration by the adult Jervas to an audience of miners, the tale focuses on Jervas' varied educational process and the possibilities rather than limitations that his early mining knowledge has afforded him due to the careful life choices he makes.

In many ways, the industrious dreamer acts as both a follower of potentiality (the dream) and potentiality itself. Jervas stands before his audience of working-class men as a person who has emerged from their ranks, beginning only with their same knowledge, to achieve intellectual and financial success. After years abroad, Jervas returns to his original mining town. Unrecognized in his gentleman's clothing as the same "poor lad who ran away from the mines a great long while ago," Jervas prompts the miners to tell him about "William Jervas" (3). While most believe that Jervas merely ran away, "one of the oldest miners" insists "that the ghost of the

[38] *A Manchester Strike* is one of the only tales in Martineau's collection that receives any critical attention. Edgeworth's *Popular Tales* receive almost no attention.

said Jervas was often seen to walk, slowly, in the long west gallery of the mine…" (4). This flight of the whimsical imagination, unsupported by any true observations, causes Jervas to end the brief charade (with a "[laugh]") and reveal himself as the living Lame Jervas (4). Only a page later, at a banquet thrown in Jervas' honor and to which the master invites the miners, Jervas relays his true and fantastic story. Therefore, Edgeworth's tale begins as a trade of one fanciful dream – the ghostly fate of young Jervas- for Jervas' truly remarkable, dream-like progression through life. When the miners see Jervas "get into a handsome coach, and drive toward the mansion of one of the principal gentlemen of the neighborhood" they "scarcely believe their eyes, or their ears" as if he is no less imagined than his ghost (4-5**).** Their disbelief and their difficulty recognizing Jervas in the first place, help demonstrate the significant amount of mental training necessary to reach such a potential.

Specifically, men such as the miners, through their present inability to observe carefully and draw connections between the necessary pieces of information demonstrate the depth of thinking that the industrious dreamer achieves and the reformers advocate. Besides appearing different in his fine clothes and carriage, Jervas remains unidentified by the miners because they fail to observe him carefully. After hearing his declaration that he is Jervas, the miner who swears to have seen the ghost insists "No; he that walks in the gallery is clear another guess sort of person…he limps in his gait as Lame Jervas always did" (4). In response to his observational statement (the miner insists that the man before him *looks* different than Jervas), "the gentleman walked on, and the miners observed, what had before escaped their notice, that he limped a little" (4). These men, the story argues, are unpracticed in "observing one thing at a time" **(**Knight, *Penny Magazine,* 1832 30**)**. They observe superficial details (Jervas' dress) and overlook a detail

more particular to his person (his gait). One must observe the material world, the story argues, to see and imagine potentiality.

While making the direct link between observing the material world and recognizing potentiality, the tale further demonstrates that the kind of knowledge that can lead to amazing aspirations surrounds everyone waiting to be collected. Edgeworth depicts Jervas recognizing at an early age the value of information and the importance of both collecting and retaining it. The tale initially depicts this choice not with knowledge from his more formal studies, but rather with Jervas' mining knowledge. In other words, Edgeworth indicates that reading and writing are not the first skills of Jervas's education and not the only skills of any education process. A reader's training may begin nearly anytime with any knowledge. One day, Jervas explains, "Mr. Y-…called me in, that I might tell his eldest grandson the names which we miners give to certain fossils that had been sent him from Cornall…[and begged] me to tell him exactly how the mine, in which I had been employed, was worked" (19). Even at an early and relatively untutored age, Jervas is a wealth of (or a mine full of) information. In order to demonstrate the mine's operation to the young grandson, Jervas constructs a "model of the tin mine" (19). Although only asked to explain the mine's workings, Jervas' decision to construct the model illustrates the importance of not just knowledge but exact knowledge. As Jervas argues, "people can never make their knowledge useful…if they have not been at pains to make it exact" (21). The simple collection of knowledge is not enough, the story explains. One must collect and retain the information accurately in order to apply the knowledge, as the passage implies, to present or future situations. Jervas' choice to demonstrate the working of the mine exactly through the model allows him to reaccess physically and precisely the same knowledge over the years.

In many ways, the model acts as a physical representation of his choice to learn and retain knowledge exactly and his consequent ability to return repeatedly to his knowledge in new ways and situations. While the reformers' critics often argue that the utilitarians focus on the superficial memorization of countless facts, the industrial dreamer tales instead encourage memorization as only one part of a careful, critical thought process.[39] [40] The model is, then, both a concrete reminder of the importance of precision and a demonstration of the appropriate role of memorization in the learning process. Shortly after completing the model, Mr. Y. apprentices Jervas with "a lecturer who exhibits models of new machines" (25). There he studies almost constantly his employer's notes and any other material he obtains. Retaining all that he learns, he both effectively answers the questions of a number of visiting gentlemen and displays his model. His precise answers and precise model earn him a new position in India (30-31). And when he travels to India, the model travels with him. Its physical presence both represents the permanence of Jervas' knowledge, as if he carries with him a model of each subject with which he becomes familiar, and proves the ever-possible applicability of old knowledge in the most new and exotic of situations. Years later, while working for one of the sultans of India, he shows the same model to the sultan's son and thereafter earns a position "[instructing] his miners how to work [the mines]" (43). Quite different from his initial instructions for Mr. Y's grandson on how the mines work, his instruction at the sultan's mine proves to be "a very laborious and difficult undertaking" (44). He must combine his mining knowledge with "some little knowledge of [the miners'] language" in order for his "methods" and knowledge to eventually

[39] John Stuart Mill quite famously criticizes his father's education theories for being "entirely bookish" and "much more fitted for training me to *know* than to *do"* (*Autobiography* 23).
[40] For example, in Harriet Martineau's "Into the Wild" the reader repeatedly observes the characters drawing on their knowledge and collecting materials to make "baskets" and "arrows" and "spoon-brushes" (26, 16). In order to build the new materials, the characters must precisely remember old knowledge and apply that knowledge in the new situations.

become "acceptable" to the Indian workers (44). Memorization of information, the tale argues, must be coupled with a flexible ability to connect old information with new information and situations.

In fact, the reformers agree with the critics of rote memorization and portray memorization alone as an insufficient educational method.[41] Basil's father unsuccessfully attempts to "cure [him]" of his procrastination by ordering him to "get perfectly by heart" "an extract of seven long pages on the dangers of delay" (446). Despite "[fixing] the heterogeneous quotations so well in my memory that some of them have remained there to this day" Basil admits that the exercise left him "not a bit better" (446, 447). Most tellingly, Basil states, "What I wanted was, not conviction of my folly, but resolution to amend" (447). In other words, Basil already possesses the knowledge that procrastination is a problem. Therefore, additional memorization of arguments on this subject offer him no real mental training. Memorization is only one step of the learning process, which without the other steps (precise retention, connection to other bits of information, and application to new situations) leaves the student, in the reformers' eyes, "not a bit better."

If Basil lacks the ability to connect his aspirations or his memorized lessons to his reality, Jervas succeeds precisely because he regularly completes all parts of the learning process (observation, aspiration, retention and connection of details). Thus even as Jervas claims a childhood ignorance about the possibilities that his knowledge can afford him, thereby, perhaps

[41] In "Into the Wild", Harriet Martineau negatively portrays Mr. Arnall for being unwilling to adjust to his African settlement's new circumstances (surviving after an ambush without their English luxuries and initial social roles). Mr. Arnall proposes to live by the same social and economic system as before the settlement's raid. He interprets the return of goods and trade to the settlement as a return to that exact social system. Yet as the tale's industrious dreamer, Mr. Stone, explains, Mr. Arnall overlooks some key details about the current situation and the "new test of rank [that] has been introduced by our late circumstances." Arnall assumes the constant value of money and he seems incapable of imagining a society where money is not the determinant of value and rank. Consequently, he overlooks the problematic detail that no other settler has money to trade with him. Unable to alter his associations on his own, Arnall must learn from the industrious dreamer like many other characters.

suggesting that Jervas lacks imaginative abilities, the story demonstrates how Jervas' real success depends upon his imaginative plans. Jervas explains after the Indian Prince compliments his abilities, "little did I imagine, when I used to sit up nights studying my old master's books, that one [of the books] would be the means of procuring me such honor" (41). Although Jervas works hard as a child to collect and retain knowledge, he himself does not specifically dream of becoming a respected aid to an Indian prince. He dreams, as the reformers dream, in the form of plans. His model of the tin mine is an elaborate plan that requires him to imagine multiple significant steps and employ the help of several people for its completion. Unlike Basil's plans of the "octavos" and "folios" of his travel narrative, Jervas imagines his plan and then connects the plan to his reality – he identifies what steps he needs to take (for example, revisiting the mines for further observation) and whose help he needs to employ (the carpenter's) in order to complete his plan. More specifically, Jervas, as opposed to Basil, breaks his dream down into smaller steps that bring the dream closer to reality – closer to something that he may accomplish. In contrast, Basil grows his "octavos" in his imagination to "quartos" and "folios" that simultaneously appear to increase in their distance from realistic tasks (450). Shifting between small imaginative plans and small completed tasks, Jervas builds a life that to the miners and his reader should appear a large and wondrous dream.

However, at the end of Jervas' tale, Edgeworth makes it clear that most of the men have been unable to interpret the possible significance of Jervas' life details for them. Responding to Jervas' tale, Mr. R., "[his] first good master," "[says] to those of the miners who had not fallen fast asleep, 'My good friends, you now know the meaning of the toast which you all drank after dinner…may good faith always meet with good fortune!" (57). Through the miners' inability to stay awake during the story, Edgeworth implies that the men have not heard anything they

believe to be useful for them. They have not internalized Jervas' message that "everything I learned accurately was, at some time or other of my life of use to me" (29). The story, therefore, ends with a feeling of incompletion. In fact, rather than allowing Jervas to finish his complimentary statement about "my first good master, to him whose humanity and generosity were the cause of ---," Mr. R. interrupts Jervas' final thoughts (57). And while Mr. R.'s interruption presents the audience with a final moral, "may good faith always meet with good fortune!," the story suggests that the miners have not correctly interpreted the meaning of the toast. The tale's faith lies in the human intellect and its ability to use collected knowledge. But the sleeping miners have not viewed Jervas' tale as something to collect, and they most likely have not recognized the connection between Jervas and their own potential. Therefore, their training, and by implication, the reader's training is incomplete. Jervas' tale has been that of a lifetime of learning, which, the reformers argue, a single night of training or a single educational story cannot hope to replicate.[42]

With the perception of learning as a slow, life-long process in mind, I return again finally to the *Penny Magazine*. From this perspective, the connections between its short articles become apparent. No longer simply superficial, isolated articles, the works of the magazine and the larger SDUK library become a collection – years' worth of learning presented regularly to its audience. Although the magazine's editor, Charles Knight, describes the magazine as something "that may be taken up and laid down without requiring any considerable effort," the magazine's structure and focuses, in fact, encourage readers to frequently return to the topics they lay down. As Valerie Gray argues, "Knight always respected his readers' ability to discriminate and he wanted to provide a range of choice in reading matter" (43). More than simple variety in each

[42] In Martineau's "Into the Wild," Mr. Arnall does not immediately learn the lessons about needing to contribute to his community in new ways after the ambush. Instead the tale presents his transformation as a long, slow process that lasts for the duration of the story.

issue though, the *Penny Magazine* also frequently gives its reader options for pursuing a subject further whether in an earlier or a later issue, in another text, or even in another medium such as the British Museum. The practice of serializing novels and longer articles was quite common in the early nineteenth century [43]. But the *Penny Magazine* and the SDUK in general, make particularly strong connections among various issues, other possible readings, and other intellectual activities. If the reader has the desire and the means, he or she may choose to seek out more information based on the information provided by the magazine.

Starting on April 7th, 1832, the magazine began running an extensive series on exhibits in the "British Museum" (13). First describing the Egyptian statue "The Memnon," its history, how it came to be damaged, and the materials from which it is made, the magazine then directs the reader to set the magazine down so that he may explore beyond its contents. The author explains, "Our limits prevent us from going into other details, but we have perhaps said enough to induce some of our readers to look more carefully at this curious specimen of Egyptian art; and to examine the rest of the ornamental parts" (77). The article provides the reader with the precise number of the exhibit (66) and acknowledges both that it offers an incomplete explanation of the "details" of the exhibit and that further, more "[careful]" study may be desirable (76, 77). Exploring and describing the British Museum's collection, the magazine's articles both become their own collection and attempt to join the collection of knowledge already established at the museum. The magazine encourages the reader to return and wander frequently through its collection in order to achieve a deeper understanding of a topic or object. Insisting, "You must not expect to understand what you see all at once: you must go again and again if you wish to obtain real knowledge, beyond the gratification of passing curiosity" (14),

[43] For example, Dickens serialized many of his novels in his literary journal, *Household Words*, and *Chambers' Edinburgh Journal* splits many of its longer articles between several issues.

the magazine demonstrates for the reader how to move from "passing curiosity" to "real knowledge" formed by the association of many details and observations.

Consequently, Knight perceives each article not as a complete source of information nor as an isolated subject, but rather as the beginning of or only a part of a lifetime of education. The *Penny Magazine*'s first issue explains that

> Whatever tends to enlarge the range of observation, to add to the store of facts, to awaken the reason, and to lead the imagination into agreeable and innocent trains of thought, may assist in the establishment of a sincere and ardent desire for information; and in this point of view our little Miscellany may prepare the way for the reception of more elaborate and precise knowledge.... (1).

More than offering a collection of "useful and entertaining" information, the magazine intends to provide its readers with "[preparatory]" mental training (1). In many ways then the passage seems to describe the education reformers' primary intentions; their efforts are a beginning. More than aware of the vast amount of information available, their works serve as entrances into the realm of information, guides for how to observe and collect it, and encouragement to continue learning far beyond the moment of observation or memorization. The reformers dream of the effects their knowledge will have on the working classes and society at large. And they imagine how the working classes must naturally respond to such an interconnected world of interesting and useful knowledge. In their educational theories, they perceive the world of knowledge as interconnected and the social world as just as intricately associated. Information unites the social world, and education, they believe, will make those connections apparent so that society may journey more harmoniously toward its certain future of uncertain progress.

Yet as the grounded imaginative efforts of the education reformers persist into the mid-nineteenth century and emerge as the social problem novel, the reformers find they must reconcile their imagination of what the working classes can become through education with their

concerns about the current social situation. Initially "grounded" by their fascination with useful information, the reformers' imagination becomes additionally grounded by their desire to portray the reality of the social problems and their ambivalence about education as the great solution to the growing problems.

Bibliography

Altick, Richard D. *The English Common Reader:A Social History of the Mass Reading Public 1800-1900*. Chicago: U of Chicago P, 1957. Print.

Brougham, Lord Henry. "Practical Observations upon the Education of the People Addressed to the Working Classes and Their Employers." London: Richard Taylor. 1825. <The Making of the Modern World by The Goldsmiths'-Kress Library of Economic Literature> 1 Jan. 2011.

Burston, W.H. "Introduction." *James Mill on Education*. Cambridge, UK: Cambridge UP, 1969. 1-40. Print.

Dickens, Charles. *Hard Times: An Authoritative Text, Backgrounds, Sources and Contemporary Reactions, Criticism.* Ed. George Ford and Sylvere Monod. New York: Norton, 1990. Print.

Digby, Anne and Peter Searby. *Children, School and Society in Nineteenth-Century England.* New York: Macmillan, 1981. Print.

Edgeworth, Maria & Richard Lovell Edgeworth. *Practical Education*. London: J. Johnson, 1798. *Internet Archive.* Web. 25 Jan. 2011.

Edgeworth, Maria. *Popular Tales.* New York: Macmillan, 1895. Print.

Ghosh, Amitav. "From an Egg-Seller's End." *The Circle of Reason.* New York: Mariner Books, 2005. *Google Books*. Web. 1 Apr. 2011.

Gallagher, Catherine. *The Industrial Reformation of English Fiction: Social Discourse and Narrative Form, 1832-1867.* Chicago: U Chicago P, 1985. Print.

Godwin. *The Enquirer: Reflections on Education, Manners, and Literature.* Bristol, UK: Thoemmes, 1994. Print.

Golinski, Jan. *Science and Public Culture: Chemistry and Enlightenment in Britain, 1760-1820.* New York: Cambridge UP, 1992. Print.

Gray, Valerie. *Charles Knight: Educator, Publisher, Writer.* Burlington, VT: Ashgate, 2006. Print.

Guy, Josephine. *The Victorian Social Problem Novel: The Market, the Individual and Communal Life.* Houndsmills, UK: Macmillan, 1996. Print.

Hartley, David. *Observations on Man, His Frame, His Duty, and His Expectations.* London: S. Richardson, 1749. *Eighteenth-Century Collections Online.*Web. 10 Feb. 2011.

Hartley, David. *Hartley's Theory of the Human Mind, on the Principle of the Association of Ideas; with Essays Relating to the subject of it. By Joseph Priestley, LL. D. F. R. S.*. London: J. Johnson, 1775. *Eighteenth-Century Collections Online*. Web. 26 Jan. 2011

Hoecker, James J. *Joseph Priestley and the Idea of Progress.* New York: Garland, 1987. Print.
Holmes, Richard. *The Age of Wonder: How the Romantic Generation Discovered the Beauty and Terror of Science.* New York: Pantheon, 2008. Print.

Kramnick, Isaac. "Eighteenth-Century Science and Radical Social Theory: The Case of Joseph Priestley's Scientific Liberalism." *The Journal of British Studies* 25.1 (Jan. 1986). 1-30.

Literary and Philosophical Society of Manchester. Memoirs. Vol. 1. London: W. Eyres, 1785. *Making of the Modern World.* Web. 10 Feb. 2011.

Lougy, Robert E. "Dickens's *Hard Times*: The Romance as Radical Literature." *Dickens Studies Annual* vol. 2 1972, 237-254.

MacLeod, Ray and Peter Collins. Ed. *The Parliament of Science: The British Association for the Advancement of Science 1831-1981.* London: Science Reviews, 1981. Print.

Martineau, Harriet. *Autobiography*. Ed. Linda H. Peterson. Toronto: Broadview Press, 2007. Print.

Martineau, Harriet. *Illustrations of Political Economy*. London: Charles Fox, Paternoster-Row, 1834. *The Gerritsen Collection of Aletta H. Jacobs.* Web. 15 Feb. 2011.

Martineau, Harriet. "A Manchester Strike." *Miss Martineau's Popular Tales.* London: George Routledge, 1832. 1-136. *Google Books.* Web. 28 Feb. 2011.

Mill, James. "Education." rpt. in *James Mill on Education.* Ed. Burson, W. H. Cambridge, UK: Cambridge UP, 1969. 41-119.

Mill, John Stuart. "Autobiography." rpt. in *John Stuart Mill On Education.* Ed. Francis W. Garforth. New York, Teachers College P, 1971. 41-133. Print.

Pichanick, Valerie Kossew. *Harriet Martineau: The Woman and Her Work 1802-1876.* Ann Arbor, MI: U of Michigan P, 1980.

Priestley, Joseph. "An Account of a Society, for Encouraging the Industrious Poor, With a Table for Their Use. To Which are Prefixed, Some Considerations on the State of the Poor in General." Birmingham, UK: Pearson and Rollason, 1787. *Revolutionary Players.* Web. 23 Feb. 2011.

Priestley, Joseph. *Miscellaneous Observations Relating to Education. More Especially, as it Respects the Conduct of the Mind. To Which is Added, an Essay on a Course of Liberal*

Education for Civil and Active Life. London: R. Cruttwell, 1778. *Eighteenth-Century Collections Online.* Web. 23 Feb. 2011.

Society for the Diffusion of Useful Knowledge. *Natural Philosophy. The Library of Useful Knowledge*. Vol. 1. London: Baldwin and Cradock, 1829. *Google Books.* Web. 10 Dec. 2010.

---*The Penny Magazine* vol. 1. London: Charles Knight, 1832. *Google Books.* Web. 1 Oct. 2010.

---*The Penny Magazine* vol. 8. London: Charles Knight, 1839. *Google Books.* Web. 15 Oct. 2010.

--- *The Penny Magazine* vol. 13. London: Charles Knight, 1844. *Google Books.* Web. 25 Oct. 2010.

--- *The Penny Magazine* vol. 14. London: Charles Knight, 1845. *Google Books.* Web. 7 Nov. 2010.

Rauch, Alan. *Useful Knowledge: Victorians, Morality, and the March of the Intellect.* Durham, NC: Duke UP, 2008.

Rose, Jonathan. *The Intellectual Life of the British Working Classes.* New Haven, CT: Yale UP, 2001.

Schofield, Robert E. *The Enlightenment of Joseph Priestley: A Study of His Life and Work from 1733-1773.* University Park, PA: Pennsylvania State UP, 1997. Print.

Simon, Brian. *Studies in the History of Education, 1780-1870.* London: Lawrence & Wishart, 1960. Print.

St Clair, William. *The Godwins and the Shelleys: The Biography of a Family*. New York: Norton, 1989.

Tyson, Neil DeGrasse. *Interview. The Daily Show with John Stewart.* Comedy Central. 18 Jan. 2011. Television.

Watson, Robert Spence. The History of the Literary and Philosophical Society of Newcastle-Upon-Tyne, 1793-1896. Farnborough, Eng.: Gregg, 1970.

Williams, Raymond. *The Long Revolution*. New York: Columbia UP, 1961.

Chapter 2: The Nineteenth-Century Social Problem Novelists and the Working-Class Intellectual

I had always felt a deep sympathy with the care-worn men, who looked as if doomed to struggle through their lives in strange alternations between work and want…A little manifestation of this sympathy, and a little attention to the expression of feelings on the part of some of the work-people with whom I was acquainted, had laid open to me the hearts of one or two of the more thoughtful among them; I saw that they were sore and irritable against the rich…It is enough to say, that this belief of the injustice and unkindness which they endure from their fellow-creatures, taints what might be resignation to God's will, and turns it to revenge, in too many of the poor uneducated factory-workers of Manchester (Gaskell 5).

You say our talk has done no good. I say it has. I see the view you take of things from the place where you stand. I can remember that, when the time comes for judging you; I sha'n't think any longer, does he act right on my views of a thing, but does he act right on his own (Gaskell 334).

In the preface to her 1854 industrial novel, *Mary Barton*, Elizabeth Gaskell draws information and inspiration from "the hearts of one or two of the more thoughtful among [the working classes]." Able to express their problems and frustrations more clearly than other members of the working class, these people help Gaskell understand the working classes' plight and thereby serve as mediators between the classes. When the more-thoughtful-type appears in *Mary Barton*, he continues in an expanded version of this role – serving as the strongest voice of reason and the character most able to understand the difficult social circumstances. In Job Legh's conversation with Mr. Carson, the factory owner, Gaskell focuses Legh's comments on his ability to listen to the presented information ("see the view you take of things") and understand an opinion very different from his own. Legh appears to offer a calm, stable presence in what is predominantly a novel about instability (poor economic times cause many people to starve and drive John Barton to murder Carson's son). Yet despite the value Gaskell places on the information provided by the more thoughtful people, and despite the stability Legh's intellect offers the novel, Gaskell chooses to remove her more thoughtful character from society –

sending him to Canada at the end of the book. Gaskell's choice to distance her most educated, stable character from society reveals the complex reverence Victorians had for self-educated working-class men when positing education and thoughtful behavior as the primary solution to social problems

Presuming that the "more thoughtful" working-class people were, like Job Legh, self-educated, their influence on the novel represents the Victorian fascination with and deep investment in individual improvement and, more specifically, the self-improved man. During the period, various books appeared on the subject of self-improvement at the center of which were works and theories on self-education as a primary means of improvement.[44] In his 1832 work, *The Pursuit of Knowledge Under Difficulties,* G. L. Craik writes, "…in the pursuit of any description of knowledge, no difficulties arising from external circumstances can eventually resist a steady determination to excel; such that a man's success or failure in such an attempt depends, in fact, more upon himself than upon any circumstances in which he may be placed" (201).[45] As Craik's comments indicate, the self-educated man epitomized the centrality of the individual to society's functioning and represented the importance of the individual's (and society's) potential development through knowledge. Focusing on "steady determination" rather than "[difficult]…external circumstances," Craik implies individual ability, rather than status, class, or environment limits the intellect's development.

Thus despite the variety of difficulties facing the country, the middle and upper classes believed they could only solve the large social problems, such as those alluded to in Gaskell's preface, (economic depression, unemployment, working-class organization and agitation, and various disease epidemics) by instigating change at the individual level. In her work, *The*

[44] Perhaps most famous of these works is Samuel Smiles'1858 self-published *Self-Help*.
[45] Craik's work was published in the Society for the Diffusion of Useful Knowledge's *Library of Entertaining Knowledge.*

Victorian Social-Problem Novel: The Market, the Individual and Communal Life, Josephine Guy argues that "an understanding of the social, and therefore of social causation and social change, was always made by reference to individual agency" (10).[46] Just as they felt academic achievement rested almost entirely on personal ability or personal motivation, the Victorians understood problems to begin with individuals, rather than with environmental factors. Therefore, solutions must begin at the same point. Guy further explains that "there was seen to be a continuity between the individual's good and what was good for society as a whole" (47). In other words, reformers could only achieve social or communal good by producing good within and for individual members of the community.

The social emphasis on the individual and the individual's ability to improve means that, in many respects, the self-educated, "more thoughtful" figure appears to be the ideal for the Victorian reform process. He represents the superiority of personal will over social conditions so that the possibility for social change remains ever open; no matter the nature or extent of the social distress the individual's will can improve the circumstances. In his work, *The Long Revolution,* Raymond Williams argues that the industrial revolution and the Enlightenment produced the term "individual" as a means "[to] get rid of restrictive and obsolescent definitions of 'status', to detach human beings from the social function 'to which they were born'" (93). In other words, in order "to reshape the law, the Church, the economy, the administration, men had to propose the 'bare human being', as the common element by which every kind of restriction and mortmain could be challenged" (93). Within such a perspective, the successes (and failures) of the self-educated intellectual are far more significant than a source of middle-class curiosity. Through individuals' abilities to reform themselves they may "reshape" institutions and mitigate

[46] J.M. Goldstrom makes a similar argument when he explains "[I]t was a common assumption that the working classes could be transformed by a change of heart–few bothered in those days about environmental influence" (1).

or solve the unrest of the period. Thus it follows logically that an individual's effective use of his knowledge or the usefulness of an individual's knowledge was defined, as Alan Rauch argues in his work *Useful Knowledge*, by its social application (19). Useful knowledge or the use of knowledge serves as a bridge between the individual and the reformation of society – a medium for transferring the individual's improvement to society at large. Consequently, G. L. Craik argues, the self-educated person's ability to improve himself intellectually makes him a highly "[virtuous]" character (1).

The links between virtue and education and the individual and society help to explain the industrial novelists' surprisingly firm place in the useful education debates.[47] Written primarily in the 1830's, 40's, and 50's, the industrial novel genre depicts a breach between the rich and the poor, generally between rich employers and their poor employees, during difficult economic times. Critics Mary Lenard and Joseph Kestner argue that the novels proffer, instead of useful knowledge, a change of heart and the restoration of the proper emotional connections between the classes as the most effective social solution (Lenard 7, Kestner 7, 170). However, in the second epigraph Job Legh's conversation with Mr. Carson suggests that the novelists base their emotional connections on a mutual understanding of complex social and economic issues – an understanding often mediated through the employers and their more thoughtful employees. Consequently, education and the means of its application are as central to the change of heart and its peaceful understanding as the individual is to social improvement. In her preface, Gaskell identifies the workers who are likely to commit violent acts as "uneducated" – associating

[47] Occurring throughout the century but particularly aggressively between the 1830's and the 1870's (Goldstrom 93, 173), these debates included but were not limited to the middle and upper class organization of a public school system for working-class children as well as Mechanic's Institutes and various publications for working-class adults. Reformers from various backgrounds debated the purposes and content of education and intended, through the development of such structures, to educate and calm members of the, then, agitated and economically strained working classes.

learning with behavior. Pointing to the "[erroneous] [belief]" that they "[suffer] without the sympathy of the happy," Gaskell implies that their misinformation and general lack of education greatly contribute to their plots of "revenge." The connection between education and behavior (whether violent or nonviolent) demonstrates the novelists' concerns about what people do or do not know and how they respond to what they know. Their interest in how their characters apply their knowledge and what knowledge effectively creates a peaceful society proves these authors to be, despite their protests, important contributors to the useful education debates.

Therefore, at the center of many industrial reform novels--novels interested in addressing large social problems--is a working-class, self-educated intellectual, who for his education and hard work receives the authors' admiration. So central is the auto-didact to the novels' messages that while I agree with Joseph Kestner that Charles Kingsley's title character, Alton Locke shares qualities with Charlotte Elizabeth Tonna's Tom South (65), I believe that in the period of great debate over who should be educated, in what manner, and in what subjects, Kestner blurs the line between mentee and mentor working-class intellectuals. Instead of the mentee, Alton Locke, I compare Tom South from Charlotte Elizabeth Tonna's 1839 *Helen Fleetwood* to Sandy Mackaye of Charles Kingley's 1850 *Alton Locke*, Stephen Morley of Benjamin Disraeli's 1845 *Sybil,* and Job Legh of Elizabeth Gaskell's 1848 *Mary Barton*. These characters educate themselves and then become partial or sole mentors for other characters. Like the reforming societies of the middle and upper classes, the mentor decides who shall learn, what subjects his students shall learn, and how students should use particular subjects. His methodical studies and dedication to logic seem to promise an orderly, peaceful resolution to social unrest.

However, as Job Legh's example demonstrates, the educational link between the individual and social improvement appears less direct and simple as the reformers come to

question the social usefulness of self-education. Contrary to the novels' initial, positive descriptions of the mentor and his abilities, the authors eventually dismiss the working-class intellectual as an ineffective mentor. Through such contradictory actions, the reader understands that the very characteristic (the mentor's self-education) that makes him initially admirable, is the same characteristic that makes him a threat to public education developments and reforms. For unlike the novelists and the educational societies that they support, the mentor exists outside of any developing system of education. Outside all systems, he may use his education in any manner he desires. In particular, the combination of politics with education, two categories understood at the time to be mutually exclusive and yet specifically attractive to the working classes, was a matter of concern to the industrial novelists and many education reformers. The novelists conclude that the mentor's self-education produces a highly individualized form of knowledge that may not prove applicable to a social setting. Consequently, they eventually push the self-educated man, their representative of individual improvement, out of the reforming spotlight and define the lonely study desk as the only appropriate place for applying his self-education.

Despite the centrality of the working-class intellectual to the industrial novels, almost no critics have explored or even recognized the figure.[48] In his work, *Protest and Reform: The British Social Narrative by Women 1827-1867*, Joseph Kestner develops the most thorough argument about the figure when he observes that Charlotte Elizabeth Tonna, author of *Helen Fleetwood*, " creates characters like Tom South, who in his skepticism anticipates the workmen

[48] P. J. Keating and Jonathan Rose both argue that the working-class "intellectual" is "almost totally absent from pre-1880 fiction." They point to Felix Holt and Alton Locke as the two exceptions (Keating 26, Rose 398). The omission of Tonna and Disraeli from the list of authors who develop working-class intellectuals may be due to their conservative political and social views. However, as this dissertation demonstrates, the combination of reformers with seemingly opposite viewpoints reveals surprising and significant overlaps in the larger debates about useful knowledge and working-class education.

of *Yeast* and *Alton Locke*" (65). But his argument ends with his recognition that a figure and progression between examples of the figure exists. Although most critics overlook the working-class intellectual, many critics recognize the contradictory tendencies and goals of the industrial novels and the importance of individual agency to those goals. In her work, *The Industrial Reformation of English Fiction: Social Discourse and Narrative Form 1832-1867*, Catherine Gallagher identifies the reformers "dilemma" of "[wanting] to illustrate the evil consequences of industrialism" without suggesting that characters entirely lack personal agency (21). But Gallagher and others fail to note how central (and problematic) the self-educated figure (a representative of personal agency) is to the novelists' larger didactic goals of establishing education as a primary solution to "the evil consequences of industrialism."

In the midst of the education reformation, the working-class intellectual comes to represent both the authors' belief in the individual's potential to improve and their fear of individualized, uncontrolled knowledge. The contradiction between the Victorian interest in the self-improved individual and the eventual failure and isolation of a figure of self-improvement highlights the crack in the Victorian faith in individual agency when confronted with the possibility of individualized rather than standardized education. And the dismissal of the working-class intellectual as a possible social leader or effective mentor demonstrates the growing belief that society must define and publicly standardize a concept as "[powerful]" as education in order to achieve the primary educational goal of peaceful thinking and behavior (Craik 1). As the novels' epitome of potential individual reform the mentor is essential but as a representative of uncontrolled knowledge he is also necessarily expendable.

The mentor’s failure and dismissal then demonstrates that useful knowledge is structured knowledge capable of extending beyond a person’s individual experiences and studies to help

others perceive the connections between individuals and society. Fueled largely by understanding the connections among the past, the present and the future, the most useful abilities are often the foresight to predict the social consequences of individual choices and the pedagogical skills to impart that foresight to others.

The Ultimate Individual

Progressing solely by self-motivated hard work, the working-class intellectual, in many ways, epitomizes individual improvement. Self-educated, the working-class intellectual often appears in moments dedicated to personal study. Mrs. Green of *Helen Fleetwood* stumbles upon Tom South reading a newspaper (149) and *Alton Locke* describes Sandy Mackaye's rigorous daily schedule of "[reading] at least twelve hours of every day of his life" (62). Depicting them as men "[pursuing] knowledge under difficulties" the novels carefully emphasize the motivation of the working-class intellectual. Stephen Morley of Benjamin Disraeli's *Sybil* makes time to garden, read, and write columns for his newspaper (156). With the dedication to his studies depicted as his primary attribute, the mentor has little time to pause for social pleasures.

Partially separating him from society through his productivity the novels thereby emphasize his individuality and individual successes. Although a member of the Chartist organization, Mackaye's life primarily centers on solitary scholarship. His new mentee, Alton Locke describes his home as serving one purpose; "Not only were the shelves which covered every inch of the wall crammed with books and pamphlets, but the little window was blocked up with them, the floor was piled with bundles of them, in some places three feet deep…Out of this book-alluvium a hole seemed to have been dug near the fireplace, just big enough to hold his arm-chair and a table, book-strewn like everything else" (61). Filled with books and only one piece of furniture in which to read his books, Mackaye's sitting room symbolizes his singular and

admirable purpose, self-education. With barely room for Locke to move in, Mackaye's home represents the solitary life his constant self-improvement renders necessary. There can be no doubt from the description of his home that Mackaye progresses intellectually through great individual effort.

There can also be no doubt that the industrial novelists admire the mentor for his solitary education. At the beginning of *Mary Barton's* fifth chapter, Elizabeth Gaskell writes,

> There is a class of men in Manchester, unknown to many of the inhabitants, and whose existence will probably be doubted by many, who yet may claim kindred with all the noble names that science recognises….In the neighborhood of Oldham there are weavers, common hand loom weavers, who throw the shuttle with unceasing sound, though Newton's "Principia" lies open upon the loom, to be snatched at in work hours, but revelled over in meal times, or at night (36).

Moving to a description of Job Legh, surrounded like Mackaye by his "books" and "mysterious instruments" the novel places Legh on the intellectual level of "the noble names that science recognises" (38). And in her recognition of the physical "difficulties" which accompany Legh's intellect–the "unceasing" labor which Legh once endured like the "common hand loom weavers"– Gaskell increases her admiration of his (and others') achievements.

The reformers' depict education as something that taps into natural talents and motivations and equalizes or intellectually distinguishes people within and across stations. As Gaskell argues, Job Legh is intellectually akin to "all the noble names that science recognizes" although he will likely never meet them (36). This positive perception of education's ability to elevate the individual learner was largely different from the working-class beliefs about solitary education. Among the working classes, education and information was meant to be shared. As Jonathan Rose argues in *The Intellectual Life of the British Working Classes*, working class-led education generally consisted of groups of people meeting in Friendly Societies or reading groups or joining to create small libraries (58). While lone working-class intellectuals existed,

their peers often viewed them with suspicion if they failed to share their knowledge (Rose 86). To gain access to information often required a combination of people and their books. Therefore, an intellectual who combined subjects alone hindered the progress of the group. In contrast, the middle-class reformers view the lone intellectual as a testament to human potential at large. Job's motivation to obtain and ability to understand information reinforce a model of progress that imagines information and education as a primary means of connecting individuals across their social differences.

As a testament to the novelists' admiration of and connection with their intellectual figure, the mentor quite frequently shares the author's world perspective. Several critics note that Legh serves as an educated and educating figure in the novel. David Thiele explains that despite his status as a secondary character in the plot, "Job does most to stand for the ideals of those knowledge-diffusing Mancunian elites who are otherwise only present behind the voice of the narrator" (274). When Mr. Carson (the factory owner whose son Mary Barton's father murders) asks to speak to Jem Wilson (the man accused of Harry Carson's death), he requests that Legh also be present. Rather than establishing a dialogue between the accuser and the accused, the primary conversation occurs between Carson and Legh. Gaskell writes the scene as a debate between the factory owner and a working-class representative over the relationship between their sides during difficult social and economic times. Just as the debate seems futile, Mr. Carson proclaiming, "neither you nor I have convinced each other," Legh explains Gaskell's primary message to Carson (333). "You say our talk has done no good. I say it has. I see the view you take of things from the place where you stand. I can remember that, when the time comes for judging you" (334). Gaskell weaves throughout her novel the concept that each situation has two sides and that society can only reach a harmony when each side understands the other. She puts

these words, her own opinions, into the mouth of her intellectual–the man who, through his intellect best understands the message. While one might argue that Legh's faith rather than his intellect makes him most fit to achieve his author's perspective, I find that even less religious intellectuals frequently share the critical perspectives of their authors. Such shared perspectives suggest the importance of the self-educated intellect to the novels' didactic theories of success and reform.

At the beginning of chapter vi of Charlotte Elizabeth Tonna's *Helen Fleetwood*, as Mrs. Green prepares to place her children in the mills of M., Tom South declares that "it's a cannibal sort of life to be eating, as one may say, the flesh off our children's bones, and sucking the young blood out of their veins" (67). In the next sentence a neighbor chides South for hypocrisy, "having four children in the mills every day" (67). Despite Tonna's introduction of Tom South, that within only a few sentences declares him both an effective source of information and a hypocrite, the novel initially leans in favor of his educating qualities. The novel situates South's character at a position so close to the narrator's opinions that his lectures (rather than dialogue) appear more similar to the tone and structure of the narrative interruptions than the narrative. Only two pages after his introduction, the novel uses South to explain the corruption of the parliamentary act regarding the required education of working children. "What school?" he cynically asks,

> This act mocks us with an order that every child should go to school twelve hours in the week, and have a ticket for it; but when it comes to the pass, how do they manage? Why they give them an hour's leave or so at such times as no school is open, or else where there's only schools within reach where the masters and mistresses won't receive the little dirty wretches... (69).

South's knowledgeability and logical articulation make his tone and level of information difficult, at times, to distinguish from that of the narrator. A few chapters later, the narrator

concludes a scene with the same angry vehemence. She asks, "Does slavery, such as our law repudiates, and to which the very act of inhaling British air is supposed to be fatal, dwell and reign over thousands in our most public, most populous cities?" (103). The angry "[mockery]" with which South labels the system and his frustration posed in the form of a question to which he already knows the answer match the narrator's labeling of the factory system as "slavery." And the narrator's reduction of the concept of freedom to "the very act of inhaling British air," which "is supposed to be fatal" to slavery, creates a certainty in her tone–a certainty that matches South's certainty that all factory owners within the system prevent the attendance of school. While the narrator leaves her question about the existence of slavery open in the chapter, the similarity of tone and perspective between her and South provides an implied answer to her question. She insists that "This question shall be answered by an appeal to facts" and it is on South whom she depends for the majority of her facts (103). His certainty, based on his observations that Great Britain allows slavery, temporarily, becomes the narrator's certainty.

The ability of the intellectual, through education, to reach the industrial novelists' perspective, to transform himself through education into an intelligent, peaceful individual was the hope of Great Britain and the industrial novelists' didactic theories in the early to mid-19th century; if, alone, the self-educated man could achieve peace for himself there was hope for the rest of society. The need for such strong hope stemmed from the period's great social unrest. The industrial revolution quickly moved large portions of the population to urban areas where long hours in dangerous working conditions and cramped, unsanitary living quarters quickly dissipated the mental and physical energy of the working classes. In addition, economic downturns in the 1810's, 30's and 40's caused severe unemployment (Kestner, Protest and Reform 50), while smallpox and cholera epidemics in the 1830's and 1840's further aggravated

the already strained conditions (Kestner, Protest and Reform 50, 68). Responding to the harsh conditions and the lack of action from the middle and upper classes, the working class began to organize politically. In the 1810's, working-class intellectuals such as William Cobbett and Samuel Bampson helped to create the massive Peterloo protest of 1819, which ended in a massacre by the British Army. Building from the initial smaller protests and organizations such as trade unions, Chartism, a more unified, specific movement emerged in the 1830's. This eventually national working-class movement with universal male suffrage at the heart of its goals became organized and widespread enough to bring petitions with over a million signatures to Parliament in 1839 and 1842 (Chase 205). Led by working-class intellectuals, Chartism was the first working-class movement of its scale. It developed "distinctive methods of mass mobilization" which terrorized the middle and upper classes, helped to instigate interest in the plight of the working class, and bring to the forefront of society's interest the "eloquent" working-class man (Hall 59, Goldstrom). For even as working-class intellectuals, such as Thomas Cooper, situated themselves at the forefront of the movement, the middle and upper classes tended to believe that uneducated demagogues actually ran the Chartist organization (Goldstrom 92).[49] The middle and upper classes desired to separate aggravated political action from intelligent, educated thought. Alone, the reformers considered political knowledge ineffective, in part, because they believed other knowledge must precede political for complete understanding.

Therefore, as Parliament adopted various poverty reform measures, primarily, the New Poor Law of 1834, (which caused more unrest than ease), the public, both liberal and conservative continually returned to the belief in education as a primary solution to the social

[49] Thomas Cooper first trained as a shoemaker and then gained positions as a schoolmaster and a journalist (Carlton 96).

distress. In her history of the Mechanic's Institutes of Lancashire and Yorkshire (institutes founded for the scientific and technical education of the working class) Mabel Tylecote explains that although the political parties differed in their reasons for supporting the education of the poor–support it they did. Liberals believed that the poor's "enlightenment" would benefit the masses both in intellect and deportment (Tylecote 26). And "[t]hose who had less faith in the results of 'enlightenment' might seek to control a process they could not prohibit, and those more alarmed than elated by congregations of the people might see fit to secure their proper organization. In other words, a movement which began under radical auspices secured much conservative support" (Tylecote 26). In fact, as J.M. Goldstrom argues in his analysis of 19th century elementary school readers for the poor, social unrest almost always served as the instigation for educational reform (32). Regarding the content of the readers, he states, " a new curriculum was inspired at the time of crisis, and…once the crisis had passed, though more schools were established, the books embodying the curriculum remained unchanged" (32). The response of the more reactionary reformers, in particular, attaches the concept of education to the achievement of peace. Acting primarily in moments of agitation, distress, and violence, the reactionary reformers viewed education as a fast-acting antidote. But even more liberal reformers, such as Christian Socialists Charles Kingsley and his mentor, F. D. Maurice, believed education to be a necessary first step for working class social progress. As fellow Christian Socialist, John Ludlow[50] paraphrases in a letter, F.D. Maurice believed that the working classes "had to be educated before they would be capable of the self-restraint, staunchness, and obedience" necessary for productivity and self-organization (rpt. in Harrison 15). Focusing on the creation of orderly behavior, Ludlow's paraphrase emphasizes that no matter the political or

[50] Christian Socialism was a religious, social movement from the 1830's to the 1850's, led by men such as John Ludlow and F.D. Maurice who believed that social reform required a Christian perspective. They desired, through education and the creation of various trade organizations, to create a brotherhood among men.

social viewpoint, peace, as a key requirement for intellectual development, serves as the educational reformers' initial primary goal.

The depiction of the mentor as a peaceful man whose education motivates his peaceful nature reflects this widespread perspective on education as a solution to unrest. In contrast to John Barton who joins the Chartists and agrees to murder the factory owner's son in order to enact change, Elizabeth Gaskell's Job Legh remains relatively uninvolved in the strike and other acts of political agitation. He explains to Mary Barton that he is a member of the union "but a sleeping partner...I were obliged to become a member for peace, else I don't go along with 'em" (174). Legh's complaint about his forced membership revolves around the concepts of "peace" and "[wisdom]" (174). He continues, "Yo see they think themselves wise, and me silly, for differing with them!...But then they won't let me be silly in peace and quietness, but they will force me to be as wise as they are..." (174). For peace and peace alone Legh joins the union. As the novel's educated man choosing not to engage in violent acts, Legh inverts the meaning of the word "wise" to demonstrate that his intellect both compels him to join the union and steer clear of its "wise" activities. But of the mentors, Legh is the least politically active. Acknowledging the working-class interest in politics, many industrial novels establish the mentors who choose to participate in political activities as bulwarks of logic against irrational violence.

Drawn from the later works of real-life working-class mentors, Samuel Bampson and William Cobbett, the more politically active mentors must fight against violence using only their reason. In the midst of the Chartist and earlier working-class agitations, Bampson and Cobbett, who are mentioned in three of the four social problems novels I examine, urged their readers to think before responding to the calls of demagogues.[51] In his 1826 work, *The Poor Man's Friend A Companion for the Working Classes,* Cobbett insists that "it is not the part of prudence to place

[51] Only Tonna does not mention either Cobbett or Bampson.

implicit faith in that which an individual puts forth respecting himself, it becomes your duty, before you take any more of his Advice, to institute an inquiry" (6). Rather than emotionally reacting or simply accepting the ideas of others, one should "[prudently]…[inquire]" after additional information. Both Cobbett and Bampson encourage and often insist upon a strict development and use of calm, logical thinking and acting. Specifically, in their calm mental states the mentors demonstrate one of the most useful applications of information: foresight.

By collecting and connecting information (a primary means of making information useful as detailed in chapter one), the mentors foresee the outcome of simple choices and events and then advise their mentees on the best course of action. Similar to Bampson who specifically disagrees with the Charter because he sees no rationality in it (34), in *Alton Locke* Sandy Mackaye tries to argue logically with the Chartists that their plan to achieve the Charter with force is irrational and foolhardy. He declares to Locke and Crossthwaite, another colleague, that their belief that the army will join their cause lacks common sense; "they'll no be fools eneugh to stan' by an' see ye pu' down a' that is, to build up ye yourselves dinna yet rightly ken what" he argues (297). He points out both the human nature to protect one's life and "a' that is" and the Chartists' lack of a plan for what they would "build up" instead. Bampson's warning that "a rational voice would not push for strikes or impossible debates" (278) and Mackaye's warning about how the army will respond to the strike, demonstrate the potential usefulness of foresight - the opportunity for a significant positive social outcome. In the case of the Chartist strike, he might prevent significant violence. Yet despite the fictional mentor's clear and generally accurate predictions about the Chartists' plans and his ability to thoughtfully articulate his

concerns, the novels do not depict him making use of his foresight.[52] Instead, he limits his arguments to those directly around him.

Thus the comparison to Bampson and Cobbett who write to a wide audience when they encourage rational behavior highlights the difference between their public, educated peace, and the isolated peace and foresight of the literary working-class mentor. In her book, *The Politics of Story in Victorian Social Fiction*, Rosemarie Bodenheimer argues that the reader finds "the [true political ideas] of a novel in its deepest, most interesting, most problematical expressions" (3). "Rather than in its proclaimed social ideology," she writes, the "politics" of a novel lie "in the shape and movement of the narrative" (3). While I want to resist the argument that the middle and upper-class novelists secretly believed ideas opposite to their novels' ideology, especially given their devotion to working-class education,[53] Bodenheimer's focus on narrative movement helps identify the novels' "problematical" departure from Bampson and Cobbett's lives (3). Up to this point, the novels fairly closely match the admired lives of those men whose existence inspired the creation of their mentors. To shift away from Bampson and Cobbett at the very point in their lives, their public opinions and printed works, that allow them to serve as inspirations begins to contradict the basis for the author's initial admiration. For by moving the mentor into isolation when crowds of working-class people might benefit from his insight, the novels begin to impart a new, less positive, significance to the mentor's individualistic tendencies.

[52] The final attempt by the Chartists to obtain their demands through force collapsed on April 10th, 1848. Just as Mackaye "predicts" (Charles Kingsley wrote *Alton Locke* after the collapse of Chartism) that the army and the shopkeepers will not join their cause, the Chartists found instead that the government hired many lay persons to serve as temporary constables to put down the revolt (Goodway 129-142).

[53] As David Thiele argues, Gaskell appears to have seen her writing as her opportunity to extend the teaching of her husband (266), while Kingsley helped to found the first Working Men's College in London in 1852 (Colloms 147).

The solitary nature that the novelists initially admire for representing individual improvement now seems to hinder the mentor from affecting the change in which the novelists so greatly believe. His individualism now appears more like isolationism that only partially matches the figure's nature. When Mackaye expresses his concerns to Crossthwaite and Locke, Crossthwaite states, "I shall inform the Convention of your extraordinary language" (298). To this threat Mackaye responds, "Do, laddie!…An' tell 'em this, too" (298). Mackaye's insistence that Crossthwaite carry his message to the Convention suggests that Mackaye has no intention of delivering the message himself. Instead he turns his back on attempting to convince others of his peaceful opinions and predictions. Stephen Morley demonstrates a similar lack of interest in public proclamations. While known as a pacifist journalist in the novel, Morley only expresses his specific philosophical reservations about the coming strike and the Charter to a few characters. To Sybil alone he admits that Chartism is "a cause with which I have little sympathy and which can meet no success" (351). Throughout the novel, he works with and for Sybil's father on the Charter suggesting that when he finally admits to Sybil that he "[has] little sympathy" for the movement and foresees its failure, he unveils the information to both her and the reader. Considering Morley's occupation as a journalist and Mackaye's persistent outspokenness with Locke and Crossthwaite, their choice not to express their opinions publicly appears more related to the authors' concerns about working-class education than to their character development. Such a departure from their real-life inspirations, which keeps the mentors distant from public forums, indicates the novelists' recognition of the propensity for education to motivate leadership, their anxiety about public demonstrations, and their doubt in the leadership abilities of the individualistic mentor.

The Isolated Individual

In a period eager for leadership, the mentor's absence from positions of public guidance begins to illuminate the reformists' reservations about the mentor's individualized education. From above and below public figures of the age cried out for leaders to guide the masses. Thomas Carlyle, in his 1840 pamphlet on Chartism, interprets the entire Chartist movement as a cry for guidance:

> What is the meaning of the 'five points,' if we will understand them? What are all popular commotions and maddest bellowings, from Peterloo to the Place-de-Greve itself? Bellowings, *in*articulate cries as of a dumb creature in rage and pain; to the ear of wisdom they are inarticulate prayers: "Guide me, govern me! I am mad and miserable, and cannot guide myself!" Surely of all 'rights of man,' this right of the ignorant man to be guided by the wiser, to be, gently or forcibly, held in the true course by him, is the indisputablest (52).

His comments are based on the condescending assumption that no leaders currently guide the Chartists and that "the wiser" leader cannot be found among the Chartists' ranks. But even from below, Cobbett and Bampson suggest that the working classes lack effective leadership. Reminiscing about the hardships of the working-class movements of the 1810's, Bampson remarks that

> We had none to direct or oppose us, … We had not any of our own rank with whom to advise for the better,-no man of other days who had gone through the ordeal of experience; and whose judgment might have directed our self devotion, and have instructed us that, before the reform we sought, could be obtained and profited by, there must be another, a deeper reform,-emerging from our hearts (153-54).

Bampson portrays his revolutionary years as collective action without the guidance of individuals. Although the working classes generally expressed suspicion of solitary learners due to their fear that they would leave the group behind, Bampson expresses an alternative consequence of the solitary learner. The ability to separate oneself intellectually from the social group allows a person to "[instruct]" and "advise" the group. Bampson, of course, implicitly offers his leadership and advice in the moment that he expresses regret for having no advisor in

his younger days. Yet he also expresses his belief that the Chartists have rejected possible experienced leadership. He writes, "Groping in a mental and political twilight, we stumbled from error to error, the dim-eyed calling on the blind to follow; we fell as a natural consequence, and, a happy circumstance would it have been, had our fall served in these later times as a warning to others, but it has not" (277). In light of Bampson's belief that there was a lack of organizational progress in the working classes, the reader might expect a foolhardy literary mentor, ineffectively leading the novels' masses. Instead, the novels depict a mentor who never reaches for leadership beyond personal mentorship, is unable to recreate his social or world vision in his mentees, and tends to break down in moments of crisis. In so significant a turn from the real-life intellectuals' experiences the reader feels the implicit contradiction between the novels' investment in individualism and their fear of the individual.

Rather than representing the mentor's education and educated social vision as something that the mentor can teach to his students and peers, the novels eventually depict his education as effective only at the personal level. When Locke volunteers as a "deputation" from the London Chartists to go "down in the country" to "let them know we up in London are with them" and "[spread] the principles of the Charter," he receives "many instructions from [their] friends, and warnings from Mackaye" (236, 242). Under Mackaye's wing, Locke has been taught the value of logical thinking and peaceful political action. However, when faced with a mob of starving people demanding "bread" rather than political theories, Mackaye's warnings and teachings lose their effect (254). Rather than trying to pacify the crowd, Locke cries "Go, then,…and get bread! After all, you have a right to it. No man is bound to starve. There are rights above all laws, and the right to live is one. Laws were made for man, not man for laws" (254). While the author and the reader may, in part, agree with the arguments about man's rights, the significant

point is what motivates Locke to make these arguments publicly. He describes himself as "losing my self-possession between disappointment and the maddening desire of influence" in addition to his sympathy for the crowd's circumstances (254). He stands now as a mentor figure before an audience of potential students, and he can no more recreate his social vision in these students than Mackaye has been able to make Locke internalize many of his lessons. Driven, in part, "[mad]" by the "desire of influence," the desire to teach and be heard appears to overwhelm the intended lesson. In other words, the mob influences and "corrupts" Locke rather than Locke influencing and "teaching" the mob.

The mentor's inability to handle crises begins to demonstrate the novelists' belief in the insufficiency of his education to lead the working classes toward peace and contentment. On the eve of the April 10th strike, *Alton Locke's* Sandy Mackaye suffers a stroke while trying logically to convince Locke and Crossthwaite that they cannot "bring about the reign o' love an' britherhood wi' pikes an' vitriol-bottles, muther an' blasphemy" (299). In a similar manner, *Sybil's* Stephen Morley chooses the moment when Sybil begs for his help to stop her father's plot to confess, "I can endure no longer the anguish of my life: I love you, and if you will not be mine, I care for no one's fate" (352). In each instance, the emotions of the mentor overwhelm his rational thinking and bring him to a mental and/or physical collapse. Portrayed throughout the majority of the novel as a rational, disciplined thinker because of his education, the mentor's collapse in the precise moment when characters most need his rational guidance suggests a gap in his intellect and education. When put under pressure his rationality crumbles, implying that what appears to be a strong educational foundation actually lacks the structure and intellectual framework sufficient to handle the stress.

For even as the Victorian reformists believed in the individual's potential to improve, they lost faith in the organization of workers, and they grew more and more interested in developing controlled, educational systems in which members of the working classes might learn. The mentor's failure due to his lack of a sufficient educational structure reflects the contemporary belief that specific intellectual systems and curriculums were necessary in order to achieve the goal of satisfied peace. When the public school system began, the two primary organizations running the schools, the National Society and the British and Foreign Society, established their elementary schools with curriculums based on narrow religious instruction (Goldstrom 11-12, Silver 11**).** However, when the working classes responded inadequately to the teaching, in both skills and social complacency, each society eventually shifted to a secular curriculum in the hope of developing a more effective education system. Questions of what and how to teach students then led to a need for assessing student progress. Beginning in the 1830's, as the government started to invest financially in the schools' success, the concept of expected standard skills emerged. Specifically in 1851, a government official charged with assessing the school system recommended tracking student progress based on standardized tests to determine the amount of government funding for each school (Goldstrom 161**).**[54] At the same time, the Mechanic's Institutes, centers of technical learning established by the middle class for the education of the working class, continually reformed their methods of instruction. Initially using large lectures as their primary educating format, the Institutes eventually moved toward the more effective, smaller discussion classes.

The simplicity of the necessary pedagogical changes, for example the recognition that schools should consider educational formats and set standards, indicates the significance of any

[54] The 1862 Revised Code official implemented the "payment by results" concept, which the government repealed in 1897 due to its negative consequences on learning and teaching (Rose 148).

contemporary consideration for teaching methods and the relative methodological void into which the reformers added their changes. For even considering the Institutes' instructional alterations and concern for the quality of individual lectures, Tylecote argues that the Institutes' main failing remained their lack of a structured curriculum from which a student might receive credentials for completion (104). Thus, at the tail end of the Mechanic's Institutes' popularity in the 1850's, the sense of desired progression toward a working class, standardized, credit producing form of education appears most in the development of the Working Men's College. Organized by Christian Socialists such as Charles Kingsley and F.D. Maurice, the college, first and foremost, established a structured humanities curriculum. In his work, *Learning and Working,* on the specific challenges and strategies of adult education, Maurice outlines the "rules which we can follow in forming a scheme of education. The first, is be clear about our objects" (120). Whereas many earlier models of working class education seemed to have the general goal of educating the people to read, etc., the later Mechanic's Institutes, Working Men's College, and elementary school system all seem to establish the goal of defining what "education" is and what it specifically consists of in terms of subjects, depth of knowledge, and system of instruction. Recognizing the multiple possibilities for education, the reformers seek to define what specific kind and manner of education creates peace.

In the midst of the development of an educational structure, the working-class intellectual's remarkable position outside of any system of instruction helps to pinpoint the source of the authors' doubt in his leadership abilities by problematizing the authors' belief in individual improvement. Despite the existence of numerous working-class schools of various education levels in major cities at the time, the novels, all set in major cities, make little to no reference to the schools' existence. In fact, only *Helen Fleetwood* mentions schools of the lowest

levels for factory children and only to criticize them.[55] While the novel's negative depiction of the inadequate educational facilities matches many reports of working-class elementary schools, in which the teachers' lack of education and proper materials often hindered educational progress (Silver 60), Tonna's failure to mention a Mechanic's Institute or other reading club conflicts with the widespread existence of such organizations. In her history of *The Mechanics' Institutes of Lancashire and Yorkshire Before 1851,* Tylecote describes an educational culture that appeared in every major city and many small towns (53). As David Thiele notes, Gaskell's omission of information about the Institute's existence in Manchester, the novel's setting, is particularly strange since Manchester's Institute was one of the most successful, and her husband taught there (266). Similarly, Kingsley's long-time interest and participation in education makes the absence of any structured education in *Alton Locke* unusual and problematic for his and the other authors' theories of reform. By omitting references to available structured education systems to highlight the mentor's individual nature, the novels also lose the sense of control created by such systems over what the mentor and his students learn. Like the reformers struggling to provide a systematic public education to all members of the working class, the authors must face the reality that the more isolated an individual is as he studies, the more control he wields over what and how he studies.

Thus the educational reformers' wish to control the application of specific kinds of knowledge rested at the center of their debates and desires to produce a clear public system. When Chartism emerged, Goldstrom writes, "the fact that many of [the followers] were literate" "[disturbed]…the middle classes" since "[t]hey had learned the skills of reading and writing in Sunday schools and Church schools" (92). For, she continues, "instead of reading the Bible and

[55] The schools that Tom South describes appear to be either ragged schools or dame schools which were often run by teachers with questionable credentials and few teaching resources (Rose 151).

the religious matter put out by the tract societies, they read the Sunday papers" (92). While Goldstrom's analysis of the official texts provided to school children presents a limited perspective of the range of educational reformers involved in the debate (the Christian Socialists often involved themselves in working-class politics and offered political courses at the Working Men's College) her work points to the relatively universal sense that the jump from reading skills to politics was too sudden and would create more agitation than peace. With the limited educational focus of the early Sunday schools and the later elementary schools, the conservative middle and upper classes expected the working classes to limit their application of the knowledge to religious study, the three R's, and domestic tasks. A similar attempt to control the initial subjects of education occurred at the Mechanic's Institutes where officials frequently banned or limited the discussion or application of the Institute's knowledge to politics (Hodgen 73). Although, eventually, several Institutes included newspapers in their libraries, the addition occurred only after strong requests from the members (Tylecote 104). The restriction on political materials demonstrates the Institutes' interest in focusing, at least, some of the subject matter and the application of their information.[56] Instead of an arena for political discussion, the founders imagined their education as a means to refine the workers' trade skills, create additional, technical inventors, and to elevate the working classes intellectually (Tylecote 34). Although in less extreme terms than the religious educators, the Institutes initially planned for their workers to apply their education narrowly rather than broadly, in many cases, directly to their crafts or jobs. However, each reforming group of the middle class eventually learned that while they could maintain relative control over subject matter, they could not control how students used the subjects.

[56] As argued in chapter one, the restriction of information and material within subjects such as history, geography, biography, travel, chemistry, biology, zoology, metallurgy, physics, and astronomy was minimal if at all existent.

Therefore, at the same time that the mentor represents the self-made man, he also represents the self-made curriculum – uncontrolled in subject matter and application. For this reason, compared to the other industrial novelists, Tonna portrays Tom South, the least traditionally educated, as the least sympathetic of the mentors. Compared to Kingsley's Sandy Mackaye or Disraeli's Stephen Morley, South learns entirely from newspapers and his education consists of information about how the system, whether the school system, the legal system, or the factory system, operates. Tonna writes, "[h]e passed his time denouncing the factory-system, and even built upon it doctrines subversive of every good principle as a British subject" (242). The novel portrays the very education, which makes him helpful to Mrs. Green (and the narrator) earlier in the narrative, as harmful to his "acute and vigorous mind" (242). "[T]hat mind had been perverted, rendered at once morbidly sensitive as to theory, and selfishly callous as to practice, in the [factory system] that incessantly occupied it" (22). The furthest from any system of education, South is the only figure whose author directly describes him as dangerous. Richard Green, the novel's protagonist, observes that South "seems to have a great deal of learning for one in his station; but I should be tempted to fear he would better like to revenge himself than to see what is wrong quietly set right" (252). Not contained by the same philosophical training as the other mentors as his primary reading material indicates, South joins the angry working-class group and "seeks [a remedy]…even worse than the disease" (251). While the direct nature of South's threat might seem to separate South and his education from the other mentors, I argue that the novels portray Morley and Mackaye as posing a similar (though more subtle) threat through their self-education.

South, Mackaye, and Morley all share the habits of applying their learning to politics and reinterpreting history through a political lens. Seemingly taking Cobbett's advice to view

education as a chance to question authority, the fictive mentor demonstrates the Chartists' tendency to use their historical education to reinterpret events and create "the Chartists' alternative history" (Hall 37). Hall states the Chartists, "took an international perspective on the people's history" linking and commemorating people and events whom they felt worked for the cause of the working classes (37). Such a class-conscious perspective causes Mackaye to recommend non-"[aristocratic]" authors to Locke and Morley to insist upon a strict division between "THE RICH AND THE POOR" (74). Morley's interpretation of events is problematic since Disraeli finally concludes, like many of the reformers, that there should be a connection between the classes in which the rich "protect the people" (194). As several critics observe, the interpretation of history particularly interests Disraeli who articulates great "nostalgia for the past, for a time" as Josephine Guy quotes from *Sybil*, "when there was 'community' rather than 'aggregation'"(181).[57] His mentor's insistence that "these great men have never made use of us but as tools" interprets the same history as a mistreatment of the poor that will continue until "[the people] produce competent champions from their own order" (194). The mentor thereby threatens the vision of history and the solution of returning to the past social order put forth by the novel. Consequently, the novels recognize that the applications of the mentor's knowledge, which focus on the victimization of the working classes cause the peaceful mentor to question authority with great frustration – frustration which undermines his initially hoped for peaceful influence.

As the anger and the frustration of the mentors indicate, the ability to interpret events as he desires also means that the mentor has the freedom to react emotionally to the events as he so chooses. Many of the conservative opponents of the public education system opposed it out of

[57] Adam Kirsch states that Disraeli's "novels presented a romantic vision of Toryism," a "renewal of England's best traditions," and attempted to "recreate English history" (111).

concern that education would create dissatisfaction among the workers (Goldstrom 9, Silver 4). To counteract the possible dissatisfaction with the working class's current station, the authors of the first English secular readers for the British and Foreign Societies (1842) included a "special section of political economy" (Goldstrom 124). This section "combined remarks about good habits to cultivate–diligence, forethought, temperance, frugality–and all the dangers of neglecting them–with stern warnings of the dangers to the working man of his challenging the economic order, and demonstration of the futility of trade unions, even of well-intentioned government intervention" (125). The lessons taught students that emotional responses were futile. Neither the government, nor the trade unions could influence the ebb and flow of the economy. So directing anger at the factory operators or into trade unions would simply waste important energy.

While the conservative attempts to curb the working class response to the social and economic hardships of the day appear to be nothing more than brainwashing, they still recognize the possible complexity of the education solution. And through the figure of the mentor, the liberal reformers demonstrate that they are even more acutely aware of the oversimplified idea that education leads to peace. The authors of industrial fiction choose to cite and admire intellectuals such as Cobbett and Bampson in the intellectuals' later, calmer years. Although Wyke argues that Gaskell depicts a less nuanced version of Bampson's political opinions by assuming that "[his] later writings were….a simple rejection of a radical past," I believe that Gaskell's, and, collectively, the industrial novelists' treatment of the mentor demonstrates an awareness that the intellectual's " political attitudes and assumptions were far more complex" (97, 97-98). The authors' depictions of the mentor, quite frankly, acknowledge the anger and frustration fueled by the intellectual's education. Tom South is angry precisely because he so

fully understands the operation and corruption of the school system. He understands both the law "that every child should go to school twelve hours in the week, and have a ticket for it" and the social execution around the law that "they give them an hour's leave or so at such times as no school is open, or else where there's only schools within reach where the masters and mistresses won't receive the little dirty wretches..." (69). And the extent of his knowledge causes him to speak disdainfully of the law as it " mocks us" and the manufacturers who mock the law by "[managing]" to work around it. Although the reformers would like to believe that education equals peace, they recognize, in part, that a person's level of information may be directly proportional to his frustration**.** But with few other options to combat the period's social unrest, the novels must go forward with their education-based reform while dismissing their primary representative of education.

The novelists manage to shift away from the mentor while continuing to support education by arguing that all "education" is not an incorrect solution, only the mentor's individual education. Restricting the mentor's teaching period, the reformers imply that the mentor's form of education is incomplete and should not be passed on as a sole source of education. For this reason, successful mentees in the novels must always supplement their education from the mentors with other sources of information. Richard Green of *Helen Fleetwood* begins to learn from calmer men at a political meeting who support the systematic religious education of the novel. The men, "principally of the appearance of artizans, but with one or two from a higher class in society" have "[a]n air of seriousness" about them (246). Their demeanor, in contrast to South's aggravated criticisms of the factory system, "bespoke the quiet determination that is not soon turned from its purpose" (246-247). Rather than angry, violent revolt, the novel steers Green toward learning "the peaceable, legal way of trying to get [the

working class's grievances] redressed"-working within the system to help change it (252). Similarly, Kingsley continues Alton Locke's menteeship with Lady Eleanor Ellerton, a Christian Socialist who teaches Locke and Crossthwaite that through their new reading of history and the plight of the working class, they misinterpreted history. She explains, "do not hope, that He will give [rights] to you, before you are able to profit by them. Believe that he has kept them from you hitherto, because they would have been curses, and not blessings" (346). Through Lady Ellerton, the novel now teaches, perhaps contradictorily, that the right order always exists by the will of God. But it also implies the need for receiving the proper education before receiving rights which, without education, the working class will not properly handle. The novels never give the mentor the opportunity to provide the proper education to his pupil(s). And the novels' limiting of the mentor's opportunity to teach by killing him or discarding him from the plot finally completes the isolation that the mentor's studies began.

The finality of the mentor's isolation demonstrates the middle classes' doubt in the individual change of heart as a complete means to reform society. They see the need for a system in which an individual may change in order to guarantee an individual's full reform and to guarantee the social applicability of his knowledge. In the novels' balancing act between individual and system, they find that they cannot trust an individual outside of a system to consistently choose peace and maintain the desired social decorum. In other words, they cannot trust how he or she will use his or her education. The mentor demonstrates the ability of the working class to learn and develop but his final isolation indicates the need for systematic, middle-class supervision of individual reform.

The Isolated Change of Heart

In Job Legh, Gaskell demonstrates the appropriate place for self-improvement through education. Different from all other mentors Legh survives and not only maintains his initial admired position, but also attains an even higher status within the novel by the end. While he offers advice to members of the working class throughout the novel, at its end Legh teaches Mr. Carson, the factory owner, lessons on social understanding. As Terry Wyke argues, Gaskell "[holds] up [Legh] not, as was being increasingly done, as [a] [model] for other members of the working class to consider and imitate but as [a] [model] for the middle classes to assess their own behavior" (97). He serves as a role model for all classes. But his role model status, ironically, depends on his general separation from the role model position. Far from the history, politics, or philosophy primarily studied by the other mentors, Legh studies, almost obsessively, entomology. Such a subject is significant because it specifically avoids a relation to or interpretation of the human sphere. Even though G.L. Craik warns of the common "narrowness" of self-education, the separation between Legh's education and the human sphere, created by his narrow field of study, causes Legh to epitomize the self-educated individual and a non-threatening form of self-education. Natural history was also a middle-class hobby, which identifies Legh, with a shared pursuit, with those he might oppose politically. Therefore, unlike the other mentors whose educational pursuits, at least, perk their ears toward the contemporary, revolutionary organizations, Legh's intellectual interests predominantly distract him from all dangerous subjects and subject applications.

He perfectly models G.L. Craik's definition of the virtuous possibilities of self-education as "it nurtures tastes and supplies sources of enjoyment, admirably adapted to withdraw the mind from unprofitable and corrupting pleasures" (1). While the novel's ending seems to chuckle at the extremity of Legh's focus and isolation, it also serves to reaffirm the innocuous nature of his

intellectual pursuits. When Mary Barton and Jem Wilson, now married, emigrate to Canada, they learn that "Job Legh talks of coming too" when his granddaughter and her husband sail over (339). "[N]ot to see you, Mary, –nor you, mother, –nor you my little [son]," Jem explains, "but to try and pick up a few specimens of Canadian insects" (339). His studies keep him so focused that they seem to supersede familial social interaction. As the deviations between the fates of the mentors indicate, only in such a focused state may the self-educated individual remain the ideal of the reformers' change-of-heart philosophy. For in such a state, ironically, the mentor's education hinders rather than encourages future changes of heart or mind and guarantees that he will remain behind his solitary desk.

The plight and fate of the working-class mentor demonstrates the frustrated but well-intentioned reform processes of the middle and upper classes. Desiring to believe in the individual and a democratic form of education, the reformers appear, more than anything, to continually run into themselves when they fail to achieve such democracy. Perhaps pathetically, they seem constantly aware of their fear of the power of knowledge (the same power that fuels their belief in its efficacious qualities) when handed to an uneducated population. After the deaths of Stephen Morley and Sandy Mackaye, the novels return with loving fondness to the memory of their self-educated men. Speaking to Alton Locke about his emigration to America, stipulated in Mackaye's will as a condition of his inheritance, Lady Eleanor Ellerton states, "if poor Mackaye had but had somewhat more faith in the future, that fatal condition would perhaps never have been attached to his bequest" (363). Lady Ellerton explains Mackaye's strange request for Locke's new start in a new land as a result of Mackaye's lack of "faith in the future." Yet in the musing tone of the novel, the reader hears Charles Kingsley's awareness of the situation's irony. Had he, as author, had more faith in the self-educated man and his ability to

manage his own future, neither Mackaye's death nor Locke's emigration would be necessary. In such moments, as they reflect the author's returned intellectual connection to his mentor, the novels also reflect their persistent hope for a peaceful, democratic, educated future.

Felix Holt and the Hope for the Working-Class Mentor

Eighteen years (1866) after Gaskell first publishes *Mary Barton,* George Eliot publishes what most critics consider the final industrial novel, *Felix Holt, the Radical* (Hobson 21), in which her working-class intellectual neither dies nor disappears from society. Focusing on the novel as a commentary on the political reform proposed by the Second Reform Act of 1867, critics argue for its "Conservative" politics (Bamber 424, 427) and (in the tradition of the industrial novel) general lack of faith in the working classes to wield political power. From this perspective, the novel appears eventually to reject its political plot for a less contentious marriage plot and portray Felix Holt as a conservative in radical working-class clothing.[58] However, Holt is also a working-class intellectual – a mentor. And when read in light of the earlier mentor figures, Holt's significant differences from the initial mentor pattern warrant reading the novel in light of the debates surrounding the controversial 1862 Revised (educational) Code and leading up to the 1870 Education Act. While the novel discusses education less explicitly than politics, it returns continually and subtly to the subject in its altered depiction of the mentor figure. In this context, rather than despair for the working classes and their ability to govern themselves, the novel depicts a growing social hope for the beneficial effects of an educational system – not the current system, but the future system promised by the current debates.

[58] Avrom Fleishman argues "The plot must…bring it about that the negative [radical version] be cast down and the positive [Felix's] emerge triumphant, though in the muted tones we have come to expect from this author. She accomplishes this through a love-plot…" (154).

Starting in the late 1850's the government organized a number of commissions to investigate the state of the grammar and elementary schools.[59] From 1858-1861 the Newcastle Commission investigated the elementary schools and determined that most working-class children did not attend state-funded schools. While the members insisted that the low attendance was no cause for alarm, specifically no cause for mandatory attendance, they did recommend revising the means of funding the voluntary schools. Particularly critical of the quality of education the children received, the commission recommended a "payment by results" method that would link school funding and teacher pay to the progress of their students in three primary subjects: reading, writing, and arithmetic. The outcome of these recommendations was the controversial 1862 Revised Code. Spawning much criticism and debate about what education should entail and how it should be structured, the Code, its supporters and critics were part of a rich debate environment which included reformers such as Matthew Arnold, James Kay-Shuttleworth, and Thomas Henry Huxley.[60] It is within the context of these debates that George Eliot writes *Felix Holt*.

Not as outspoken about social or political issues as her industrial novelist predecessors, Eliot's awareness of these debates and opinions about education must be gleaned from her works, biography, and brief references in her letters. While one might dispute Linda Robertson's claim in *The Power of Knowledge: George Eliot and Education* that "Among the major Victorian novelists, it is Eliot who most consistently raised the issue of education in its broadest sense – not just schooling but lifetime learning" her point, that the thread of education runs consistently through her works as a part of daily life indicates the topic's place in Eliot's life as

[59] In 1861 the Clarendon Commission investigated nine grammar schools, and in 1864 the Taunton Commission investigated and later made recommendations about the remaining endowed grammar schools (Simon 278).
[60] Arnold, Huxley, and Shuttleworth all strongly opposed the Revised Code, accurately predicting that payment by results would result in poorer instruction and less learning for the working classes (Jackson 138). In contrast, Harriet Martineau and John Stuart Mill praised the Code's efficiency (Rea 181, Garforth 18).

well. Focusing on Eliot's frequent references to current educational themes in her fiction, Linda Robertson argues that "Eliot's considerable familiarity with the current controversies and developments in education is a result of her friendships with many of the individuals engaged in educational reform as well as a sign that she read a variety of publications" (1). It seems safe to assume, for example, that when Thomas Henry Huxley dined at Eliot's home (*Letters vol iv*, 214), given Huxley's strong opinions about science education, that the conversation would have turned in this direction.[61]

Felix Holt clearly reflects the educational reform climate in its attention to the qualifications of the emerging working-class voter, and nowhere more clearly than in its central mentor figure. Like her industrial novelist predecessors, Eliot develops a working-class mentor who voices opinions similar to the narrator's, demonstrates strong individuality, and practices and encourages self-improvement. Unlike her predecessors though, Eliot supplements Felix Holt's self-education with a structured educational experience; Holt's mother explains he "went off to study at Glasgow" (66). Portraying Holt's parents as surprised by his educational choices, Eliot suggests that Holt's education is unusual for a member of the working classes. Towards the beginning of the novel, Holt explains to Mr. Lyon (his future father-in-law) that "I was 'prentice for five miserable years to a stupid brute of a country apothecary – my poor father left money for that – he thought nothing could be finer for me" (72). Holt's family has a limited concept of education – professional training through an apprenticeship. Emerging from a limited educational environment, Felix's choice to "[give] up his 'prenticeship, and [go] off to study at Glasgow" (66) demonstrates a level of individuality similar to the earlier mentors *and* a broadened sense of the educational opportunities not seen in the earlier industrial novels. I

[61] Thomas Henry Huxley was a scientist and prolific contributor to the debates on both middle and working-class education. Huxley fought for the inclusion of science to the general school curriculum and against the religious groups' control of education.

argue it is this subtle change – Holt's structured education and the expanded educational system it gestures toward – referenced during only two conversations in the novel that predominantly sets Felix up for a different fate as a working-class mentor.[62] For unlike earlier mentors, Felix Holt reproduces his intellectual perspective, actively serves as a leader for the working classes, and remains a mentor throughout his life.

Where previous mentors remain alone - unable to reproduce their intellectual opinions in others - Felix brings his future wife, Esther Lyon, to view society as he does, and together they reproduce Felix in their son. When Esther, the adopted daughter of a minister, and Felix first meet, they clash over their intellectual tastes. Felix notices Esther's copy of "*Byron's Poems!*," and remarks with "disgust…What! Do you stuff your memory with Byron. Miss Lyon?" (81). She retorts, "I have a great admiration for Byron" (81). Felix objects to Byron for being a "misanthropic debauchee…whose notions of a hero was that he should disorder his stomach and despise mankind" (81). To Felix, Byron is the opposite of what the working-class (or any class) leader and mentor should be: self-indulgent, vain, and unconcerned with society's condition. When Felix expands his criticism of vanity to women, describing "a fine lady" as a "squirrel-headed thing, with small airs, and small notions, about as applicable to the business of life as a pair of tweezers to the clearing of a forest," Esther fights back that "Men who are unpleasant companions and make frights of themselves are sure to get wives tasteless enough to suit them" (84). Their argument revolves implicitly around the importance and value of manners and types of education. They reach no agreement, only mutual disgust, and it seems that they will never see eye to eye. Two hundred pages later, they begin realizing their feelings for one another, and by the end of the novel, they are married. The transition from disgust to love is an unsurprising

[62] Hao Li attributes a more limited importance to Holt's education. He describes Holt's "years in Glasgow" a "'missing link' in the narrative, which may have accounted for his 'enlightened' education" (117).

plot element for a nineteenth-century novel, as is Esther's learning of humility from her future husband. The surprising part of their relationship's evolution is Esther's renunciation of wealth (she discovers half-way through the novel that she is an heiress) for a life of working-class poverty with Felix.

Where earlier heroines of the industrial novel genre often retain their wealth in order to restore the connection between the rich and the poor, as in Disraeli's *Sybil,* Esther declares that not only does she "not wish to marry [the wealthy Harold Transome]," but she also does not wish "to be rich" (524). Several critics have described Eliot's novel as the first that articulates a working-class nature and value-system as separate from other classes.[63] Esther's renouncing of wealth indicates her rejection of her birth station for Felix's class, specifically by viewing Felix as her instructor. Earlier in the novel, she tells Transome, her wealthy suitor, "I didn't see the meaning of anything fine – I didn't see the value of my father's character until I had been taught a little by hearing what Felix Holt said, and seeing that his life was like his words" (462-463). Esther learns to see her father and the world differently by learning to see through Felix's perspective. While critics often point to the softening of Felix's perception under Esther's influence, their choice to adopt poverty together, contrary to Esther's initial desire to be wealthy, suggests a far stronger influence of Felix on Esther.[64]

Most concretely though, Felix's ability to reproduce his intellectual perspective appears in his son who receives the final line of the book. Eliot writes, "There is a young Felix who knows a great deal more of science than his father, but has not much more money" (529). The

[63] Christopher Hobson argues "Eliot … is the first important writer to recognize the significance of [the labor pioneer] and invest it with moral value. In doing so, she upends the tradition bequeathed by earlier "industrial novels" by recognizing, along with the labor pioneer, the permanence of class divisions and the political independence of the working class" (19).
[64] Michelle Weinroth argues that Esther's "more graceful and appealing qualities of the beautiful order" help to "[temper]" Felix's "impulse towards mental and moral rigour" (22).

novel indicates that the son, old enough at the end of the novel to earn money, lives like his father despite his greater education. And the reproduction of the father's lifestyle combined with the expansion of the father's knowledge in the son ever so subtly implies that like the father, the son has experienced some sort of systematic, outside education. This distant (the novel's final line) and subtle reproduction and expansion of the father's education indicates the novel's simultaneous embeddedness in the current education debates and tension with the existing education system.

On the one hand, the reproduced perspective but expanded knowledge can be explained by an increased presence of schools in the novel. Unlike the previous novels which make little to no mention of schools, in *Felix Holt,* Holt runs a small school with "six or seven boys of various ages up to twelve" and wants to start an evening school for adults (251). Although the novel mentions no other sources for working class education, the eventual education of Holt's son hints at the system's growth. Certainly, Felix's choice to run a school (he already has a profession as a watchmaker) and desire to start another for adults indicates some faith in the merits of guided education.

On the other hand, by not including a school run by one of the voluntary religious societies, and by sending Felix to Glasgow rather than an English school, the novel implies its skepticism about the efficacy of the current system. As the commissions dedicated to investigating the elementary education system indicate, the system by no means reaches all members of the working classes, nor is it generally effective in educating the students who do come. Eliot reaches the same general conclusion in her letter to Mrs. Nassau John Senior on October 4, 1869 when she writes, "It is not likely that any perfect plan for educating women can soon be found, for we are very far from having found a perfect plan for educating men. But it

will not do to wait for perfection" (Letters v.5 58). Eliot's comment indicates her desire to move forward with education (of men and women) despite the imperfect system; progress can be made before perfection, she suggests.

Thus the novel is less concerned with representing the present circumstances of the education system, growing but still not expansive in its reach within the working classes and the curriculum it provided to them, than describing the debates that surrounded the system about improving its quality, content, and accessibility. Similar to Huxley, Arnold, and Kay-Shuttleworth, the curriculum particularly interested Eliot who believed strongly in a broader, more Continental curriculum that included subjects such as science and foreign language (Robertson 43). By sending Holt to Glasgow, Eliot indicates her belief in the significance of an expanded curriculum for full intellectual growth.[65] As Dinah Birch explains about a character from *Middlemarch* whom Eliot chooses to educate in Scotland, "Christy goes to university in Glasgow rather than one of the English universities, and in Scotland he would have been more exposed to a Continental tradition of thought" (9-10). Although English grammar schools and universities for the middle and upper classes still focused on the classics, the continental schools had expanded to include science, modern foreign languages, and skills for business. The growing arguments from men such as Thomas Henry Huxley and Herbert Spencer who spoke and wrote extensively on the subject of expanding the school curriculum to include, in particular, science, offers Eliot hope for what the school system and the working-class intellectual may become.

Rather than being the perfect model, Felix is a further step in the development of working-class intellectuals – a further step that initiates continued progress. Felix possesses a

[65] Henry Lewes sons attended school in Switzerland where they could learning "modern languages" and "practical skills" (Robertson 43).

weaker ability to influence the working classes (than members of his family), and it may be for this reason that Christopher Hobson describes Holt as "a soldier, not a leader, of the labor movement" (26). But different from the earlier mentors, he at least attempts to lead. In Holt, the reader recognizes the ineffective leader who more closely mirrors the lives of Cobbett and Bampson and whom the reader perhaps anticipates in *Alton Locke* and *Sybil.* Holt often speaks before large crowds of working-class men declaring that the ability to vote means nothing without the education to make informed political decisions (331-332). And, when, towards the end of the novel, a drunken working-class mob threatens people and property in the town, Holt "believed he had the power, and was resolved to try, to carry the dangerous mass out of mischief until the military came to awe them…" (355). In a significant use (application to a social situation) of his foresight, Felix attempts to outthink the mob by pretending to act as their mob leader while actually encouraging them from engaging in destructive activities. Despite his recognition of the personal "risks" "in the midst of a tangled business," Holt remains more concerned by "the horrors that might come if the mass of wild chaotic desires and impulses around him were not diverted from any farther attack on places where they would get into the midst of intoxicating and inflammable [sic] materials" (356, 354, 355). In the novel's critical moment Holt uses his foresight (his intellect) to anticipate the mob's actions, while also emotionally responding to the tense situation. '"[H]is blood was up'', Eliot notes (356). Holt "has" both "rapid senses and quick thoughts" meaning that unlike Mackaye or Morley, Holt appears to be able to think and feel simultaneously (354). With a more structured education, and thereby a more structured intellect, Holt's emotions emerge without causing an intellectual breakdown. He maintains his position as an intellectual in the novel.

But Holt is still only a step forward for the mentor, and his attempt to lead is only partially successful. Although Felix manages to secure the rescue of one man taken hostage by the mob, he accidentally kills a police officer and the mob eventually decides to veer off from Felix's more isolated route and target the wealthy Treby Manor. However, despite his own manner of failure, Felix lives, manages to receive a reduced prison sentence for killing the officer, and when he returns continues to make plans to serve as a mentor to the working classes.

Eliot's choice not to kill or isolate Holt like the other mentors demonstrates a faith in the effects of the education system that Eliot and the education reformers such as Huxley and Arnold hope will eventually emerge for the working classes. With such a system in place, Eliot implies, individualized learning can and should safely coexist. When Esther decides to retain two pounds a week from her inheritance, Holt immediately declares, "I shall be able to set up a great library, and lend the books to be dog's-eared and marked with breadcrumbs" (526). The suggestion of a library seems to bring the industrial novel genre full circle – back to the initial reverence for self-improvement and individual learning – and several steps further. Holt's son's education, presumably, begins with this library, and just as father Holt surpasses his parents' education, so too does the young Holt surpass his father in "science." Certainly, the novel never shows throngs of working-class men and women modeling themselves after Holt. Instead, the novel suggests that social improvement still occurs one person at a time.

The extent of the industrial novel genre's interest in working-class education, its content, structure, and uses, appears to end around mid-century. The authors tend to agree that education must expand for the good of society, that it can have great social repercussions, and, therefore, must have a clear structure. But they evade addressing in their novels what precisely that structure might look like, what specific information it must contain, and how that information

will shape the future of the working-class students. Their schools are generally absent, their libraries are only briefly described, and thus the curriculum that will intellectually shape the working-classes (and how) appears only vaguely as "science" and "history." Just as Felix Holt's and his son's primary education occurs beyond the novel's pages, outside the narrative framework, the genre's reticence about the specifics of education suggest that such questions must be grappled with in the real rather than the fictional world. It is then the liberal education reformers of the mid and late-nineteenth century who must struggle to define what the working-class students should know and how an ideal education should intellectually shape them.

Bibliography

Bamber, Linda. "Self-Defeating Politics in George Eliot's *Felix Holt*." *Victorian Studies* (June) 1975: 419-435. Web. 20 Feb. 2010.

Bampson, Samuel. *Passages in the Life of a Radical.* vol.1. London: Simpkin, Marshall. 1842. *The Making of the Modern World*. Web. 1 Jul. 2009.

Birch, Dinah. "'School-Time'"; George Eliot and Education." *The George Eliot Review: Journal of the George Eliot Fellowship* 36 (2005): 7-16. Web. 20 Feb. 2010.

Bodenheimer, Rosemarie. *The Politics of Story in Victorian Social Fiction*. Ithaca, NY: Cornell UP, 1988. Print.

Carlton, John. *The Chartist: The First National Workers' Movement.* Chicago: Pluto, 1997. Print.

Chase, Malcolm. "1842: Toasting muffins at a volcano." *Chartism: A New History*. New York: Manchester UP, 2007. 192-228. Print.

Cobbett, William. *The Poor Man's Friend A Companion for the Working Classes.* London: H. Stemman. 1826. *The Making of the Modern World*. Web. 15 Jul. 2009.

Collon, Brenda. *Charles Kingsley: The Lion of Eversley.* New York: Barnes & Noble, 1975. Print.

Disraeli, Benjamin. *Sybil or The Two Nations*. London: Longmans, Green: 1845. Print.

Eliot, George. *Felix Holt, the Radical.* London: Hawarden, 1899. Print.

---"Address to Working Men by Felix Holt." *Selected Critical Writings.* Ed. Rosemary Ashton. New York: Oxford UP, 1992. 338-354. Print.

---*The George Eliot Letters.* Ed. Gordon S. Haight. New Haven: Yale UP, 1954. Print.

Fleishman, Avrom. "The "Radical": taking an anti-political stance in *Felix* Holt." George *Eliot's Intellectual Life.* New York: Cambridge UP, 2010. 97-120. Print**.**

Gaskell, Elizabeth. *Mary Barton*. New York: W.W. Norton, 2008.

Goldstrom, J. M. *The Social Content of Education 1808-1870: A Study of the Working Class School Reader in England and Ireland*. Shannon, Ireland: Irish UP, 1972. Print.

Goodway, David. "The Great Meeting of 1848." *London Chartism, 1838-1848.* Cambridge, UK: Cambridge UP, 1982, 129-143. Print.

Guy, Josephine M. *The Victorian Social-Problem Novel: The Market, the Individual and*

Communal Life. London: Macmillan, 1996. Print.

Hall, Robert G. *Voices of the People: Democracy and Chartist political identity 1830-1870.* Monmouth, Wales: Merlin. 2007. Print.

Hobson, Christopher Z. "The Radicalism of "Felix Holt": George Eliot and the Pioneers of Labor." *Victorian Literature and Culture* Vol. 26 No. 1 (1998) pp. 19-39. Web. 20 Jan. 2010.

Jackson, Patrick. *Education Act Forster: A Political Biography of W. E. Forster 1818-1896.* Madison, NJ: Fairleigh Dickinson UP, 1997. Print.

Kestner, Joseph. "Men in Female Condition of England Novels." *Women and Literature* vol. 2 (1982). 77-99. Web. 20 Jan. 2010.

Kestner, Joseph. *Protest and Reform: The British Social Narrative by Women 1827-1867.* Madison, WI: U of Wisconsin Press, 1985. Print.

Kingsley, Charles. *Alton Locke.* New York: Harper, 1856. Print.

Kirsch, Adam. *Benjamin Disraeli.* New York: Schocken, 2008. Print.

Lenard, Mary. *Preaching Pity: Dickens, Gaskell, and Sentimentalism in Victorian Culture.* New York: Peter Lang, 1999. Print.

Li, Hao. "Determinism and Moral Reform in *Felix Holt*." *Memory and History in George Eliot*. New York: MacMillan, 2000. 140-160. Print**.**

Maurice, Frederick Denison. *Learning and Working*. Ed. W.E. Styler. London: Oxford UP, 1968. Print.

Rauch, Alan. *Useful Knowledge: Victorians, Morality, and the March of the Intellect.* Durham, NC: Duke UP, 2008. Print.

Arnold, Matthew and E. E. Rea. "Matthew Arnold on Education: Unpublished Letters to Harriet Martineau." *The Yearbook of English Studies* 2 (1972): 181-191. Web. 10 Feb. 2010.

Robertson, Linda. *The Power of Knowledge: George Eliot and Education.* New York: P. Lang, 1997. Print.

Rose, Jonathan. *The Intellectual Life of the British Working Classes.* 2001. Print.

Silver, Harold and Pamela Silver. *The History of a National School 1824-1974.* Boston: Routledge & Kegan Paul, 1974. Print.

Thiele, David. "'That There Brutus'" Elite Culture and Knowledge Diffusion in the Industrial

Novels of Elizabeth Gaskell." *Victorian Literature and Culture* v. 35 (2007): 263-285. Print.

Tonna, Charlotte Elizabeth. *Helen Fleetwood.* New York: Charles Scribner, 1852. Google Books. Jun. 2009. Print.

Tylecote, Mabel. *The Mechanics' Institutes of Lancashire and Yorkshire Before 1851*. Manchester, UK, Manchester UP, 1957. Print.

Williams, Raymond. *The Long Revolution*. New York: Columbia UP, 1961. Print.

Wyke, Terry. "The Culture of Self-Improvement: Real People in *Mary Barton.*" *The Gaskell Society Journal* v.13 (1999) 85-103. Print.

Chapter 3: The Liberal Education Reformers and the Working-Class Curriculum

Geology only 7 students in the first term of present year – French, 79; Drawing, 52; English Grammar, 37; Latin, 34; Bookkeeping, 25; Arithmetic, 22; Geometry, 20; Algebra, 16; English Composition, 14; History of England, 13; English Literature, 10; Geology, 7. -At the foundation of the College, and at intervals from time to time, its founders and teachers have, in more or less definite forms, given their impressions as to the relative importance of each study, the general drift of which will be best described by saying that the table just quoted, read backwards, would nearly represent the realization of our ideas…But the contradiction, violent as it is, between the hope and the reality, is no proof that our estimate of the chief uses of a College and of what its teaching ought to be, was a wrong one. On the contrary, if any one says, "The facts are against you," I am ready to reply in all seriousness with the French philosopher, "So much worse for the facts!" It is not experience that is against us, but want of experience…If we cannot alter the eternal law of human nature, by which men like better to follow blindly a traditionary custom and convention than to ask themselves the reason for what they are about; we can at least do some little towards establishing another custom more intrinsically rational, and adapted to the real demands of our time. Most of all, we should never cease to urge students to think for themselves on the first question, What to learn? (R. B. Litchfield, Working Men's College Magazine 48-49)

On March 1, 1861 the *Working Men's College Magazine* published a brief article that addressed the difference between the College's founders' prioritization of subjects and the College's actual enrollment numbers. Founded by F.D. Maurice and several other Christian Socialists in 1854 as a humanities-based college for working-class men, the London Working Men's College (the second of many working men's colleges) aimed to expand and improve upon the education offered at the Mechanic's Institutes whose early 19th century popularity had diminished by mid-century.[66] Where the Mechanic's Institutes often offered more limited curriculums focused on the sciences, the Working Men's College offered a broad liberal curriculum intended to fulfill the working man's presumed additional interests in literature, history, and politics. Despite the number of institutes, pamphlets, and societies that addressed the education of the working classes in the second half of the nineteenth century, the

[66] The Christian Socialists were a group of reformers who desired to create social harmony between the classes by focusing on collective, social action particularly among the working classes (Harrison 7). The Mechanic's Institutes were first started in 1823 in London by the Scottish Dr. Birbeck as a place for the working classes to receive instruction on science and the mechanical arts (Hodgen 45). Maurice describes drawing much inspiration from the People's College of Sheffield, founded in 1842 (152).

ambitiousness and uniqueness of the project should not be overlooked. Unlike many educational projects for the working classes, the Working Men's College presupposed that men and women from the London factories and trades were capable of, needed, and desired a humanities- based, college-level curriculum – reserved up to this point – for the middle and upper classes. The working classes' partial resistance to this curriculum (preferring "drawing" over "English Literature") and the *Magazine's* response to the resistance highlight several of the main issues facing education reformers in mid to late nineteenth-century England. "Read backwards" the list of courses appears to be an educational system that prioritizes literature, history, math and science – a system in which Litchfield firmly believes. Bluntly refusing to reconsider the curriculum in response to the current enrollment trends, Litchfield declares there "is no proof that our estimate of the chief uses of a College and of what its teaching ought to be, was a wrong one." It is the students who must change, he implies, not the system.

But in his explanation of the use of the College and the primary reason for its need to stay true to the current curriculum, Litchfield reveals a central contradiction inherent in the liberal education reformers' ideology. He criticizes "human [nature's]" tendency "to follow blindly a traditionary custom and convention [rather] than to ask themselves the reason for what they are about." Men should question customs and develop rational "[reasons]" for the choices they make. But his solution for the lack of questioning is the "[establishment of] another custom more intrinsically rational, and adapted to the real demands of our time." For it seems that only through this new "custom" will the reformers successfully "urge students to think for themselves on the first question, What to learn?" Following on the heels of the industrial novelists described in Chapter 2, who determine that the self-educated working-class individual is less of a social threat within an educational system, the liberal education reformers of the second half of the

nineteenth century undertake to develop an educational system for the individuals of the general population. In other words, they aim to form *individuals*, capable of "rational" thought and critical thinking skills, within a *generalized* curriculum.

In the mid-nineteenth century, the Working Men's College curriculum was only one piece of a larger reform movement intended to redevelop the course of studies offered to members of the working classes at all education levels. Liberal reformers such as John Stuart Mill, Matthew Arnold, Thomas Henry Huxley, and James Kay-Shuttleworth engaged in great debates about the purposes of education and the core subjects that would achieve their goals. As many critics argue, their liberal ideology caused them to focus these debates largely on the abstract qualities of individuals as they were part of society and, even more generally, mankind.[67] In her chapter "Making a Social Body: British Cultural Formation, 1830-1864," Mary Poovey states that "by 1860, the idea that individuals were alike in being responsible (economic and moral) agents was being advanced as a substitute for the tutelary role that the metaphor of the social body had initially assigned to the state" (22). In other words, liberalism focused generally on individuals of all classes as possessing responsibility for their personal circumstances and sharing responsibility for the state's collective functioning. Perhaps ironically, the shift of responsibility from the state to the individual increased the importance of public education to help produce responsible individuals. As Lauren Goodlad argues in *Victorian Literature and the Victorian State: Character and Governance in a Liberal Society*, the liberal reformers felt strongly "the positive impulse to build character and promote social

[67] In *Cultivating Victorians: Liberal Culture and the Aesthetic*, David Wayne Thomas states that "At a general level, liberalism indicates a doctrine whereby individuals bear equivalent rights of free thought and action within a sociality to which they adhere through their own volition. So understood, liberalism has been widely criticized as a naïve voluntarism, a perniciously atomistic individualism, and an unduly abstracting subscription of agency to universalizing moral perspectives" (14) In *Liberalism and Empire* Uday Singh Mehta describes liberal ideas as having a "typically abstract" and "[decontextualized] presentation"(10).

betterment by collective means" (vii). Although, as Goodlad notes, Victorian liberalism and character development covers many aspects of society and draws on several different ideological traditions, this chapter will focus solely on educational liberalism. I define educational liberalism as the attribution to nearly every individual the ability to expand the mind through studies, to think rationally and critically, to improve one's whole person (body and mind) through education, and through personal improvement to improve society at large.

Seemingly in line with liberalism's affinity for abstractions and generalities, critics of the liberal reformers tend to discuss liberalism's general goals and refrain from delving into the liberal curriculum.[68] Even as David Wayne Thomas admits that "liberalism has been widely criticized as…an unduly abstracting subscription of agency to universalizing moral perspectives" Thomas participates in the same abstracting practices (14). His work explores the liberal term "many-sidedness, a temperamental and intellectual attainment involving practices of self-criticism, open-mindedness, and earnest conduct" (4). And yet Thomas never shifts from the general perspective to consider what it is about the liberal curriculum that promotes "many-sidedness"- what subjects and combination of subjects help to develop the qualities of "open-mindedness." Exploring the liberal curriculum reveals both further insights about the individual the reformers wish to create and additional complexities within the liberal education ideology.

In order to address the liberal curriculum, one must first recognize the liberal reformers as reluctant utilitarians**.** They admit that education is useful and that various subjects have uses, but they reject the definition of "useful" frequently applied to material objects – physically or financially beneficial – for their curriculum (*WMCM* Sept. 1, 1859 137). Instead they prefer a definition that focuses on the personally direct and the socially indirect benefits of intellectual

[68] In "The Anatomy of a Victorian Debate: An Essay in the History of Liberal Education" Ralph White critically observes that the early-nineteenth-century "discussion centered on the content rather than the idea of liberal education, on claims for and against subjects old and new" (39).

improvement. For example, in the September 1, 1859 issue of the *Working Men's College Magazine* (hereafter *WMCM*), J. N. Langley describes how education will help men expand their minds and learn to "value more and more [their] true manhood" (137). Consequently, when considering the liberal curriculum, the reformers discuss the combined subjects in general terms, or they discuss the assumed specific effects and benefits of a single subject or area of subjects; Arnold focuses on the effects of literature, languages, and classical history, Huxley focuses on the effects of the natural sciences, and Mill insists that logic produces the greatest levels of critical thinking (Arnold "On Education" 26, Huxley, *Science and Education* 114, Mill, *Autobiography* 5). In other words, the reformers all seem to pick a favorite subject – a core which develops one's critical thinking skills, but they discuss far less how the other subjects and the combination of the subjects contribute to those critical thinking skills.

Despite their resistance toward investigating the curriculum to identify its various uses for an individual, the reformers repeatedly produce similar curriculums, although with varying emphases: reading, writing, arithmetic, geography, history, science, literature, and moral studies. Thus unlike liberal curriculums of the past whose content suggests that the study of one or two subjects thoroughly would train the mind to address and learn any other subject (Sanderson 189), the more extensive liberal curriculum of the 19th century suggests that certain subjects have specific uses and that skills and specific knowledge must combine to create a many-sided individual. In order to explore this curriculum, this chapter will focus on three textual bodies. The first body includes the numerous educational manifestos of F.D. Maurice, John Stuart Mill, Matthew Arnold, James Kay-Shuttleworth, and Thomas Henry Huxley. The second body is the rich collection of texts published by the Working Men's College in which the various contributors engage in a discussion with their students and other educators about the importance

of their particular courses and the liberal definitions of useful knowledge and a useful, liberal education. The third text is Charles Knight's *English Cyclopaedia,* published between 1854 and 1873, in which Knight draws heavily from the Society for the Diffusion of Useful Knowledge's *Penny Cyclopaedia.*[69] Grouped into divisions similar to the liberal curriculum subjects, the encyclopedia serves as an expansive version of the liberal curriculum**.** These texts, all published in the second half of the nineteenth century, cover a period in which numerous education acts were passed including the 1870 act expanding elementary public education and the 1880 act making public school mandatory, as well as the significant growth and expansion of the WMC.

Exploring the extensive liberal curriculum brings to light more specific qualities of the many-sided individual the reformers wished to cultivate and important insights about the reformers' thinking processes. The combined subjects seem to be meant to create an individual able to observe the world around him, able to interact with and locate himself in space and time, and able to view education and the discovery of knowledge as an ongoing process. At the same time, the curriculum reveals the importance of personal interest to the individual and the strong similarity between the interested ideal student's self and the interested instructor's self. While critics frequently point to the imposition of middle-class interests and values on the working classes as problematic and contradictory for the liberal education project, they generally fail to see how the reformers' strong focus on personal interest in a variety of subjects also attempts to make room for individuality.[70] For even as the reformers desire to create individuals within a

[69] See Chapter one's discussion of Knight's *Penny Magazine* and other work with the Society for the Diffusion of Useful Knowledge.

[70] In *The Mechanics' Institute of Lancashire and Yorkshire before 1851*, Mabel Tylecote describes the "the middle-class despotic control of education" (124). Lauren Goodlad argues, "[James] Kay-Shuttleworth's educational philosophy gestured toward liberalism's intersubjective ideal: mutual recognition between equals. Nevertheless, Kay-Shuttleworth's invocation of Scottish and Continental innovations cannot be disengaged from the underlying project of bringing working-class habits in line with middle- and upper-class social objectives" (169). Elaine Hadley states, "that Victorian liber-alism's fantasy of an abstractly embodied agency, of a cultivated self, was always already a political project, a response to terrorism at home and abroad that only summoned its coherence and

system who resemble themselves, their more extensive system in which everything appears interesting also offers the individual a kind of personal freedom.

And yet the reformers' response to the working classes' deficient interest in the proposed curriculum reveals a final contradiction in the liberal thought. While R. B. Litchfield criticizes the working classes' tendency to cling to a "traditionary custom and convention" without thought, he overlooks the fact that many of the reformers' solutions and methods were in fact based in "custom and convention." As, largely, products of the elite, traditional universities, the reformers were taught to see broad connections between the content, methods, and application of their subjects. From years of intellectual training, the connections and the means of explaining the connections to the working classes appear obvious – so obvious that the reformers often seem oblivious to their students' struggles to make the same connections. In particular, as reluctant utilitarians, the reformers struggle to identify and bridge the gap between their abstract definition of useful knowledge and the more materially bound definition, frequently used by their students. Rooted in their own educational tradition, and their own means of drawing together the separate subjects of the new liberal curriculum, the reformers often fail to understand how and when the working-class individual cannot perceive the educational system as they do.

The Individual Within a System

In the mid to late nineteenth century the liberal education reformers generally united in criticism of the 1862 Revised Code for elementary schools. The Code, in an attempt to lower the government's educational funding while also making instruction more effective, introduced a "payment by results" policy that instituted national tests for reading, writing and arithmetic (Simon 349). Opponents of the Code, Matthew Arnold, former Secretary of Education James

---

cogency at times of crisis, and only then with meager results-subject to distractions, to bodily alienations, to ineffectualities of all sorts" (99).

Kay-Shuttleworth, member of Parliament W.E. Forster, and scientist Thomas Henry Huxley feared that the Code would limit the realm of education to "so much knowledge of reading, writing, and arithmetic as could be attained before eleven years of age" through "the concentration of the work of the school on a drill in these three rudiments" (Patrick 138, Garforth 18, Kay-Shuttleworth *Memorandum* 12).[71] The opponents believed that education under the Code would produce not "thought" but "meager proficiency" through "routine," rather than "intelligent" individuals, but students capable only of repetition (Kay-Shuttleworth 48, 44, 25, 48).[72]

Partially in response to the Code and the debates it sparked about the focuses of education, the liberal education reformers proposed curriculums that they felt would produce "intelligent" individuals with "life and fire" (Huxley 86). While the reformers often disagreed about what would be at the core of the liberal curriculum – "letters" or "science," they all appeared to place critical thinking skills at the center of an individual's development (Arnold "Literature and Science" 463, Huxley "Scientific Education" 126). Existing most publicly as a literary conversation between Thomas Henry Huxley and Matthew Arnold, the discussion of the core curriculum carefully considered what an education primarily should do to and for a person. In his 1869 "Scientific Education: Notes of an After-Dinner Speech" for the Liverpool Philomathic Society, Thomas Henry Huxley explains that "scientific education…[brings]…the mind directly into contact with fact, and [practices] the intellect in the completest form of induction; that is to say, in drawing conclusions from particular facts made known by immediate

[71] Harriet Martineau and John Stuart Mill praised the Code's efficiency (Rea 181, Garforth 18).
[72] The reformers' fears were by no means unfounded. As Matthew Arnold himself observed while serving as a school inspector, one of the people charged with administering the tests, schools taught students how to pass the test and little else. And passing the test did not necessarily mean attaining grade-appropriate proficiency or competency in the tested subjects. Students memorized the selected materials and often failed the exams when asked to perform a task in a slightly different manner (On Education 52). For example, one school inspector reportedly asked students to read the selected texts backwards (Goldstrom 166).

observation of Nature" (126). Studying science, helps to develop the observational skills and the student's relationship with the world of "things" around him.[73] Huxley further argues that scientific study trains the brain in logical "[inductive]" thinking (*Science and Education* 126). The educated liberal individual should learn to connect his ideas with the available information, and he should learn to develop new ideas from the connections he makes. At its most basic level, then, thinking critically appeared to mean intellectually responding to information and using it to develop productive relations among the ideas it makes possible.

It is here, at the point of connection and response, that Arnold explicitly disagrees with Huxley. Responding to Huxley's "Science and Culture," Arnold writes in his 1886 "Literature and Science,"

> Following our instinct for intellect and knowledge, we acquire pieces of knowledge; and presently, in the generality of men, there arises the desire to relate these pieces of knowledge to our sense for conduct, to our sense for beauty, and there is weariness and dissatisfaction if the desire is balked. Now in this desire lies, I think, the strength of that hold which letters have upon us (463).

Letters, Arnold argues, help men to connect their knowledge to human qualities (the love of beauty) "outside [the] sphere" of "knowledge" (464)[74]. And he feared that in Huxley's curriculum the student would be limited to nothing but the world of observational knowledge. At the same time, Huxley feared that the student of Arnold's curriculum would learn nothing of the observable world – only the world of *belle lettres* (*Science and Education* 150). Given their overlapping interest in a student thoughtfully responding to information, their disagreement about what each other's curriculums could do for a student appears to stem, in part, from a lack

[73] In "Literature and Science" Arnold argues that "that in natural science the habit gained of dealing with facts is a most valuable discipline, and that every one should have some experience of it." (462).

[74] Critics, such as Gillian Sutherland, frequently argue that Arnold is far more concerned at this time with middle-class education than working-class education (Sutherland 13). This appears to be true. In "The Popular Education of England and France Compared" Arnold argues that the middle class must join with the state in education to elevate themselves and eventually lead the nation (On Education 112). But given his discussion about the "the generality of men" and their intellectual desires, I understand Arnold's ideal curriculum to be simply a longer-term plan than many of the other reformers.

of understanding of the intended courses of study. Arnold states that Huxley has incorrectly assumed that his curriculum includes no natural science (qtd. in Armytage 352). But while he begs his readers to "avoid as much as possible any invidious comparison between the merits of humane letters, as means of education, and the merits of the natural sciences," Arnold seems just as prone to false assumptions and problematic comparisons (469). Towards the end of "Literature and Science," Arnold offers the following anecdote and remarks:

> I once mentioned in a school-report how a young man in a training college, having to paraphrase the passage in *Macbeth* beginning,
>
> Can'st thou not minister to a mind diseased?
>
> turned this line into, 'Can you not wait upon the lunatic?' And I remarked what a curious state of things it would be, if every pupil of our primary schools knew that when a taper burns the wax is converted into carbonic acid and water, and thought at the same time that a good paraphrase for
>
> Can'st thou not minister to a mind diseased?
>
> was, 'Can you not wait upon the lunatic?' If one is driven to choose, I think I would rather have a young person ignorant about the converted wax, but aware that 'Can you not wait upon the lunatic?' is bad, than a young person whose education had left things the other way (469).

Arnold assumes that "[knowing]" the effect of burning wax in a candle is equivalent to knowing "a good paraphrase." Yet he overlooks the fact that in his example, he presents the knowledge of the wax as a memorized fact and the knowledge of the paraphrase as a mental task the student must perform. In other words, both Huxley and Arnold assumed that the other's curriculum creates an insufficient mental response, but they appeared to agree that the most general goal of education should be the development of complex responses to knowledge and ideas. While recognizing these oversights and false assumptions and misunderstandings brings the reader no closer to reconciling Huxley and Arnold's core subjects, it does make the similarity between the remaining subjects of their curriculums all the more strange and in need of investigation.

Huxley's and Arnold's debate extends over several texts and several decades throughout which the reformers repeatedly defended and described the specific merits and effects of their

core subjects. But despite their differences on their core curriculums, Huxley and Arnold, as well as other liberal education reformers, including John Stuart Mill, James Kay-Shuttleworth, W. E. Forster, and F. D. Maurice, largely agreed on all other subjects within the curriculum. Perhaps because of this agreement, the reformers spent far less time explaining the importance of history (not just Arnold's classical history) and geography, and the importance of this particular collection of subjects: reading, writing, arithmetic, history, geography, science, literature, moral studies.

As a collection of subjects, the new liberal curriculum differed from the old "artes liberals" in its breadth (both in course content and intended student body) and in its perception of the relationship between knowledge and learning (Rhyn 5). The "artes liberals" curriculum, which dates back to "the Latin Middle Ages" "consisted…of the Trivium (grammar, rhetoric, dialectic) and the Quadrivium (arithmetic, geometry, astronomy, music)" (5). Available almost entirely to the upper classes, the curriculum largely excluded the natural sciences and at the university level students rarely addressed all seven subjects simultaneously. As Michael Sanderson argues, "The 'liberality' had nothing to do with the breadth of curriculum" rather learning occurred "by narrow concentration on difficult articulated disciplines like formal grammar, mathematics, or logic" (189). While the new liberal reformers certainly still believed in the particular ability of certain subjects to train the mind, there existed as well a growing belief that, as Arnold argues, in order to read well, a person must know what he or she is reading about (*Culture and Anarchy*).[75] This educational shift towards combining how a person should think

[75] Similarly, Huxley argues "In these times a man may as well be purblind, as unable to read – lame, as unable to write. But I protest that, if I thought the alternative were a necessary one, I would rather that the children of the poor should grow up ignorant of both these mighty arts, than that they should remain ignorant of the knowledge to which these arts are means ("A Liberal Education and Where to Find It." 76-110).

with what a person should know means that the new liberal curriculum developed skills and a general knowledge base within a student in order to create an educated person. Investigating the relationship between skills and knowledge within the complete liberal curriculum offers a more detailed depiction of the intended liberal individual.

Since all of the reformers in some way spoke of an ideal rather than an existing curriculum and its effects, Charles Knight's *English Cyclopaedia,* whose sections largely mirror the liberal curriculum, becomes a useful resource for exploring the education and the ideal effects dreamt of by the reformers. In the preface to the *English Cyclopaedia's* first volume on geography, Knight explains the project's methods to his readers.

> "The English Cyclopaedia," as announced from the first, is based upon "The Penny Cyclopaedia of the Society for the Diffusion of Useful Knowledge." The copyright of that great work being the property of the Conductor, he alone had the power of remodeling it throughout, so as to adapt the original materials to the existing state of knowledge. To accomplish this in the most effectual manner, it was determined to publish "The English Cyclopaedia" in Four Divisions, each having its own alphabetical arrangement; these Divisions being – I. Geography; II. Natural History; III. Sciences and Arts; IV. History, Biography, Moral Sciences, Literature.

As part of his larger educational project to provide information to readers of all classes (Gray 12), Knight undertakes to "[remodel]" the information originally published by the Society for the Diffusion of Useful Knowledge from 1833-1843. While his remodeling certainly involves simply updating old and including new information, Knight's choice "to publish *The English Cyclopaedia"* in Four [subject-oriented] Divisions" suggests that Knight is also thinking about the "existing" structures " of knowledge" and an individual's process of approaching knowledge. In the eighteenth and nineteenth centuries, encyclopedias and dictionaries of the sciences were organized alphabetically by smaller terms (e.g. peony) and eventually by larger categories in some longer articles (e.g. flower) (Yeo 18). Knight's publishing of the separate divisions or

subjects in separate volumes allowed a reader to approach not just a bit of information, but many connected bits within a single subject. [76]

If the core of the curriculum is meant to help a person think critically and draw connections between life and his own ideas, it stands to reason that the additional subjects should help a person to develop those connections. In the March 1, 1861 issue of the *WMCM*, an anonymous author describes the *English Cyclopaedia* as "a book for every Working Men's College Library" (163). Several pages later the author declares that "What is especially needed, is that the modern mind should be able to unite itself wholly with the past; should be able to rise above details – in history above chronicles, in science above specialities…should comprehend the relations of the great provinces of knowledge to each other, their office to their individual mind and the social life of men" (166). In other words, education should teach a person to connect subjects and society. But to rise above the details, one must still observe the details. The following questions then emerge: how do the subjects of the ideal liberal curriculum and their details help a student develop such broad connections? And what kinds of connections do the subjects develop?

First and foremost, the combined subjects of mathematics, history and geography overlapped to give a student the knowledge and intellectual training to relate to space and time. Long associated with offering the intellectual training to recognize truth and induce conclusions from specific information, the study of mathematics in the new liberal curriculum also addressed

[76] Using the *English Cyclopaedia* as an ideal extensive liberal curriculum gives me access to both the subjects and the information within those subjects that interested the liberal reformers. However, the *Cyclopaedia* also presents the problems of being far more extensive in most subjects than any actual curriculum that the reformers propose, but far more limiting in the subject of literature. The extreme sifting through information in order to determine the inlying patterns about how a person should think and what a person should know means that I still risk generalizing about the curriculum. However, I have attempted to base my conclusions on the information provided by specific subjects rather than presumptions about what information specific subjects provide.

the specific knowledge that a student should gain from the subject. In the 1867 "Arts and Sciences" volume of the *Cyclopaedia*, the article on "Mathematics" declares,

> There are but three things of which we cannot divest ourselves so long as we imagine ourselves to retain both existence and consciousness of existence: they are thought, space, and time....The necessary laws of thought are the subject matter of logic: the necessary properties of space and time are the subject matter of mathematics. *Number* is an offspring of the notion of time; enumeration is a succession in time; in no other way can *number* be distinguished from *multitude.* And geometry is, without need of illustration, the offspring of the notion of space (530).

If the educational core (whether literature or science) teaches a student to respond to information, mathematics specifically teaches a student to observe and calculate "[successions] in time" and "[notions] of space." The reformers then intended the student's study of history and geography to supplement his understanding of these concepts.

In the new liberal curriculum, history offered the student a means to develop temporal connections between himself, his region, other humans, and the world most generally. History appears in almost every article of any length in the *Cyclopaedia* and reformers on both sides of the "core" debate argue that history should be taught as a living subject. In "A Liberal Education and Where to Find it" Huxley describes a form of history education that emphasizes causes and effects and teaches a student to understand "the everlasting problems of human life" (97). Rather than "a weary series of feuds and fights" history should be taught as "a vivid picture of life on the shores of the Mediterranean two thousand years ago" (97). Not surprisingly, articles on smaller subjects within the *Cyclopaedia* describe, for example, the streets and typical homes of ancient Romans (*Geography* 1855 333). In his 1867 "Inaugural Address to the University of St. Andrews" (an address that despite its audience considers the education of students at all levels and classes) John Stuart Mill argues that history is both a collection of facts and the relation of facts to one another. He writes that from a study of history a student should

understand "the main differences between human beings and between the institutions of society at one time or place and another," should be able to "[picture] to himself human life and the human conception of life as they were at the different stages of human development" and "[distinguish] between what is the same in all ages and what is progressive" (205). Mill's description of the subject indicates a student with the knowledge to compare distinct moments in time, including his own, and by implication understand what in his own age is part of a universal human condition and what is unique and "progressive" about his current moment. From his understanding of the distinctions and similarities in humanity through history, the student should then better understand his own identity by understanding his place in history. While, on the one hand, such a comparison works to demonstrate the student's "miserable smallness of mere self in the face of this great universe, of the collective mass of our fellow creatures" (Mill 223), on the other hand, such a comparison also works to demonstrate the student's position as a place of action and as a part of history's development.

Although discussed far less frequently by the reformers, geography and its presentation of space appears to be a "living subject" as well in which a student learned not only the relation of different spaces to one another, but also the relation of humans to those places. Many of the geographic articles focus on the human process of discovering new lands or the manner in which men (both Europeans and aboriginals) interact with the land and its resources. The first several pages of the lengthy article on "Africa" detail the various European expeditions to and reports about Africa collected from as far back as 610 B.C. The article then begins to detail the specific expeditions to explore the middle of Africa. It is only after twelve pages of describing the many people who have visited the continent that the article begins to use some of the more recent interior reports to describe the African landscape. The article details the landscape almost

completely through the eyes of the European explorers – rather than describing the information contained in the reports disconnected from the explorers' perspectives and memoirs (Geography vol. 1, 104-118). Even in articles on locations apparently more familiar to the author, the description of a place often appears to be a personal tour. In the article on "Rome" the author describes how "Towards the southern end of the Lungara the hill recedes farther from the banks of the river, which here makes a bend to the east, and it is within this bend that the great bulk of the district called Trastevere is situated. Some of the streets run up the Janiculum to the gate of San Pancrazio, but the higher part of the hill is chiefly unbuilt" (321). For the student encountering this kind of geography, the subject matter and style of presentation encourages the student to imagine distant lands and his or her current position in relation to those lands.

Particularly interested in students learning about history (and even geography) as a series of "causes and effects," the reformers seemed to want to focus the teaching of history on the events and actions over which humans had control. The lessons of history demonstrate the role that humans play in the events of history and, in turn, the role that the student plays in current history. It is here that the overlap between history and the moral studies promoted by most of the reformers becomes apparent. Although the reformers disagree about the center of moral studies in the curriculum (Huxley believes that simply learning about truth and natural law in the sciences will create a more moral mind while the more conservative Kay-Shuttleworth argues that moral studies can only come from the Bible), they generally agree that a significant portion of moral training should focus on understanding one's responsibilities in the world (Kay-Shuttleworth Four Periods 253, Huxley *Science and Education* 86,).[77] The knowledge provided

[77] In **"**A Liberal Education and Where to Find it" Huxley argues, "Would it not be well to have helped that man calm the natural promptings of discontent by showing him in his youth, the necessary connection of the moral law which prohibits stealing with the stability of society – by proving to him, once for all, that it is better for his own people, better for himself, better for future generations, that he should starve than steal? If you have no foundation

by a living history allows a student to understand people as related to one another and responsibilities as important actions between people. As an article in the *WMCM* by the wife of a student explains,

> During these three months I attended several of the history classes and though I learnt but little of history, geography, or drawing, I learned enough to enable me to understand a little the purpose of the College teaching….it enabled us both not only to understand our positions among our neighbours, but in our own home, and, above all, to each other…Henceforth an attempt was made to establish for the ruling principle of our house, not our wishes, but our duties; and to do, not what we wished, but what we ought (October, 1st, 1859 153).

Even the "little" history learned in her three months at the College provides the student with the knowledge to see her relationship to other people and her place in the world, as an active being with "duties" to perform.

Of course, many critics associate such a focus on human actions, morality, and the development of history with the debates leading up to the 1867 Second Reform Act which granted certain members of the working classes the right to vote.[78] The increased interest in public education generally stemmed from a recognition that soon many new men would have the right to select members of Parliament – a right that in the hands of uneducated men who lacked the mental training to observe details or the historical information about the effects of certain (revolutionary) actions was of concern to conservative and progressive education reformers. Clearly, then, the liberal curriculum largely addresses the formation of individuals with the knowledge and the skills to participate, even politically, in the world around them.

---

of knowledge, or habit of thought, to work upon, what chance have you of persuading a hungry man that a capitalist is not a thief "with a circumbendibus?"' (89).

[78] Jackson Patrick makes this claim in *Education Act Forster: A Political Biography of W. E. Forster* (142). Brian Simon notes that after the 1867 Reform Bill, MP Robert Lowe, who had opposed the bill and who was largely responsible for the 1862 payment-by-results Act, argues, "I believe it will be absolutely necessary to compel our future masters to learn their letters." Soon after Lowe became a proponent for significant education reform at all levels for all classes (355).

If the combination of mathematics, history, geography and moral studies teaches the student to understand his temporal, spatial, and social position and connections to the world, the combination of history and science provides students with knowledge about the discovery of knowledge itself. The emphasis on living subjects suggests that past history and the present are intimately linked. Consequently, the combination of the liberal subjects teaches the student that education is as much an understanding of the creation of knowledge as it is an understanding of the most current knowledge. The Biography division of the *Cyclopaedia,* which explicitly combines biography, history, moral sciences and literature, is largely a collection and description of individuals who have contributed to the expansion of knowledge. And while the work details the lives of men such as "William Allen" who "established schools at Lindfield for boys, girls, and infants, with workshops, out-houses, and play-grounds" and "Alcuin" whose "learning and … prodigious industry made him the first man of his age, and his honesty and his services to education entitle him to our grateful remembrance" the *Cyclopaedia* also details the lives of many persons whose contributions are less apparent (*Biography* 1857 157, 100). The 1868 *Biography* volume includes an entry on "Arthur Young" and explains that:

> If he was sometimes led on by a sanguine disposition and lively imagination into doubtful theories, he corrected this by the faithful details of his experiments. He cannot be said to have founded any new system of agriculture, but he has collected and brought forward all the improvements made by different individuals, and thus diffused an immense mass of practical knowledge, which before was scattered and isolated…(885).

Despite Young's "doubtful theories" he earns a place in the Cyclopaedia and the author's positive opinion due to his role in the process of information collection. This process, the student learns, includes not only the discoveries and the successes but also the failures. The author explains that "Even the failures, occasioned by adopting systems and rotations not suited to every soil, gave useful lessons, and pointed out the principles on which the most advantageous

systems for different soils were founded (883). If just a bit of history knowledge helps a student understand her social "duties" in the world, then, reformers believe that a bit of science history knowledge helps a student understand that science is a process as well as a collection of facts.

Such knowledge about the process of learning and discovering information, the reformers' hope, will train the student for a life of continued learning and thinking. In the "Natural History" volume of the *Cyclopaedia* the entry on the "Iguanodon" begins with the briefest information about the ancient creature and jumps quickly into a description of its discovery by "Dr. Mantell" (217). The process of discovery begins when "some teeth of a very remarkable character particularly excited [Dr. Mantell's] curiosity, for they were wholly unlike any that had previously come under [his] observation" (217). The article goes on to describe Dr. Mantell's search for the origin of the teeth through consultation with various other paleontologists. His persistent search through his colleagues' responses that the teeth are merely from a "Rhinoceros" or "of no particular interest" (217), demonstrates the kind of scientific thinking and response to knowledge that Huxley advocates. In his 1854 address, "On the Educational Value of the Natural History Sciences," Huxley emphasizes "the utterly conditional nature of all our knowledge, - the danger of neglecting the process of verification under any circumstances; and the film upon which we rest, the moment our deductions carry us beyond the reach of this great process of verification" (55). Concerned about a student's and society's tendency to accept information as absolute, Huxley portrays the history of developing knowledge as a means of preventing assumptions without "verification" and, ultimately, a stagnation of new knowledge. Even as Huxley sees science as the core of a liberal curriculum, he perceives a means by which history supports science and keeps it moving forward. Similar to the *Cyclopaedia's* description of the iguanodon, Huxley offers

> the history of our knowledge of the circulation of the blood in the animal kingdom until the year 1824. In every animal possessing a circulation at all, which had been observed up to that time, the current of the blood was known to take one definite and invariable direction. Now, there is a class of animals called *Ascidians,* which possesss a heart and a circulation, and up to the period of which I speak, no one would have dreamt of questioning the propriety of the deduction, that these creatures have a circulation in one direction; nor would any one have thought it worth while to verify the point (55-56).

Such a recent history of scientific knowledge impresses upon the reader and the student the importance of continuing to respond to knowledge. Formal education, Huxley and most of the liberal reformers argue, should be only the first step in a lifelong education process.[79]

Therefore**,** the liberal curriculum ideally creates a student capable of thoughtfully responding to information and able to observe specific details from the science or literary core. The student has a knowledge of the natural world around him including the knowledge to locate himself in space and time. And he understands that his identity emerges in part from history**.** In addition, he has knowledge of how humans create history and its events and the recognition that education is a lifelong process in which he may play a role in the unfolding discovery of knowledge.

Creating Individuality from a System

As a proposal for the Working Men's College, F. D. Maurice's *Learning and Working* makes several declarations about the methods and purposes of educating the working-classes. Among many other strategies, Maurice states that the reformers "must take the working class as we find them not as we would have them be" and **"**not put things into minds but set in order what we find there" (123, 139). Maurice's strategies indicate a strong interest in preserving the nature of the individual students. Rather than determine expectations for what the reformers "would have them be," Maurice insists that the reformers follow the liberal curriculum and simply

[79] Huxley refers to the education received in school as "artificial" and encourages students to move quickly to their real education from the world. Mill frequently argues that subjects should be covered only to a certain extent in school and that the best education will occur in the student's solitary hours of reading ("Inaugural" 167).

observe and "take" their students in their current state. Maurice also explains that for adult learners in particular, people with many individual life experiences, it is important to recognize what knowledge a student already has. Rather than supplanting that knowledge, the goal of education should be to organize a student's knowledge and help him to use it more effectively. Yet the *Working Men's College Magazine,* one of the results of Maurice's *Learning and Working,* is filled with descriptions of new courses and possible information on "chemistry," "geology," "German," "astronomy" – information the reformers at the College likely did not "find" in large quantities in their students (v. 16 60, v. 29 64, v. 26 5, v. 29 66).[80] The contradiction between the liberal philosophy and the liberal curriculum, which seems quite invested in "[putting] things into minds," demonstrates one of the most common criticisms of the liberal education project.

Although interested in preserving individuality and developing independent thinkers, the liberal education project appears to develop its individual students by creating them, through education, in the reformers' own images. Lauren Goodlad argues that "In the nineteenth century, middle-class identity became increasingly bound up in molding the urban working classes" (Making the Working Man 592). And the shape of the intellectual "mould," critics and biographers often recognize, greatly resembles the reformers' interests and thinking patterns. Huxley's biographer, Adrian Desmond, argues that in his science laboratory Huxley "was teaching the teachers to see like him" and even quotes Conway's statement that Huxley "really believed that the Bible was to be read in the school as he himself would use it" (419, 403). In a similar vein, F. W Garforth comments that John Stuart Mill believed that "what was good for himself must also…be good for others" (178). While Garforth rightly observes that this attitude

[80] In fact the College started offering many elementary classes when the instructors found that their students were not prepared for the regular classes (Harrison 71).

turns "personal experience" into "educational precept" it seems that many critics jump too quickly to conclude that the molding process and the educational precept based on personal experience necessarily inhibit personal liberty (178).

At the same time that Goodlad's chapter, "Making the Working Class Man Like Me," addresses the problematic and contradictory nature of the liberal reformers' educational plans, Goodlad opens a space for an additional interpretation of the reformers and their curriculum. Admitting the great contradiction that exists within the reformers' push for development of the individual and a government intervention to develop a system with which to develop the individual, Goodlad also argues that in terms of liberty and social control, there is a significant difference between the "mastered self in a disciplinary regime" and "the *self*-mastery of a free moral agent" (600). Self-mastery indicates a choice made by rather than entirely imposed upon an individual. In the case of education the greatest area for choice appears to be personal interest – interest in and pursuit of a particular subject or idea.

Of course in the nineteenth century "interest" is a loaded term. In his work *The Passions and the Interests,* Albert Hirschman explores the progression of the word from its seventeenth and early eighteenth-century meaning as a wedge between reason and the passions, and the increasing association of the word in the mid-late eighteenth century with financial desires either of a person or a state. While people continue to associate the word with the financial meaning into the nineteenth century, it is clear that when the liberal reformers speak of a person's educational and intellectual interests they are referring to an idea that marries the concepts of pleasure and intellectual development. Once more a wedge between reason and the passions, intellectual interest suggests a dedication and engagement with a subject more sustained than simple curiosity driven both by a rational desire to improve one's mind and a pleasure in making

such improvements[81]. Certainly, as the previous section argues, the reformers focus on education's connection to responsibility. Hirschman notes that personal interests have a strong connection to the interests and welfare of the state. For this reason the reformers frequently mention wanting to direct the working classes toward better interests or their true interests (for example, in light of the Second Reform Act of 1867). But the reformers' additional strong focus on personal interest as a form of enjoyment demonstrates their simultaneous dedication to education as a form and a source of pleasure for the working classes.

Focusing upon interest as a possible area of choice, freedom, and pleasure within education causes the broader new liberal curriculum to take on additional importance. On the one hand, one can explain the widening curriculum with Alan Rauch and Jan Golinski's arguments about the vast increase in knowledge during the period. Both critics describe the nineteenth century as a period rapidly filling with new information that must be categorized into subjects and fields in order to be fully understood (Rauch 14, Golinski 270). The many new discoveries in geography, for example, probably helped the category develop into a subject relevant enough to be taught in elementary schools. On the other hand, one must acknowledge

[81] Curiosity took on a rather negative connotation in the nineteenth century as a form of purely superficial and fleeting engagement with a subject or idea. Curiosity was more akin to the passions, likely to change, and unlikely to produce personal improvement or sustained social results. John Stuart Mill argues that people "will become indifferent to these things if they only seek to gratify curiosity (247). The February 23, 1839 issue of *The Penny Magazine* prints a "Farewell Lecture delivered on retiring from the Professorship of Mathematics in the Royal Military Academy, June 7, 1838, by Olinthus Gregory, LL.D" in which Gregory writes, "But, while you pursue it, let me entreat you to avoid most carefully the great error of mistaking or misplacing the ultimate object of knowledge. 'For many,' says Lord Bacon, ' have entered into a desire of learning and knowledge; some upon an inbred and restless *curiosity,... few* to improve the gift of reason, given them from God, to the benefit and use of men.'…" (65). William St. Clair writes that William Godwin, "Unlike many would-be enlightened parents, … refused to push [his children] forward. 'It is a miserable vanity', he wrote to a bookseller in explaining his theory, 'that would sacrifice the wholesome and gradual development of the mind to the desire of exhibiting little monsters of curiosity'"(295).

how much the proposed curriculum looks like the reformers' own educational curriculums – curriculums often guided by personal interest. For if the reformers have one quality in common, it is that they are interested in nearly everything and they are at least partially self-educated. Speaking before the Philomathic Society in 1882 Huxley declares

> I have never yet met with any branch of human knowledge which I have found unattractive…I have yet to meet with any form of art in which it has not been possible for me to take as acute a pleasure as, I believe it is possible for men to take. And…it so happens that it has been my fate to know many lands and many climates, and to be familiar, by personal experience, with almost every form of society…And I have never found, in any of these conditions of life, a deficiency of something which was attractive (164-5).

While the reader will no doubt detect a touch of the hyperbolic in Huxley's statements, especially upon learning that Huxley initially trained as a physician but eventually abandoned the profession in favor of anatomy, his remarks still convey a constant tendency to observe the world and appreciate, on some level, whatever he may find in it.

In fact, the reformers appear to be fascinated by the interest in knowledge itself**.** In his 1863 "Utiliarianism" Mill declares that "Any mind to which the fountains of knowledge have been opened, and which has been taught, in any tolerable degree to exercise its faculties – finds sources of inexhaustible interest in all that surrounds it, in the objects of nature, the achievements of art, the imagination and poetry" (246). Initially, according to Huxley, interest appears to be an "[attraction]" to an idea, subject, or observation that emerges naturally from a person. Huxley suggests that his own broad attraction to information is innate; he "[has] never yet met with any branch of human knowledge which I have found unattractive." But Mill indicates more clearly how such a general attraction to the world, its information and artistic pleasures depends upon an education in which "the fountains of knowledge have been opened" and the "faculties" have been "[exercised]." In "Literature and Science," Arnold briefly describes what this "exercise"

looks like and how it increases a person's interest in information of any kind. "Every one knows" he writes, "how we seek *naturally* to combine the pieces of our knowledge together, to bring them under general rules, to relate them to principles; and how unsatisfactory and tiresome it would be to go on for ever learning lists of exceptions, or accumulating items of fact which must stand isolated" (my emphasis 463)[82]. The "exercise" to be found in "the fountains of knowledge" appears in part to be the improved ability to relate interesting pieces of information to one another. Thus on the other hand, a person's interest in the world around him only increases by learning how to organize into rules and principles the information he encounters.

From this perspective, the WMC's vast curriculum and the *WMCM's* frequent descriptions of new courses appear less like contradictions of Maurice's maxim that the instructors should **"**not put things into minds but set in order what we find there." If the liberal education intends to cultivate and increase a person's natural interest in the world, and additional information helps to increase a person's interest in the world by "[setting]" information "in order," then the liberal curriculum intends to help a person reach a higher state of intellectual freedom and enjoyment. Certainly in their own education the reformers express their ability to enjoy so many subjects as a kind of freedom. As they describe the process of encountering information in the world outside of the classroom, the reformers tend to describe the moments with the language of expansion. The "sources of …interest" are inexhaustible." Or from the reverse perspective, Huxley describes the experiences of "a person uninstructed in natural history" in which "his country or sea-side stroll is a walk through a gallery filled with wonderful works of art, nine-tenths of which have their faces to the wall. Teach him something of natural history" he writes, "and you place in his hands a catalogue of those which are worth turning

[82] Kay-Shuttleworth makes a similar argument in *Four Periods of Popular Education as Reviewed in 1832, 1839, 1846, and 1862 (*254).

around" (Natural History 63). Huxley's example returns to the connection between interest and choice and consequently between interest and freedom. Although the sources of interest on the "sea-side stroll" may seem inexhaustible and all around a person, education gives a person the ability to choose which of the infinite intellectual directions to pursue. Thus within the variety of the structured liberal curriculum there exists the possibility for the pleasurable pursuit of a person's interests. After experiencing the reformers' ideal curriculum, the working classes may intellectually look like their instructors, but the reformers believe that like themselves they are individuals happily pursuing their particular interests, which have been partially cultivated by the knowledge included in this education.

The Individual Responds to the System

In the September 1, 1859 issue of the *WMCM*, R. B. Litchfield declares, "We are certain that nothing but a positive zest for knowledge can prompt the wish which brings our pupils to us. Those to whom the idea of teaching recalls only the demonical hubbub of a schoolroom, or the dreary monotony of the University 'Lecture,' can scarcely imagine how inspiring in comparison is the quiet energy of a class of working men" (142). Imagining their working-class students to be like them, the instructors at the college assume that their students approach learning with the same enthusiasm and motivations. And from certain perspectives, their assumptions appear to be correct. As the College's primary historian, J. F. C. Harrison, states, "the educated, middle-class volunteer instructors who founded the college "never…[intended]…that the teaching should all be done by university professional men" (70). Instead, the founders hoped that students would follow in the footsteps of their instructors. Harrison writes that the "original *Circular* advertising the College in 1854…[emphasizes] that 'we hope, ultimately, to raise up Teachers from among the Working Men themselves, who must receive regular salaries" (70). The founders' hopes

were quickly fulfilled when in 1857, William Rossiter, the first student to complete the course of studies at the College, "took charge of the Adult School" (55). Rossiter's teaching at the Adult School is even more an example of the working-class students coming to think and learn like their professors because the School was a student-initiated addition to the College. Similar to the founders, several of the head students recognized a need among the student body, in this case for more elementary instruction, and developed a curriculum in "Elementary Grammar, History, Geography, and Arithmetic" (Harrison 71). However, although numerous other students followed their instructors into the teaching profession, more often than not, the reformers found their expectations for the College and its curriculum to be different from individual students' common responses to the liberal education model. Not only prioritizing subjects in a nearly opposite hierarchy from their instructors, most students also never completed a full degree program.

The case of the WMC demonstrates the difficulty of creating a general curriculum, even one which attempts to predict and respond to the student body's desires and needs. Assuming that the Mechanic's Institutes failed because they focused too narrowly on the sciences and the mechanical arts, Maurice argues in *Learning and Working "*an Education such as I am proposing for me, will fail altogether of its object, if it does not teach Politics; if it does not give great prominence to them; if it attempts to disguise the purpose by any subterfuge whatever" (27). Yet as the Annual Reports indicate, all of the numerous attempts to teach politics or political economy "invariably…collapsed or limped along for a term or two with small numbers" (Harrison 61). Similarly, the Adult School, which hoped to increase the number of students who

could achieve a liberal College education by offering elementary-level courses, discovered that few students who enrolled in the elementary classes ever entered the College.[83]

Critics have presented many theories about the middle-class' difficulty of creating a working-class curriculum. Several have argued about the working class' lack of trust in the middle class, the need for more elementary courses to understand college course material, the working classes' disillusionment with politics after the failure of Chartism in 1848, and the working classes' focus on either practical skills or ornamental subjects that they associated with the upper classes.[84] Exploring the curriculum and its combination of subjects allows me to consider and further develop several of these theories from the reformers' perspective.

As members of the educated elite**,** the reformers easily make connections between information and ideas. Yet, I argue that they have difficulty recognizing when their working-class students do not perceive education as they do – when their students do not make the same connections between information and ideas. Generally trained in traditional educational settings (Maurice attended Oxford before transferring to Cambridge and founding member Frederick Furnivall attended University College, London before also transferring to Cambridge) (Benzie ix, xii**)**, the founders of the WMC were reluctant utilitiarians – utilitarians who subscribed only to the broader definition of useful knowledge – in large part because of their elite education. For despite "completely [losing] his enthusiasm for the University system of the day," (vol 1, 70) and

[83] Harrison writes, "of the 712 students [who enrolled between November 1862 and May 1866], only 56 actually passed into the College. Again, taking the year 1857,…of the 196 students attending…144 attended for only six weeks or less…" (72).

[84] J. F. C. Harrison argues in *A History of the Working Men's College: 1854-1954* that the Mechanics' Institutes "failure to attract the working classes" was caused, in part, by the "patrons and directors of the Mechanics' Institutes [remaining] aloof from the working classes (29). Harrison later argues that before the 1850s there was a great deal of class mistrust - "the earlier workers were too suspicious" of the upper classes (56). Margaret T. Hodgen argues that the working class had a "certain tendency to trust education only when administered by itself" (vii). Malcom Chase agrees there was a "widespread suspicion of others to improve workers" (144). In her introduction to *Matthew Arnold: On Education,* Gillian Sutherland notes that working-class often "insisted that other ornamental subjects be taught" in the elementary schools (38). In *Fiction for the Working Man: 1830-1850* Louis James argues that after 1848 "the whole wave of enthusiasm for learning and political self-betterment subsided" (22).

desiring to start something new with the WMC, Maurice, according to his son, "never lost" his "love for Cambridge" (vol 1, 70).[85] Thus even as Maurice argues that "right education is the collision and conflict between practical intellect and the meditative intellect" (45) the reformers' presentation of information indicates the greater significance of the lingering traditional, "meditative intellect" in the "conflict." They view their curriculum through their own meditative intellects. Therefore, their perception of the distinctions between meditative and practical education becomes skewed and they misinterpret what subjects and information their students will deem "practical."

Their educational background and emphasis on the meditative intellect then leads to the reformers' blinding exuberance for the connections between the various subjects. Similar to the utilitarians I explore in Chapter 1, the liberal education reformers tend to see great potential in most subjects, more specifically, the potential for most subjects to expand the mind and hone the critical thinking skills in some fashion. Educated at the traditional universities to value Euclid and the classics, the more indirectly useful subjects, the reformers easily transfer their sense of value to additional subjects. And within their exuberance one notices the strong connection the reformers make between their broad definition of use and interest. In the *WMCM*, Maurice argues that "it is impossible that we should not ask questions about the earth and the heavenly bodies and the vegetables and the animals. All are looked at with reference to Man" (5). The relation of almost everything to man necessarily creates "questions" which one may read as "interest." Likewise, Huxley insists that it is "a strange phenomenon that living creatures

[85] In considering how the elite tradition affected their teaching, one particularly telling anecdote comes from one of Maurice's former King's College students who describes, "I have never in my life attended any history lectures which dealt so little with *facts*" (Maurice, Life of 313). While Maurice insists in a letter to his wife that in his lectures "I merely gave them facts…I really like this task better than declaiming about greater matters; facts are becoming dearer to me every day," Maurice's son clarifies that "the contrast in his mind was between Mr. Papster's [a character from one of Maurice's articles who represents a man fixated on insignificant facts] and Milton's" (Maurice, Life of 292, 313).

wouldn't be interested in other life that constitutes our life" (164). As discussed earlier, history, natural history, geography, and mathematics help to expand a person's sense of self. But the *WMCM* makes a case for the usefulness *and* interest of every subject in its curriculum. Knowledge that is useful for developing the mind appears to be automatically of interest, and a person's interest in a subject only helps to make the subject more useful for developing a person's intellect. The ease with which the reformers make the connections between use and interest then serves as a primary reason for their difficulty in creating a curriculum for the working classes.

At the College, the differences between the reformers' perception of education and their students' manifested themselves most concretely as a lack of sufficient structure for the working-class students within the curriculum. Ironically, despite repeatedly emphasizing the importance of putting their students' minds in order and training their students to effectively organize their thoughts, in the 1850's, 60's, and 70's the curriculum's organization at the WMC was often less than clear[86]. The "Fourth Annual Report of the London Working Men's College" explains how the administrators "have been urged by the Students to explain more fully how their different lessons may form a regular course of study" (*WMCM* Apr.1859 75). In response, the "Fifth Annual Report of the London Working Men's College" explains how the school has attempted to "[give] greater coherency to the studies…and…[assist] those who are entering it to choose their courses" which in their estimation "has worked thus far satisfactorily" (*WMCM* Mar. 1860 34). While the report does not explain how the college has created greater coherency between courses, it does "[add] to this scheme a more regular system of Examination than was possible at

[86] A December 1859 article argues "if [education does] not actually expand his mind, it at least makes him know the resources and capabilities of what he has, imparts and order, a regular sequence to the chaotic mass of information he possessed before" (189). And a January 1860 article argues, "When we find our knowledge made comparatively useless by its want of arrangement, and when our brains are in a very maelstrom of confusion, we may at last recognize the importance of some method in our reading and the thought it awakens" (5).

the commencement of the enterprise" (*WMCM* MAR 1860 34). The reformers determine from these new efforts that the connections between courses and subjects are clear and that the college has created "[satisfactory]" coherence for the students within their system.

However, an editorial debate entitled, "Difficulties of a Student," between a student and a teacher in the September and October 1861 editions of the Magazine points toward the lingering problems within the school's structure. One student, Mr. Martin, argues "that the reason so many men leave after a short time (though they enter full of the hope of being able to master some of the various matters taught in the College), appears to me to be, that sufficient attention is not paid to the knowledge and ability of men joining the classes" (*WMCM* Sept. 1861 134). Martin presents the issue as a problem of guidance; "a man reads the prospectus, fancies he should like to learn this or that subject; Mr. Shorter writes out his card, and tells him where to find the class." Indicating that students arrive at their classes with little knowledge about the course requirements and challenges, he suggests that at the beginning of classes teachers should "examine the men presenting themselves, as to their knowledge of the subject." Teachers could then "advise some to join a class where the rudiments are taught, and others who know a great deal about it to join a more advanced class." Martin's statements indicate a lack of clarity within the College about the progression of courses, even from least to most difficult.

But the reformers' enthusiasm for their curriculum does not cause them to be willfully deaf to possible improvement within the College. In fact, the opposite appears true. While the student-teacher debate highlights lingering systematic issues at the College, it also demonstrates the reformers' desire to address the students' needs. After being asked by Martin for more guidance, the teacher directs Martin to the "practice-class" as a source for more explanation. While he, perhaps too quickly, dismisses Martin's suggestion about a "formal examination" in

favor of the existing practice-class, he also provides him and other students with a list of concrete suggestions about how to improve their college experience, including asking other students about "what sort of work" a class discusses, "how much time it takes, and what result it leads to" (159). Numerous other examples even more clearly depict a group of educators investing significant attention into meeting the students' needs and concerns. The College started a choir, social hours, a walking club, and added courses in response to student requests.[87] But more importantly, it maintained a conversation in the *WMCM* with its students and other reformers about the uses and methods of education.

When the English courses failed to fill with students, the College appealed to William Gaskell, Elizabeth Gaskell's husband who taught a similar, apparently successful, course in Manchester. Publishing F. J. Furnivall's letter in the April 1, 1859 issue, the Magazine reads,

> I have long heard of the great success of his ladies' and other classes in English Literature. Our classes at the London College in it have not succeeded, and at Wolverhampton, I see that the E.L. Class began with fourteen pupils, ended with seven, and then disappeared. It would be a great help to every teacher of this subject, if Mr. Gaskell would tell us how he teaches it (72)…

Particularly significant within the letter is Furnivall's desire to know "how" Gaskell "teaches [his class]" in which he thereby takes some responsibility for the course's failure. His request suggests that the students' lack of interest may largely connect to the College's presentation of the material. When the *Magazine* publishes Gaskell's response, it includes an article describing the qualities of a good composition course that look remarkably like Gaskell's recommendations. Gaskell explains,

> The first object which I aim at, is to inspire my students with a liking for the subject, feeling that without this there will be little of that true spontaneous work on which, of course, we are obliged to depend….it may be necessary, in some degree, to lure on

[87] The WMC choir started in 1857, the walking club in 1860, the boxing club in 1856, and the social hours in 1857 (Harrison 63, 76, 64 73). Maurice disapproved of the social hours, but due to their popularity they persisted (Harrison 79).

> learners at first, and adopt the plan of sprinkling "di soave licor gli orli del vaso… I feel that it ought to be divided into three – for Language, Composition, and Literature"(89).

Similarly, the *Magazine* describes how "a class in English Composition ought…to be a pleasant class, and profitable too, especially to those of our students (numerous now) who take an interest in books, and feel a natural desire to be able to express their thoughts on paper with more facility than they now can do" (88). In other words, the reformers' failure to attract students to certain courses does not appear to be due to their unwillingness to listen to students, unwillingness to attempt new methods, or unwillingness to take student interest into account.

Instead, when they respond to student questions in the *WMCM*, the reformers demonstrate that they perceive certain intellectual connections to be so obvious that they cannot quite recognize when and how other people fail to see the same connections. Specifically, there exists a clear difference between the material definition of useful, often used by their students, and the liberal definition of useful that the reformers neither entirely see nor in the moment are capable of addressing. In the June 1, 1859 issue, the *Magazine* publishes the following question from a student, F. W. Murray, about the connection between and usefulness of one subject to another.

> In the Examination for certificates of competency in English grammar, at the London Working Men's College, do the questions bear much on Etymology? And how much is a student required to know of it? I for one do not recognize the Etymology, "as we are taught it," as essential to the knowledge of English Grammar; but rather as the history of the language, the thorough knowledge of which ought to command a separate certificate. At the commencement of all Grammar-books one is taught that Grammar is the art of speaking and writing the English language with propriety, and I think that the knowledge of the rules of Grammar, the correct application of those rules, and the ability to detect any grammatical errors in composition is the true definition, and ought to be sufficient to obtain a certificate of competency… (105-106).

While describing his perception of the relationships between subjects, Murray, separates the subjects of grammar and etymology. Not only does he see them as being different subjects, but

he also feels they are so disconnected that etymology cannot possibly be "essential" or of any use to developing "competency in English grammar." He admits that etymology is related to the English language, but he describes etymology as "the history of the language." And here we see the student disconnecting a subject from its history and development. Believing that a language's development process should "command a separate certificate," Murray demonstrates a desire quite unlike that encouraged by the WMC - to complete and earn "competency" in one subject and then *perhaps* move on to consider the subject's history.

F. J. Furnivall's response to Murray's inquiry both demonstrates the reformers' desire to address the questions from the students' perspective, and the reformers' inability to completely understand that perspective. Furnivall writes, "Mr. M. would apparently define Grammar as the art of using words "with propriety." Well*: then is it not desirable* to know what a thing *is* before you begin to use it? In other words, must not Etymology, which teaches you what words are, come before (or be included in) Grammar, which teaches you what to do with them?" (my emphasis 106). Furnivall certainly attempts to understand the student's perspective; he addresses the student's definition of etymology and tries from the student's own words to explain why etymology is "essential" to obtaining competency in "English grammar." However, it quickly becomes evident that Furnivall's educational perspective hinders his ability to fully understand how the student views the situation. Although Furnivall spent much of his career joining and founding philological and literary societies, he insists in a letter to Roman Dyboski that "I never cared a bit for philology; my chief aim has been to illustrate the social condition of the English people in the past"[88] (rpt. Benzie 7). Viewing philology as a vehicle for a more important historical discussion, in his response to the student's inquiry Furnivall equates the current state of

[88] In 1847 Furnivall joined the Philological Society and became its "sole secretary" in 1862 **(**Munro xlii, xliii). In 1864 he founded the Early English Text Society (xlvi). In 1868 he founded the Chaucer Society (xlix). And in 1873 he founded the New Shake Spere Society (liii).

language ("what [it] is") with its past. Here, in particular, Furnivall's training at Cambridge in English studies becomes apparent. At the time, English studies were fundamentally linguistic (Kimball 70, 170).[89] Therefore, he argues that etymology teaches students "what words are," and he completely overlooks the student's disconnection of history from the "the rules of Grammar, the correct application of those rules, and the ability to detect any grammatical errors in composition." He argues that "[it is] desirable to know what a thing is before you begin to use it," but his philological training prevents him from seeing that the student neither connects history with use, nor necessarily "[desires]" to make the same connections as Furnivall. In other words, he cannot see that the student desires practical applications rather than abstruse knowledge of the history of the language.

Therefore, the reformers both assume the presence of great interest in the connection between subjects and assume that interest will motivate and carry their students through the majority of the learning process. The *WMCM* is filled with course descriptions that explain the intellectual importance of their subjects. Particularly after considering many of the courses' lack of success with their working-class students, these descriptions appear to be advertisements written to appeal to students' interests and ultimately attract them to the courses. In the August 1859 issue one such advertisement "On the Study of Mathematics" explains the benefits of mathematical study on the brain. After addressing the benefits for those "whose work has anything to do with making, shaping, or designing," the article goes on to admit that "the student will also learn in algebra much of which he will not see the direct use" (127). Aware that students focus heavily on the direct application of their studies, the author addresses both direct and indirect benefits of mathematical study. And while his separation of direct from indirect use

[89]In *Orators and Philosophers: A History of the Idea of Liberal Education,* Bruce Kimball notes that the grammatical and etymological focus on literature started early in Oxford and Cambridge's histories and continued, without much change into the nineteenth century.

takes into account the common working-class focus on direct utility, it inadvertently places a great deal of emphasis on indirect utility and takes for granted the students' comprehension of or desire for the existence of such indirect utility. The author feels the need to explain extensively the direct use of mathematics. For example, he explains of the student of mathematics that "his eye will be trained to an appreciation of form generally, to an extent which it is not possible for one to understand whose conceptions of form are so vague that he cannot even conceive how much clearer they might be made" (127). And he argues that "verbal descriptions of things, localities, and figures which he has not seen- will no longer present to his mind's eye that meaningless confusion which it is greatly to be feared that they present to many." Therefore, he presents mathematics as a subject that, like history and geography, will further orient a student in the world, and retrain the eye to perceive the world more clearly. This "[blind]" trust in mathematics to train so fully the intellect is precisely the type of "traditionary custom" from the old liberal curriculum that reformers such as R. B. Litchfield wish their students to abandon, but from which they cannot mentally extricate themselves.

Two observations emerge from the passage. The first is the observation that the line between direct and indirect utility is quite blurry. The author's multiple descriptions of the direct benefits of mathematical study are certainly general. And the point at which the direct training of the eye and the indirect "training of his reasoning powers" separate is not entirely clear. This lack of clarity becomes significant in relation to the second observation that the author places a great deal of importance on the indirect benefits of mathematical study but explains in far less detail (even breezes over) those indirect benefits. The author appears to take for granted the student's comprehension of indirect educational benefits. He writes, "the student will also learn in algebra much of which he will not see the direct use; and, although he can scarcely fail to feel

the indirect use in the improvement and training of his reasoning powers, as well as the interest excited by the generality of the results, he will do well also to bear the following remarks in mind, as an encouragement in the matter of direct utility." The author moves quickly from direct to indirect and back again to direct utility. And this quotation provides a further insight into the gap between the reformers' perspectives and their students'. The author directly connects "interest" to the "generality of the (indirect) results" – the indirect results, in fact, "[excite]" this interest (127). In this manner, "interest" serves as the mental characteristic that helps to weave together the direct and indirect uses of mathematics. And by implication, interest helps the reformers and the students weave together the various subjects to develop a broader understanding of knowledge. Here we see the burden that the reformers expect interest, their interest, to carry.

The reformers link interest, unlike mere curiosity, with the long-term results of education. In a similar article in the September 1859 issue, the author argues of mathematical study that "if he find it easy, he will be certain to find it interesting, as he will master with ease and precision the actual knowledge to which it introduces him; if he finds it difficult, he may be sure that it *must* be doing him good; the difficulties which he has to struggle with will be only a proof that his brain needs the clarifying process…" (141). Interest emerges both from the acquired access to new knowledge and, as the earlier author implies, from the "results" of "training his reasoning powers." Of this interest and recognition of his education's effects, the student, the authors feel, will be certain.

Even in the face of direct evidence that students experience "difficulties," which lead to "results" other than the appreciation of the subjects "doing [them] good," the reformers seem unwilling to consider frustration as a significant hindrance to education. In the WMCM debate

between the student, Martin, and the anonymous teacher, Martin explains, "I have had men say to me, "This is slow work; I can't make heads of tails of what is going on." From these interactions, Martin determines that such students leave the school because they become "dispirited." Despite insisting in his response that, "I have no wish to dispute the picture he draws," a picture which points to frustrations unique to the student body and the College's structure, the anonymous teacher once more dismisses the student's perspective. He argues that "in almost every case, when a man drops off [in one of his classes], it is for some assignable reason other than mere disinclination or the inability to go on." Negating frustration as a primary problem at the College, the teacher offers "the force gained by the union of mutual interests" as the best preventer of and means to navigate difficulty (159). For if his own interests cannot carry him through his" difficulties," "[uniting]" his interests with his friends' will "wonderfully [smooth] down" those difficulties (159). Leaving little room for the frustration and lack of appreciation for education that Martin witnesses or that the student of etymology expresses, the reformers seem to believe that students will become aware of the results of their education and that the results will create the interest that will carry them through the easy and difficult moments of the learning process.

Once sparked, the reformers assume that interest will remain lit within their students. Gaskell encourages the WMC reformers to cultivate interest in their students "first." Huxley's biographers certainly describe him as tailoring his lectures for the working classes to their interests (Desmond 252). The success of Huxley's short-term lectures demonstrates his ability to follow Gaskell's initial advice. But the failure of his *Natural History Review* for the working classes (Desmond 321) suggests that long-term interest, something that the reformers both take for granted and believe will carry students through the highs and lows of the educational process,

was far harder for the reformers to cultivate. While certainly the *Natural History Review*'s relatively high quarterly price (four shillings) and the workers' long laboring hours hindered most members of the working classes from purchasing it, the magazine's shift from the accessibility of Huxley's lectures to the complex scientific debates and terminology discussed in articles such as "On the Relations of Man to the Lower Animals" also suggests the reformers' reduced attention to maintaining interest within their working-class audience (67).[90] In his 1862 report on the state of education**,** James Kay-Shuttleworth demonstrates the reformers' ultimate assumption. He writes,

> No fallacy is more transparent or more monstrous than that which assumes that knowledge, or whatever training is got in schools, is a natural want, certain to assert itself like the want of food, or clothing, or shelter, and to create a demand…All statesmen who have wished to civilise and instruct a nation, have had to create this appetite. The desire for knowledge has been implanted in the population by funding schools (608).

As one of the more conservative liberal reformers, Kay-Shuttleworth questions the general population's desire for knowledge that many reformers, he implies, take for granted. Yet he too suggests that interest is something to cultivate, but not necessary to maintain – it should be, he implies, self-sustaining, like an "appetite," even after being "implanted" during a student's period at a "[funded] school".

The gaps in the reformers' initial educational plans and ideal curriculum suggest the eventual collapse of their working-class institutions. And while many educational institutions and magazines did fail (Huxley's South London Working Men's College closed in 1878), the original London Working Men's College is ultimately a success story. The *WMCM*, which

[90] In "On the Relations of Man to the Lower Animals" Huxley writes with a great deal of jargon and references numerous other scientists and scientific theories. All of which would have made the magazine indecipherable for most members of the working classes. For example, he writes "Linnaeus was content to rank man and the apes in the same order, Primates, ranging in terms of zoological equality, the genera, *Homo, Sima, Lemur,* and *Vespertilio.* Among more modern zoologists of eminence, Schreber, Goldfuss, Gray, and Blyth, have followed Linnaeus, in being unable to see the necessity of distinguishing man ordinally from the apes" (69).

ended publication in 1861 due to a lack of funds, restarted in 1891 as the *Working Men's College Journal***.** Today the WMC persists as a higher education institution geared toward the working classes. The College's survival is an example of how the shift in power from traditionally educated reformers to reformers with more varied educational backgrounds eventually allowed the College to create a successful hybrid of indirect and direct utility in their liberal curriculum.

Unlike F. D. Maurice and F. J. Furnivall, George Tansley, who rose to become the College's curriculum director in 1884, was a hybrid product of the liberal curriculum of the WMC, its working-class students, and its generally middle-class founders (Harrison 121. His father was a business man, and at age eleven Tansley was forced to quit school to help run the business. Despite the success of the business, Tansley longed for more education and as an adult enrolled in the WMC. He became an Associate in 1858, and soon after devoted the majority of his life to the College (Harrison 117, 118). Although not from the working class, Tansley experienced the limited childhood education common to so many of the working class students. As he explains in a letter to the College in 1885, he experienced the difficulty of simultaneously learning and working, and how he, unlike the founders, saw the curriculum through the eyes of a student (qtd. in Harrison 122). His unique perspective caused him to identify two new causes of and solutions to the students' resistance to the liberal curriculum, the College's declining enrollment, and the failure of most students to achieve the level of Associate: a clearly structured curriculum and a broader interpretation of a liberal education.[91] Even after the College's initial steps to create a coherent curriculum in 1859 and 1860, students were still not "[following] a consistent course from year to year, taking care that the work of each year had some direct bearing on the main object of acquiring that liberal education which the Council

[91] Like many of the other reformers and later critics, Tansley recognized that the College was competing with new educational institutes, and like many later critics, Tansley recognized that the curriculum might be too strenuous for men who were learning and working (122).

believe to be within their reach" (qtd. Harrison 124). Courses were still separate entities to be completed rather than parts of a larger conception of knowledge within which students should develop connections. The reformers clearly saw the connections which created the liberal curriculum, but for the first thirty years of the College they appear to overlook how much help their students required to see a similar connected curriculum and progression of education.

With Tansley's prompting the Council finally determined in 1884 that "the system of teaching…was becoming too much a group of individual classes, deficient in completeness and in mutual connection" and "appointed a Committee to report on the whole question, and to prepare a scheme for reorganizing the classes, and marking out a more regular course form the lower to the higher branches of instruction" (1889 "Thirteenth Report of the Working Men's College" 4). The result was a separation of the different levels of courses offered at the College into "Preparatory," "Lower Division," "Higher Division" and "Special" and an elementary curriculum that initially looked quite similar to the Revised Code's three-subject focus (Thirteenth Report 4, Harrison 125). While the separation still drew heavily from traditional education models that did little to explain the connections between courses, the new structure did begin to address concerns, such as those voiced by the student, Mr. Martin, about the course's level of difficulty and appropriateness for students' abilities. In addition, a glaring difference between the elementary instruction of the Revised Code schools, and the elementary instruction of the WMC was that the College encouraged students to attempt the next educational steps. Through the new structure, the College now indicated what those next steps might be; the limited focus of the elementary courses should lead students to the intellectual variety and freedom of the upper-level courses.

Although still partially bound to traditional education structures, Tansley and the new generation of reformers recognized that the middle-class reformers needed to expand the liberal curriculum further, in order to create a freeing, useful curriculum for their working-class students. Essentially, Tansley agrees with R.B. Litchfield that "we can at least do some little towards establishing another custom more intrinsically rational, and adapted to the real demands of our time" and that "Most of all, we should never cease to urge students to think for themselves on the first question, What to learn?" (*WMCM* 49). However, he disagrees that "the contradiction, violent as it is, between the hope and the reality [of the liberal curriculum], is no proof that our estimate of the chief uses of a College and of what its teaching ought to be, was a wrong one" (*WMCM* 48). Rather than declaring that the reformers should ignore the "facts" of the students' resistance to the curriculum and implying that the students' perception alone must change, Tansley argues that the reformers must also be willing to adapt their curriculum more significantly to the needs and interests of their students. The new liberal curriculum had been designed to be broader and to provide students with a variety of intellectual skills and areas of knowledge. And in an 1875 pamphlet signed by three other leaders at the College, Tansley argues for "a higher and [even] broader idea of culture, believing that the spirit of a liberal education consists, not in the thing taught, but in the manner of teaching, in the thoroughness and completeness of the teaching" (qtd. Harrison 123). In other words, Tansley proposed combining the two definitions of useful education into a single curriculum – useful, vocational, direct training, and useful, intellectual, indirect training.

The result of Tansley's reorganization and expansion of the liberal curriculum appears to have been a flourishing College in the 1890's. The July, 1895 issue of the reinstated *Working Men's College Journal* states that "The educational year now closing may be regarded as

numerically the best the College has as yet had. The number of class entries for the three principal terms were respectively 1,197, 833, and 610, giving an average of 880, or 28 above that of the next best year" (237). While Harrison's account of the College suggests that only a few, sporadic, directly useful courses emerged from Tansley's push to expand the curriculum, in fact, the Reports and the *Working Men's College Journal* depict a significant shift in the College's curriculum. The change is not a shift from the liberal curriculum propounded by the founders, but rather an expansion of the original course lists. The July, 1895 *WMCJ* lists "Building Construction," "Machine Construction," and "Theoretical Mechanics" among the "Science Examinations" offered in the spring (237). Combined with the shorthand and bookkeeping courses that the College had offered since its opening, the WMC in the last years of the nineteenth century and the first years of the twentieth appeared to be, like Tansley, a thriving hybrid of the working-class and liberal, elite definitions of useful knowledge.

The College's eventual success then affirms F. D. Maurice's initial belief that "right education is the collision and conflict between practical intellect and the meditative intellect" (45). Although the College's success also highlights Maurice's educational background and opinions about useful knowledge as hindering him, and other liberal reformers, from fully realizing his principle, the tale of the WMC most generally demonstrates how difficult establishing an effective collision amidst so many opinions about the purposes and necessary content of an education could be. Despite their agreement about the collection of subjects in the expanded liberal curriculum, the reformers often vehemently disagreed about what subject should be at the core of the curriculum. And they demonstrated a surprising obliviousness to their own rigidity (given their belief in a necessary variety of information that related a person to the world) regarding an expansion of the already expanded curriculum.

Yet when they finally embraced the broader course list and shifted the focus of the WMC, the entire curriculum appeared to benefit. The literature and history courses, so important to Maurice and many of the founders, remained small but, unlike the early years, they maintained steady enrollment numbers (on average 32 students attended the English literature course and 7 attended the history course) (*WMCJ* 255). Perhaps the most interesting example of the changing college culture was the development of the well-attended literary club in 1907 (*WMCJ* 191).[92] Literature – one of the symbols of the reformers' initial confusion about what the working classes wanted and needed – appeared finally to find its small place in the College as it was also finding its place in the elite institutions.[93] Certainly the hierarchy proposed by the reformers never reversed. Literature and history never overtook drawing and bookkeeping, and the hierarchy remained the inverse of what the reformers originally planned throughout the nineteenth century. But as the middle-class reformers expanded the curriculum and improved at seeing the difficulties experienced by their students when approaching the courses, their students also appeared to expand their perceptions of what education should be. The more comprehensive acknowledgement of the working-class educational expectations in content and structure appeared to validate the middle-class educational expectations among the students as well. Perhaps finally recognizing that their students could "think for themselves," the reformers and the students appear to answer the question together "What to Learn?"

Maurice's description of the ideal curriculum as a "collision and conflict" takes on considerable meaning when addressing the issue of "useful knowledge" in the nineteenth century. The phrase suggests the forced combination and continued friction between different

[92] The notes from the first meeting indicate that over 30 students attend (*WMCJ* 1907 222)
[93] While critics might question whether a changing student population (away from working-class students to clerks and shopkeepers) commonly seen in earlier educational institutions contributed to the shifting college culture, in fact, the shift in the late nineties and earlier twentieth century was toward a heavier percentage of working-class students (*WMCJ* 1895 242).

elements as if they cannot help remaining in contact with one another. Likewise, the majority of the liberal reformers were at odds with the phrase "useful knowledge." They resisted it, they criticized those who embraced it, and yet, eventually, they found themselves not abandoning it, but rather redefining it. The inability of the reformers to escape the phrase suggests not only the significance of "use" to the time period, but also the incredible vagueness of the term. Its situational and even subjective meaning caused it to encompass rigid as well as flexible connotations. Consequently, the education reformers of the nineteenth century could spar with it as much as they liked, but they could not help colliding with and eventually "using" it.

Bibliography

Armytage, W. H. G., Matthew Arnold and T. H. Huxley. "Matthew Arnold and T. H. Huxley: Some New Letters 1870-80." *The Review of English Studies* 4.16 (1953): 346-353. Print.

Arnold, Matthew. *On Education*. Ed. Gillian Sutherland. Harmondsworth, Eng.: Penguin Education, 1973. Print.

Arnold, Matthew and E. E. Rea. "Matthew Arnold on Education: Unpublished Letters to Harriet Martineau." *The Yearbook of English Studies* 2 (1972): 181-191. Web. 10 Feb. 2010.

---"Literature and Science." rpt. in *Matthew Arnold.* Ed. Miriam Allott and Robert H. Super. New York: Oxford UP, 1986. Print.

Benzie, William. *Dr. F. J, Furnivall, Victorian Scholar Adventurer.* Norman, OK: Pilgrim, 1983. Print.

Desmond, Adrian. Huxley*: From Devil's Disciple to Evolution's High Priest.* Reading, MA: Addison-Wesley, 1997. Print.

Garforth, F. W. *John Stuart Mill's Theory of Education.* New York: Barnes and Noble, 1979. Print.

Goodlad, Lauren M. E. *Victorian Literature and the Victorian State: Character and Governance In a Liberal Society.* Baltimore: Johns Hopkins UP, 2003. Print.

---"Making the Working Man Like Me": Charity, Pastorship, and Middle-Class Identity in Nineteenth-Century Britain; Thomas Chalmers and Dr. James Phillips Kay." *Victorian Studies* (2001): 592-617. Web. 1 Feb. 2010.

Gray, Valerie. *Charles Knight: Educator, Publisher, Writer.* Burlington, VT: Ashgate, 2006. Print.

Hadley, Elaine. "On a Darkling Plain: Victorian Liberalism and the Fantasy of Agency." *Victorian Studies* 48.1 2005 92-102. Web. 1 Feb. 2010.

Harrison, J.F.C. *A History of the Working Men's College 1854-1954.* London: Routledge and Paul, 1954. Print.

Hirschman, Albert O. *The Passions and the Interests: Political Arguments for Capitalism before Its Triumph.* Princeton, NJ: Princeton UP, 1977. Print.

Huxley, Thomas Henry. "On the Relations Between Man and the Lower Animals." *The Natural History Review: A Quarterly Journal of Biological Science* vol. 1. Williams and Norgate: Edinburgh, no. 1 January, 1861. 67-84. Web. 10 Feb. 2013.

--- *Science and Education.* New York: D. Appleton, 1896. Print.

Jackson, Patrick. *Education Act Forster: A Political Biography of W. E. Forster 1818-1896.* Madison, NJ: Fairleigh Dickinson UP, 1997. Print.

James, Louis. "From Politics to Fiction, 1830-40." *Fiction for the Working Man: 1830-1850.* New York: Oxford UP, 1963, 12-27.

Kay-Shuttleworth, James. *Four Periods of Public Education as Reviewed in 1832, 1839, 1846, 1862.* London: Longman, Green, Longman, and Roberts, 1862. Print.

--- *Memorandum on Popular Education*. 1868. New York: Augustus M. Kelley, 1969. Print.

Knight, Charles. "Preface." Geography. *The English Cyclopaedia.* vol. 1. London: Bradbury and Evans, 1854. *Google Books.* Web. 10 Feb. 2012.

---Ed. Arts and Sciences. *The English Cyclopaedia* vol. 5. London: Bradbury and Evans, 1867. *Google Books.* Web. 11 Mar. 2012.

---Ed. Biograohy *The English Cyclopaedia* vol. 1 London: Bradbury and Evans, 1856. *Google Books.* Web. 20 Feb. 2012.

---Ed. Biography. *The English Cyclopaedia* vol 6. London Bradbury and Evans, 1868. *Google Books.* Web. 10 Feb. 2012.

---Ed. Geography. *The English Cyclopaedia* vol. 4. London: Bradbury and Evans, 1855. *Google Books.* Web. 25 Feb. 2012.

---Ed. Geography. *The English Cyclopaedia.* vol. 1. London: Bradbury and Evans, 1866. *Google Books.* Web. 20 Mar. 2012.

---Ed. Natural History. *The English Cyclopaedia.* vol. 3. London: Bradbury and Evans, 1867. *Google Books.* Web. 22 Mar. 2012.

Maurice, F.D. *Learning and Working.* Ed. W. E. Styler. New York: Oxford UP, 1968. Print.

Mehta, Uday Singh. *Liberalism and Empire:* A Study in Nineteenth-Century British Liberal Thought. Chicago: U of Chicago P: 1999. Print.

Mill, John Stuart. "Autobiography." rpt. in *John Stuart Mill on Education.* Ed. Francis W. Garforth. New York: Teachers College P, 1971. 41-133. Print.

---"Inaugural Address to the University of St. Andrews." rpt. in *John Stuart Mill on Education.* Ed. Francis W. Garforth. New York: Teachers College P, 1971. 153-230. Print.

Mill, John Stuart. "Utilitarianism." *The Basic Writings of John Stuart Mill.* New York: Modern Library, 2002. Print.

Munro, John James. *Frederick James Furniall: A Volume of Personal Record.* New York: H. Frowde, 1911. Print.

Poovey, Mary. "Making a Social Body: British Cultural Formation, 1830-1864." *Making a Social Body: British Cultural Formation 1830-1864.* Chicago: U of Chicago P, 1995. 1-24. Web. 14 Feb. 2012.

Ryhn, Heinz. "The Formation of Liberal Education in England and Scotland." *Studies in Philosophy and Education* 18: 1999, 5-14. Web. 10 Mar. 2012.

Sanderson, Michael. "Vocational and Liberal Education: A Historian's View." *European Journal of Education* 28.2: 1993. 189-196. Web. 15 Mar. 2012.

Sutherland, Gillian. "Introduction." *Matthew Arnold: On Education.* Harmondsworth, Eng.: Penguin Education, 1973. Print.

Thomas, David Wayne. *Cultivating Victorians: Liberal Culture and the Aesthetic.* Philadelphia: U of Pennsylvania P, 2004. Print.

White, Ralph. "The Anatomy of a Victorian Debate: An Essay in the History of Liberal Education." *British Journal of Educational Studies* 34.1 (1986): 38-65. Web. 15 Mar. 2012.

The Working Men's College Journal 3.55 (1895). *Victorian Collection.* Web. 24 May 2012.

The Working Men's College Journal 10 (1907). *Google Books*. Web. 24 May 2012.

The Working Men's College Magazine vol. 1-3. Cambridge, UK: MacMillan, 1859-1861. Print.

Yeo, Richard. *Encyclopedic Visions: Scientific Dictionaries and Enlightenment Culture.* U of Cambridge: Cambridge, UK, 2001. Print.

Coda: The Kahn Academy: Diffusing Useful Knowledge in the Digital Age

A glance at the *New York Times'* online front page offers one-sentence summaries of approximately 100 articles from all sections of the newspaper. Similarly, the internet search engines on computers, cell phones, and reading tablets now provide access to a wealth of information – the answers to nearly every imaginable question – with the click of a button. Critics Nicholas Carr and Carlin Romano consider the effects of the internet on society in their works "Is Google Making Us Stupid?" and "Will the Book Survive Generation Text?" in which they address the internet as an infinite knowledge source that increasingly demands that we take in more and more knowledge ever more "efficiently." Each critic considers the effects of internet reading on our ability to focus, to think critically about texts, and our ability to wade through the sea of available information to reach the most important information. However, Carr and Romano discuss the relationship among knowledge, reading, and thinking as if it is a new phenomenon, as if the internet has raised entirely new concerns about people's varied relationships to knowledge and learning. By no means discounting the unique level of information "overload" which the internet has brought much of the world, I still cannot help but see the lineage from Carr's and Romano's articles back to the nineteenth-century education reformers' critics.

In turn, I cannot help but recognize similarities among the nineteenth-century education debates and the many twenty-first-century educators' attempts to manage and disseminate knowledge on the internet. One site, the Kahn Academy, bears particular resemblance to the Society for the Diffusion of Useful Knowledge. In fact, as questions about the best methods and subjects for educating a person persist into the twenty-first century, I find it productive to consider the Kahn Academy (hereafter KA) as a modern SDUK. Founded in 2008 by Salman Kahn, the Academy is an online, "not-for-profit" site "with the goal of changing education for the better by providing a free world-class education for anyone anywhere" through its extensive series of tutorial digital videos ("About"). Funded largely by donations from Google and the Bill and Melinda Gates Foundation, the site now provides access to its content in more than two dozen languages ("Translate Our Lessons"). Although Kahn has three degrees from the Massachusetts Institute of Technology, a Masters in Business from Harvard, and previously worked as a

hedge fund manager, he and the site propound a perspective on education very similar to the British middle-class reformers of the nineteenth century. Like the SDUK before it, the KA currently reaches an unprecedented number of students on a regular basis, implicitly argues for the open access to information, and for the benefit of access to information for the general populace. It also presents information in "digestible [chunks]" that "may be taken up and laid down without requiring any considerable effort," associates information and learning with pleasure, and demonstrates a similar instability in its approach to content (KA "About," SDUK *Penny Magazine* vol. 1 1*)*.[94]

One significant area in which the organizations differ is their relationship to the term "useful" - the KA's English language site rarely uses the word to describe its education. With this distinction between the two organizations in mind, my exploration of the KA offers a brief consideration of the modern-day diffusion of useful knowledge, the organization and prioritization of information, and the struggle to understand how people think and learn. As this study has already shown, "useful" was a vague term in the nineteenth century, applied with varied meanings in the educational realm but always located within a middle-class educational system. From their educational perspective, the reformers viewed the individual as necessarily shaped but also eventually intellectually freed by the educational system. Almost two hundred years later, the KA indicates that the individual has become even more important to education – selecting and shaping the educational system and curriculum as much as she is shaped by it. Displaying a genuine interest in the individual's learning process, the KA also subtly indicates that individualization is a necessary teaching method in the digital, commercialized age of knowledge diffusion. Competing with numerous information sites, the KA must consider entertainment before education in order to establish and maintain a strong "consumer" group. Consequently, the site replaces the SDUK's emphasis on "useful" information with an emphasis on "interesting" information. But while critics, such as E. D. Hirsch, worry that the individualization of education moves society away from a shared useful knowledge base, the KA demonstrates a belief in the connections between personal

[94] The *Penny Magazine* had a circulation of 200,000 at its height, and the KA "[delivers]" over 300,000 "lessons" a day (Webb 77, www.kahnacademy.com).

and social interests**.** The site attempts to guide students through large, socially relevant concepts – always encouraging them to continue their educational experience while pursuing their interests. The site's emphasis on the individual and varied motivational methods then suggests that knowledge diffusion has necessarily become an effort to systematize the development of personal motivation. In turn, as a modern SDUK, the KA indicates a trend in the diffusion of useful digital knowledge to attempt to *create* autodidacts interested individually in socially useful information.

Having grown out of Kahn's efforts to tutor numerous younger family members from afar, the KA still reflects its individualized education roots ("About the Site"). On its home page the KA states, "we're on a mission to help you learn what you want, when you want, at your own pace" (www.kahnacademy.org). As a form of self-education, the site emphasizes the student's freedom in selecting content and a schedule. Students can watch videos on mathematics, biology, chemistry, physics, history, art history, cosmology, banking and finance, healthcare, or test preparation, or they can complete mathematics problems at various levels at their leisure. While certainly all of the education reformers in this study considered the needs of their students, the KA displays an increased interest in the individual learner. In contrast to F.D. Maurice or other nineteenth-century reformers who focused on the needs of working-class *students* or adult *learners*, (*Learning and Working* 123, 139) the KA claims to zero in on the needs of "the learner" and "relentlessly focus on what the learner values" (www.kahnacademy.org/about/the-team). Therefore, the site offers not just open access to videos and practice problems, but access to personal information about a student's learning experience. By creating a personal account, a member of the academy can access numerous "vital statistics" about her "activity," "focus," "skill progress," and "progress over time" (www.kahnacademy.org/profile). In other words, the site encourages the student to create and understand her own learning experience and focuses itself on making the learner feel at the center of the site's design and goals.

While driven, no doubt, by a genuine desire to help students, the site's individualized structure also hints at the Acadmy's need to compete for the attention of its students. In the general description of his methods, Kahn states, "The lectures are coming from me, an actual human being who is fascinated by

the world around him" *(*www.kahnacademy.org/about*)*. Emphasizing both the importance of "[fascination]" and the individual to the learning process (in this case, the lecturer), Kahn effectively summarizes the experience of watching many of the site's videos. From videos on the "Cuban Missile Crisis" to "The Beauty of Algebra" to the "Scale of the Galaxy," Kahn, as the primary lecturer for the Academy, conveys his interest in the material both through his emphatic tone, at times loss of words over particular details, and frequent expressions of his own amazement. For example, in the "Scale of the Galaxy" video, Kahn often introduces new facts with phrases such as "What's really going to blow your mind is…" (4:34). While on the one hand, the site's emphasis on interest appears quite similar to the liberal education reformers', on the other hand, the hyper-individualized nature of the site, which makes the student feel in control of her education, suggests that interest is the *primary* quality motivating "what [a student] [wants]." Founded in the United States, the KA reflects the American attitudes which have tended to focus on the unique identity of the mass market consumer. In turn, the relationship established between use and interest by the SDUK – that information is "useful *and* entertaining" appears reversed when shaped for the modern, individual learner.

With its emphasis on individual student interests, the KA initially seems to be precisely the kind of institution that concerns proponents of general education. For in considering the KA as part of a larger, modern debate about the means and reasons for diffusing knowledge, it is important to recognize that the current educational movement is by no means on a single track increasingly focused on separate educational goals for individual students. While numerous theories now exist about individual learning styles and multiple kinds of intelligence,[95] there remains a strong push to define what subjects and information, when widely disseminated, most benefit individuals and society.[96] One such voice on the

[95] For examples, see *Perspectives on the Nature of Intellectual Styles,* edited by Li-Fang Zhang and Robert J. Sternberg and Howard Gardner's *Intelligence Reframed: Multiple Intelligences for the Twenty-first Century*.
[96] Consider the current strong emphasis in the government Race to the Top educational grant program for STEM subjects (science, technology, engineering, and mathematics).

value of general education is E. D. Hirsch and his seminal work on the diffusion of knowledge and its usefulness, *Cultural Literacy*.[97]

Observing the shift in education toward regional knowledge and individualized teaching methods (26), Hirsch argues that the shift has caused a "lack of wide-ranging background information among young men and women now in their twenties and thirties" on topics from current events to geography to literature to chemistry (8). Creating such shared background information within society, according to Hirsch, should be one of the primary purposes of education. "Cultural literacy," as opposed to traditional literacy, is, then, the ability of society's members to recognize "shared symbols" and be able to communicate about the base of knowledge (xvii). Comprised of literary and artistic symbols, as well as scientific, and historical, Hirsch's base of knowledge has an Arnoldian quality – an emphasis on purveying "the best that's been thought and said" to members of society (Arnold xi). Hirsch states that as the base of knowledge is replaced by regional and individual interests, students lose their ability to fully understand basic public texts and public issues. He points toward the importance of understanding, for example, common scientific symbols and terms. He argues that "all citizens must be equipped to make nontechnical judgments about technical questions" (150). Without a familiarity with basic scientific terms and theories (e.g. the big bang theory or photosynthesis), citizens cannot reasonably weigh in on and engage with public debates about related issues. Thus Hirsch views cultural literacy as a democratic concept. To deny a student the knowledge to be culturally literate, as he feels the current educational system does, is to deny her the ability to fully communicate in society. Therefore, the individualizing of education, Hirsch believes, comes at the cost of reducing *both* its individual and social usefulness.

However, despite the KA's participation in the individualized education movement, the KA's organization appears to strive simultaneously for individualized choices and social awareness. In particular, the KA's focus on certain knowledge systems, specifically the knowledge of social systems, indicates its belief that certain topics should interest all learners. I use the term "system" to describe the

[97] Although he initially published *Cultural Literacy* in 1986, Hirsch has since published *The New Dictionary of Cultural Literacy* (2002).

fields in which the KA is most interested because it indicates the site's interest in details and a broader perspective on those details as they fit into a larger network of information. For example, the site demonstrates a strong leaning toward current events within the banking, financial, and healthcare systems. Of the thirty videos most recently added, thirteen fit into one of these three categories. In turn, only a few days after the news reports about the LIBOR scandal, the site uploaded a video dedicated to the topic. Here the comparison to the SDUK becomes quite important for understanding the KA's full educational philosophy. Although the KA makes no declaration as explicit as the SDUK's that, "We consider it the duty of every man to make himself acquainted with the events that are passing in the world, – with the progress of legislation, and the administration of the laws" (*Penny Magazine* 1), the site's focus on current events implies its interest in the usefulness of knowledge. But rather than mirroring either the SDUK's belief in the usefulness of everything or Hirsch's limited list of shared useful terms, the KA produces a philosophy of shared education suited to the solitary learning process. Through its emphasis of a big-picture (systematic) perspective on certain areas of knowledge, the KA demonstrates how the individual student can understand and relate to topics far broader than herself.

Although more focused in its content than the SDUK, the KA's educational interest in social systems continues the nineteenth-century perception of education as a systematic solution to crises in other social areas. Currently emphasizing systems in mathematics, science, and current events, the KA appears, in part, to be a response to perceived crises within the financial, healthcare, and educational systems. From outside the videos, the site emphasizes the particular systems in its ratio of 194 videos on finance to 26 on history. From within the videos, the site emphasizes the systems through its ubiquitous methods of connecting information to a larger picture. Although each video is a small, approximately ten-minute "chunk" of information, the separate videos generally follow a progression of ideas. There are four videos on the "housing price conundrum," the first of which explains the surprising elements about the housing crisis, (housing prices increased even while the average income fell and the supply of houses rose) and the second of which addresses Kahn's theory explaining the price increases. The YouTube video format easily guides a student toward the next video and encourages her to continue watching

through Kahn's methods of foreshadowing ("In the next video I'm going to tell you frankly why I'm pretty sure housing prices did go up") ("The Housing Price Conundrum Part 1").

Since a plethora of videos on the financial industry is not surprising on a website founded by a former hedge fund manager, the site's strong interest in the seemingly unrelated topic of cosmology demonstrates even further the site's emphasis on shared knowledge created by its big-picture perspective on certain subjects. The KA includes 86 videos on the creation and scale of the universe, Milky Way galaxy, solar system, and planet earth. While as one student commentator points out that it "Seems like you should do a Geography playlist... as a lot of these videos would probably fall into that category," the following commentator explains the significance of combining the history of the universe with the history of earth. "I like having them in the same playlist as cosmology... this encourages people to study our "big history" as a whole. If they weren't in the same playlist I probably would have never looked at geology" (Kahn Academy "Plate Techntonics—Difference between crust and lithosphere"). The student later encourages others to "Check out the Big History Project, which Sal [Kahn] is a part of: http://www.bighistoryproject.com/" (Kahn Academy "Plate Techntonics—Difference between crust and lithosphere"). Harkening back to the nineteenth-cenutury liberal reformers' argument that people should understand "the everlasting problems of human life," the KA and the Big History Project argue that students should see the world (and the universe) "[holistically]" as "inter-related" systems. ("A Liberal Education and Where to Find It" 97, www.bighistoryproject.com). The site's larger philosophy suggests not that ancient history or art history is unimportant or disconnected from a big history perspective (the site includes a relatively small number of videos in both subjects), but rather that in each moment certain topics require greater social focus and have greater social use**.**

The KA's primary struggle, then, is the struggle to systematize the miscellaneous knowledge it deems to be currently "useful." Like the SDUK before it, the KA must attempt to create substantive learning from short informational pieces. But unlike the SDUK, the KA appears to place as much emphasis on tools that try to motivate and guide students as it places on the information toward which it guides them. As noted, the site attempts to lead student to think about and understand larger and larger

pieces of information (for example, from the concept of a mortgage to the housing market crisis). Certainly, a user may approach the KA as a reference source that she uses only in moments of need. But the Academy encourages each user to establish an account that keeps track of the videos she watches or the math skills she completes. Each activity earns the user a certain number of "energy points" that the site tracks in the student's personal account. In addition to energy points, a student receives various "badges" for completing certain tasks or making certain learning choices. Certainly on the video side, as opposed to the practice side with mathematics problems the student may complete, the problematic nature of this motivational system quickly emerges; the system tracks the student's study habits, but it does not track the student's comprehension or progress in any subjects. Watching fifteen minutes of video in a subject earns a student a "Nice Listener Meteorite Badge." And watching an accumulated four hours of video in a subject over any particular number of days earns a student the "Ridiculous Listener Earth Badge." But neither of these badges indicates how well the student has learned the provided information. Given Kahn's Wall-Street background, the site's point and badge system is unsurprising and seems more similar to a corporate bonus system rather than a motivational method for learning. Yet the site's emphasis on basic study skills, its history (Kahn started as a tutor for his cousin, who was struggling in math), and the site's statement, "We've heard of students spending hour after hour watching physics videos and 5th graders relentlessly tackling college-level math *to earn Khan Academy badges*" suggest that the KA, and online education in general, are perhaps not most directly appealing to students who already love and succeed in traditional leaning environments (my emphasis "About The Site").

Perhaps the most significant indication that the site takes educational "outsiders" into consideration is its strong motivational emphasis on moments of struggle on the site's practice side, where it *can* measure students' progress. In contrast to the nineteenth-century education reformers, who often assumed that personal interest in a subject and a student's recognition of his progress would carry him through the easy and difficult moments of his studies, the KA acknowledges that a student may not always recognize progress, and that he will often experience frustration when laboring over a skill. If a student "[answers] thirty problems mostly correctly in a skill before becoming proficient," the site awards

him a "Perseverance Badge." Seemingly recognizing that the level of frustration increases more quickly after a certain amount of time spent on a particular concept, the site continues to award increasingly valuable "Steadfastness" and "Tenacity" "Moon Badges" after every ten problems until the student achieves proficiency. Although the badge titles are, admittedly, a bit silly, these methods not only try to identify and acknowledge precisely when a student struggles, but they also attempt to connect the continued struggle with an additional positive (point) return. Certainly, such badges remind one that online education generally lacks the personal attention where encouragement would normally occur. But they also remind one that online, individualized education can only, even potentially, be substantive if it succeeds at instilling some level of self-motivation in its students.

Therefore, the KA appears to represent a current trend within education to form students who do not fit into the traditional education system into autodidacts. Although the KA offers no official credit or degree for completing its lessons, it still seems possible to compare the site's mathematical "Practice Side" with MOOCs and online degree programs, in terms of their ability to track a student's progress and influence a student's relationship to knowledge.[98] Providing students with a mathematical skills map that covers everything from "telling time" to calculus, the KA offers each student the chance to navigate her own education and achieve some level of mastery. A student can begin anywhere on the map and proceed through its skills however she pleases. As she correctly completes problems, the student initially becomes an "Apprentice" and eventually earns the badge of "Journeyman" in particular areas of mathematics (e.g. algebra or geometry). In addition, while offering a student problem sets in one concept, the site periodically asks her to "Attain Mastery" by reviewing earlier skills. In other words, the system indicates to the student that mastery, as a strong understanding of a particular skill or set of skills, is within her reach but dependent upon her choice to reach for such mastery. Thus, the KA, and online education more generally, seem to hope that they can attract both autodidacts to their systems – students with levels of self-motivation and interest in knowledge similar to their own – and students, who through their systems can be transformed and released into the wider world of information as autodidacts.

[98] Massive open online courses

From this perspective of online education as a potential autodidact-forming system, I return to the SDUK and its beliefs about the effects of technology and knowledge diffusion on society. In the preface to the first issue of the *Penny Magazine* the editor, Charles Knight, writes, "In this, as in all other cases, ready and cheap communication breaks down the obstacles of time and space,– and thus, bringing all ends of a great kingdom as it were together, greatly reduces the inequalities of fortune and situation, by equalizing the price of commodities, and to that extent making them accessible to all" (iv). The passage is significant for its simultaneous belief in the ability of technological innovations (in the printing press and the railroads) and the "cheap communication" of knowledge throughout the nation to change the nation's social structure. Almost 200 years later, the internet provides even "[cheaper] communication" that, in many cases, eliminates "the obstacles of time" down to the millisecond. And many education reformers continue to place their faith in the internet, and the knowledge it potentially provides, as the primary means to "[reduce] the inequalities of fortune and situation." Yet the eventual emphasis of both the nineteenth and twenty-first-century reformers, in their own ways, on the individual student serves as a reminder that "[access]" to information is the means to rather than the goal of education. The autodidact is not automatically "educated" by information. Useful knowledge is merely knowledge until "used."

Bibliography

Arnold, Matthew. *Culture and Anarchy: An Essay in Political and Social Criticism.* Minneapolis: H. W. Wilson*,* 1903. Print.

Carr, Nicholas. "Is Google Making Us Stupid?" rpt. in *The Writer's Presence: A Pool of Readings*. 7th ed. Ed. Donald McQuade and Robert Atawan. Boston: Bedford/St. Martin's, 2012. 633-641. Print.

Gardner, Howard. *Intelligence Reframed: Multiple Intelligences for the Twenty-first Century*. New York: Basic Books, 1999. Print.

Hirsch, E. D. *Cultural Literacy: What Every American Needs to Know.* New York: Vintage, 1988. Print.

Hirsch E. D., Joseph F. Kett, and James Trefil. *The New Dictionary of Cultural Literacy.* 3rd ed. Boston: Houghton Mifflin, 2002. Print.

The Kahn Academy. 2008. Web. 25 Feb. 2013.

Romano, Carlin. "Will the Book Survive Generation Text?" *The Chronicle of Higher Education*, 29 Aug. 2010. Web. 15 Dec. 2011.

Sternberg, Robert J. and Li-Fang Zhang. Ed. *Perspectives on the Nature of Intellectual Styles.* New York: Spring, 2009. Print.

Webb, R. K. *The British Working Class Reader, 1790-1848: Literacy and Social Tension.* London: Allen & Unwin, 1955. Print.