

EDWIN JAMES HOUSTON'S MINORITY REPORT TO THE COMMITTEE OF TEN:
CONTEXT AND IMPLICATIONS

by

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(Under the Direction of William G. Wraga)

ABSTRACT

The Report of the Committee on Secondary School Studies (1893) is widely recognized as one of the most significant documents in American curriculum history. However, current interpretations of the document consistently ignore an anomaly of the report. Understanding of the recommendations of the Committee of Ten needs to be broadened to include consideration of the minority report of Edwin James Houston.

Houston was a lifelong teacher who spent most of his career working at Central High School of Philadelphia. His experiences and his beliefs about schooling were substantially different from the college professors on the geography conference of the Committee of Ten seeking to entrench the traditional college preparatory function as the primary role of the public high school. Houston prepared a minority report challenging the

geography conference's recommendations and in effect the recommendations of the entire Committee of Ten report.

This study employs historical research methods to establish the context of the Committee of Ten report, explore the life and work of Edwin James Houston, analyze the Committee of Ten report focusing on the geography conference, and analyze Houston's minority report. Conclusions and recommendations for further research and practice are offered.

One of the most significant findings of this study is that Central High School and Houston offered a successful, progressive education oriented toward broad subjects that encompassed many areas. This was superior for life-preparation to narrow specialization as typified by the college preparatory schooling. This study is significant for the curriculum field because it helps to correct the current interpretation of the Committee of Ten and points out another viable option to the recommendations of the report.

This study is also significant in that Houston's proposal for dealing with subject matter through integration and application is relevant to current efforts to improve student achievement as embodied in the No Child Left Behind Act of 2002. The Essentialism characterized by the Committee of Ten report is very similar to current curriculum reform efforts such as No

Child Left Behind. A historical perspective suggests that these efforts may be misguided and in need of reconsideration.

INDEX WORDS: Committee of Ten, Edwin James Houston, History of Geography, Central High School of Philadelphia, Progressivism, Curriculum

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DEDICATION

I would like to dedicate this to all the people that have helped me achieve this milestone. To my parents who always pushed me and taught me the importance of education, and paid for a good portion of it. To my wife Jeannie and daughters Haley and Kinsey who have tolerated my absence and insanity through this process and have remained supportive. To my friends at Grayson High School who supported and encouraged me. Thank you for all your support, I could have never accomplished this alone.

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TABLE OF CONTENTS

	Page
ACKNOWLEDGEMENTS.....	v
CHAPTER	
1 INTRODUCTION.....	1
Background of the Problem.....	1
Significance of the Study.....	6
Statement of Purpose.....	12
Research Questions.....	12
Scope of Study.....	12
Methodology.....	13
Assumptions.....	19
Limitations of the Study.....	19
Organization of the Report.....	20
2 TURN OF THE CENTURY CONTEXT: NATIONAL, LOCAL, AND DISCIPLINARY.....	21
National Educational Context.....	21
Geography in the U.S.: An Academic Field in its Infancy	41
Central High School of Philadelphia: Innovation Caught in the Crossfire.....	45

	Summary.....	50
3	EDWIN JAMES HOUSTON: LIFE, CAREER, AND PUBLICATIONS.....	53
	Formative Years.....	53
	The Books of Edwin James Houston.....	60
	Summary.....	76
4	THE COMMITTEE OF TEN REPORT AND THE MINORITY REPORT BY EDWIN JAMES HOUSTON.....	78
	Origins.....	78
	Purposes.....	80
	Composition of the Committee of Ten and of the Geography Conference.....	83
	Work of the Committee.....	89
	Main Ideas of the Committee of Ten.....	92
	Historical Interpretations.....	99
	Geography in the General Statement of the Committee of Ten.....	102
	Geography in the Majority Report of the Geography Conference to the Committee of Ten.....	107
	Geography in the Minority Report of the Geography Conference to the Committee of Ten.....	114

	Influences on and Changes in Members, Post-Committee of Ten Report.....	129
	Summary.....	133
5	FINDINGS AND IMPLICATIONS.....	138
	Research Findings.....	138
	Implications for Further Research.....	154
	Implications for Practice.....	157
6	REFERENCES.....	161

CHAPTER 1

INTRODUCTION

Edwin James Houston (1847-1914) is a virtual unknown among present-day educators. He is somewhat known in the science community for his work with electricity, but Houston's life's work and his passion were in the field of education. It is to this pursuit that he devoted his life. In the field of education, perhaps Houston's most significant work came in the form of a minority report to the Committee of Ten published in 1893 that he prepared as a member of the Geography Conference. The Report of the Committee of Ten as a whole is widely analyzed and studied by scholars in the curriculum field today. An examination of Houston's pursuits before the report, his opposition to part of the report, and his work after the report can inform current understanding of the Committee of Ten report. Ultimately, the curriculum he taught, the ideas he defended, and the beliefs he stood for remain relevant to and present in contemporary curriculum discussion.

Background of the Problem

Due to its long-lasting impact on secondary schools, the report of the Committee of Ten is one of the most significant

documents in the history of secondary school curriculum in the United States. In 1892, when the report was written, the lines between college and high school were not clear. What was included in a high school curriculum varied widely from school to school. This was problematic for colleges because incoming students had not had uniform secondary school experiences. Therefore, the Committee of Ten was convened with the intent of establishing uniform college entrance requirements and, ultimately, standardized curriculum for secondary schools.

In 1892, the National Education Association (NEA) formed the Committee of Ten on Secondary School Studies. The Committee of Ten was composed of ten men and was lead by Charles Eliot of Harvard University. According to the report, efforts were made to balance the representation of the secondary schools and college. Also, a balance between regions of the country was sought. Once formed, the Committee of Ten selected nine subjects for consideration. They further decided that each subject should be taught in the same way to all students that attempted the subject. Mental discipline was the foundation for not only the selection of subjects but also for many of the recommendations. Several subjects being taught in secondary schools at the time were not examined at all.

For each of the nine subjects selected, a conference was formed to examine the subjects selected for consideration. Ten members with knowledge in the specific area to be examined were also selected for each of the nine conferences. Houston was selected to serve on the Geography Conference. The finished products of the committees were compiled, primarily by Eliot, and were published as a report in 1893 and as a book in 1894.

For schools that were seeking direction, recommendations for college preparatory requirements may have been a blessing. Direction was clearly needed for many secondary schools. However, the fundamental problem with this scenario is that most students at the time did not attend college. Moreover, most adolescents did not even attend high school. In 1889-1890, only 5.6% of the population, age 14-17, was enrolled in secondary schools (Angus & Mirel, 1999, p. 203). Of those that did attend high school, 87.1% dropped out of high school prior to completion (Sizer, 1964, p. 54). Of the remaining students, few moved on to college. Therefore, having a committee of mostly college professors determining what was best for high schools can be viewed fundamentally as a conflict of interest and as not appropriate for the prevailing conditions. The result was a curriculum that prepared high school students to enter college and specialize in the narrow majors offered there. It certainly

made sense for a physics professor to want his students to arrive with all the knowledge possible to make him a better physics student. Unfortunately, the disciplinary specialization inherent in college preparatory curricula of the day did not serve most students, never mind most adolescents.

One high school that would have been particularly affected by the report was Central High School of Philadelphia. During the years proceeding the Committee of Ten, Central High School was a unique school that somewhat blurred the line between high school and college. Although called a high school, Central awarded bachelor's degrees (Dumych, 1999, pp. 275-276). It focused on a rigorous, practical curriculum for those interested in entering the business world (Labaree, 1988, pp. 20-21). This curriculum was highly sought after, and the competition for admission to the school was fierce (Labaree, 1988, p. 20). However, a closer examination of Central's curriculum and history shows how the recommendations of the Committee of Ten, along with other factors, helped to undermine a powerful program and tradition, which would never really recover. At a time when most people chose not to go to college, Central High School offered a practical, advanced form of education that was both rigorous and effective (Labaree, 1988, pp. 20-21). Labaree (1988) suggested,

But by orienting the school toward commercial life rather than higher education, Central's founders were not choosing a lesser educational role for the school. On the contrary, to its supporters and constituents, the high school [Central] was seen as a species superior to a college preparatory school; it was a 'people's college,' which was more attractive than the traditional college in part because of its practical curriculum. (p. 21)

This curriculum was a viable alternative to the college preparatory curriculum of the Committee of Ten for students not choosing to pursue college. The influence of the Committee of Ten report contributed to the alteration of this curriculum and changed it to a curriculum much like the one the report recommended (Labaree, 1988, p. 154). Although this battle was bitterly fought and a number of other factors supported each side, the college preparatory curriculum and academic formalism won out over student needs or desires.

Edwin James Houston was not only a graduate of and professor at Central High School; he was also an innovator and powerful force in the creation of the curriculum and textbooks used at Central in several subject areas (Dumych, 1999, pp. 275-276). It is only logical that he objected to the changes recommended by the report as well as to subsequent changes at Central High School and changes in the role of high schools in general. In his minority report to the Committee of Ten, Houston persuasively examined the recommendations of the report and their implications for practice. His minority report,

however, was buried at the back of the larger report, and its importance was minimized throughout the earlier sections.

Houston's argument, which was very problematic for the Committee members, was effectively ignored.

Curriculum historians, such as Krug (1964), Kliebard (1986), Ravitch (2000), Tanner and Tanner (1995), and Angus and Mirel (1999) have examined the Committee of Ten report and its impact on secondary education. None of these authors mentioned Houston's minority report or the significant points it brings up in the curriculum debate. Subsequent scholars reference the work of these historians. These subsequent scholars accept the summary version of the report without a thorough examination of the original document, much less Houston's minority report. As with the Committee of Ten report itself, education researchers have ignored Houston's persuasive objections.

Significance of the Study

In his important study of the Committee of Ten, TheodoreSizer (1961) observed, "Schools all over the United States changed their courses of study either in line with the Committee's recommendations, or at least in some way in response to the pressure for uniformity that the Committee exerted" (p. 6). Most scholars generally agree on the influence of the report. Before the report, schools were quite different from

the schools that resulted after the recommendations were implemented. These changes were long lasting and not always in the best interest of the students. Sizer (1961) continued, "For better or for worse, the Report of the Committee of Ten had great influence, influence that has carried down to the present day" (p. 6). Given the influence of the report and the frequency with which it is still referenced in curriculum discussions, Houston's overlooked minority report warrants serious consideration.

An examination of Houston's work and the work of Central High School can contribute to an understanding of the Report of the Committee of Ten. Without understanding what existed before the report, one cannot understand what alternatives may have been lost as a result of the report. It is far too simplistic to say that this report brought order from chaos. The authors of the report would have their readers believe all that existed before the report was in need of repair. As Charles W. Eliot (Committee of Ten, 1893) wrote, "It has been agreed on all hands that the most defective part of the education in this country is that of the secondary schools" (Committee of Ten, p. 1). Because the colleges were judging the high schools based on students arriving at the college, it was obvious that the only way to fix the "defective" high schools was to adopt a college

preparatory curriculum. This was the curriculum that hoped to transform the college freshmen arriving at the college door, by whom the schools were apparently to be measured. Given the source of these criteria for analysis and the appraisal that something was defective with the high school, the resulting exaltation of the college preparatory curriculum was to be expected. An examination of Houston's work at Central High School prior to the influence of the report can reveal what was lost in the process. This alternative is significant to the present-day curriculum discussion because many of the problems Houston points out with the report are still faced by secondary schools today.

Cunningham (2001) suggested, "A survey of the literature of progressivism reveals a dearth of teachers, as distinct from educationists and administrators, and in working towards the idea of a prosopography of progressivism we need to focus on more examples of the former" (p. 447). Although numerous authors have analyzed the recommendations of the Committee of Ten, other perspectives should be considered. Perhaps these "anonymous practitioners," such as Houston, offer some of the most valuable insights as compared to the "pioneers and policy makers" who made up the Committee of Ten (Cunningham, 2001, p. 436). In fact, contemporary discussion would benefit greatly

from at least recognizing Houston's challenges to the report, if not from acknowledging the weaknesses in the report that he pointed out. Gaddis (2002) wrote, "This, in turn, means freeing not just the great but also the obscure in history from determinism: from the conviction that things could only have happened in the way that they did" (p. 140). This is essentially what this study seeks to do with Houston. Although his significance may have been obscured and in the end he was ignored, this was not the only way that things could have turned out. Gaddis (2002) continued, "Our responsibility as historians is as much to show that there were paths not taken as it is to explain the ones that were, and that too I think is an act of liberation" (p. 141). Houston offered a dissenting, but credible, voice to the Committee of Ten, backed, as it was, by practice in the effective programs at Central High School and by Houston's experiences teaching geography. His insights as a teacher into the direction of Geography as a subject, and secondary schooling as a whole, should be part of the curriculum dialogue. Cunningham (2001) further suggested that, ultimately, "a survey of respondents' biographies and careers begins to reveal potential of a wider analysis of progressive teachers for understanding the development of a progressive pedagogy in general classroom practice, and for revealing the operation of

networks and structures" (p. 448). By examining Houston's work, much may be learned about a different and perhaps more progressive type of practice prior to the Committee of Ten. This would be valuable to understanding both the Committee of Ten and progressive education. Seeing the potential in such voices, Cunningham (2001) further suggested,

However, the proposal for a prosopography of progressivism is reinforced by an increasing concern of educational history to focus more attention on the 'anonymous' practitioners, on the everyday work of teachers as distinct from pioneers and policy makers. Where progressivism is concerned, questions yet to be answered have less to do with the origins of ideas and practices in the writings and experiments of a well-documented few, than with the dissemination of these ideas and practices and their implementation or adaptation on a wider scale. (pp. 436-437)

The use of prosopography, or collective biography, might allow future researchers to employ Houston's biography and the biography of other teachers to construct a more accurate view of this era in education. "Drawing the threads together, following both the common and the divergent strands in biographies such as these, constitutes the promise of a prosopography of progressivism" (Cunningham, 2001, p. 451). Houston's biography, although from a somewhat atypical perspective, would add valuable insight to such a study even if it turned out to be a "divergent thread." Cunningham (2001) wrote, "We need to consider how biographies of the more obscure classroom teachers

help to reveal the transmission of progressive education" (p. 435).

Such a study is not only useful for understanding the past, but can also lend insights into contemporary programs. The No Child Left Behind Act of 2002 is a sweeping piece of legislation that touches nearly every aspect of schooling in the United States. Its push for accountability and subsequent increased testing is likely to have powerful effects on education. Like the Committee of Ten report, the NCLB Act seeks to have all schools meet the same academic standard. Schools that do not meet this standard face negative repercussions. The term essentialism best describes the resulting curriculum from both No Child Left Behind and the Committee of Ten. Schools that did not conform to this after the Committee of Ten faced great pressure from parents being told their student could not go to college under the previous high school curriculum. Schools not conforming to NCLB and even some that do conform are likely to face sanctions that could include losing many of their best students and even jobs. In both cases, most schools are likely to follow the recommended curriculum, but the fact that most schools go with this curriculum does not mean it was the only or even the best curriculum available.

Statement of Purpose

The purpose of this study is to document and explain the implications of the educational thought and practice of Edwin James Houston (1847-1914) for understanding recommendations of the Committee of Ten and for educational practice today.

Research Questions

The study will attempt to answer the following questions:

- 1) What dissenting opinions did Edwin Houston offer to the Committee of Ten?
- 2) How were Houston's opinions about the report shaped by his work at Central High School?
- 3) How did the recommendations of the Committee of Ten affect Central High School and Edwin James Houston?
- 4) How were Houston's views significant to the overall report and to the interpretations of the report today?
- 5) What are the implications of these findings to current curriculum efforts?

Scope of Study

This study will consist of:

- 1) Review of the secondary literature about Edwin James Houston, the Committee of Ten report, and Central High School of Philadelphia.

- 2) Collection of pertinent primary source materials related to Edwin James Houston, Central High School, and the Committee of Ten report.
- 3) Analysis of pertinent primary source materials vis-à-vis secondary sources.
- 4) Evaluation of secondary interpretations against primary source materials.
- 5) Assessment of implications of findings for present day curriculum policy and improvement.

Methodology

This study will employ historical methods of educational research. Historical research can be challenging due to the complexities of this type of work and the potential pitfalls often found in historical research. Carl Kaestle (1988) suggested, "There is no single, definable method of inquiry, and important historical generalizations are rarely beyond dispute. Rather they are the result of an interaction between fragmentary evidence and the values and experiences of the historian" (p. 61). It is this gathering of information combined with interpretation of the historian that seeks to take mass information and add understanding.

Richard Marius (1989) provided a general method for researching and writing about history in *A Short Guide to*

Writing about History. Once a topic has been selected, the researcher must begin to gather information. This should involve a variety of sources, especially primary sources. Without consulting original documents, an argument based on only secondary sources will be weak at best. Unfortunately, many contemporary authors writing about the Committee of Ten accept uncritically secondary accounts in analyzing the report. In this study, Houston's writings, the Committee of Ten report, and records from Central High School will be consulted. All of these resources are readily available. Secondary sources are to be consulted, as well. These are valuable for the amount of data they can provide without years of research (Marius, 1989, p. 31). Analyzing these secondary sources can also reveal the prevailing view other authors have of the primary documents. These are not necessarily "correct" interpretations of the primary documents, but they represent the inferences of other researchers who have presumably analyzed the primary documents. In this dissertation, secondary sources will include work that has examined the Committee of Ten and its impact such as Sizer (1964), Krug (1964), and Tanner and Tanner (1995). Few of these works address Houston or his minority report. While the failure of most secondary sources to deal with Houston might seem problematic for the dissertation process, it also shows the need

for this dissertation so that Houston's insights can become a part of the ongoing dialogue on the Committee of Ten.

Obviously, from the very beginning of the research process, the information will need to be focused and analyzed in order to make that information useful. Marius (1989) suggested using the journalistic questions as "tools of analysis" to help decide what to emphasize and what may be discarded (pp. 32-33). These simple questions Who, What, Why, When, Where, and How? help the researcher evaluate the information they find during research and decide what is useful.

Throughout the process of gathering data, Marius (1989) suggested researchers continually write about their topic in order to focus their thoughts and drive their research (p. 92). During this process, researchers will begin to add their own inferences or bring their own knowledge to bear on the information uncovered. "When we do so in our study, we are striving to make sense of our source; when we infer some answers to questions we raise in our writing, we show that we are thinking about the material, trying to put it all together in coherent form- striving, in short, to make sense of it" (Marius, 1989, p. 46). A researcher's attempts to connect the many sources and make sense of how the many sources relate are what turn bulk data into a cohesive paper. Information gathered, but

not connected, is of little use. However, Marius (1989) also warned of stretching inferences too far. "Do not infer wildly. Infer according to a deduction from the evidence that seems plausible to you" (p. 50). In using the information gathered, inferences are to be supported with evidence and considered carefully.

In addition, historical work often has potential pitfalls that need to be avoided when seeking to make sense of the data. Kaestle (1988) warned of four key problems that are common in historical inquiry. These include the confusion of correlations and causes, problems with defining terms, the distinction between what people should have done versus what they did do, and the distinction between intent and outcomes (Kaestle, 1988, pp. 69-70). Another potential mistake often made by historians is warned against by Gaddis. Gaddis (2002) suggested, "Historians must not confuse the passage of time with the accumulation of intelligence by assuming that we're smarter now than they were then" (p. 140). People that assume the study of curriculum cannot be informed by 100-year-old documents because they presumably offer nothing to contemporary society often make this mistake. Tanner and Tanner (1980) explain, "A field that is ahistorical is bound to be atheoretical. The mark of a profession is that it has a heritage of research, evaluation,

and conceptualization which contemporary workers draw upon. The curriculum field has such a heritage" (p. 193). The curriculum field contains a wealth of information that should not be dismissed because of its age or the fact that it was ignored at the time. In order for the study to have legitimate merit, these potential problems must be avoided.

In part, the methodology will be biographical in nature. Biography can help to fill in the gaps left by broader studies and methods. "Biography provides a welcome supplement to the abstract void that the structuralist, leftist-revisionist, and neo-Marxist explanatory schemata have neglected. In an educational *histoire totale*, narrative material is essential for supplementing, nuancing, and correcting circumstantial and course-grained normalizational theories" (Depaepe, 1997, p. 221). Through use of biography, the understanding of the Committee of Ten and its recommendations can be greatly enriched and omissions left by broader measures corrected. "We do this neither to condemn or extol the past, nor to demonstrate that we are correct, but to understand and to clarify it" (Depaepe, 1997, p. 210). Ultimately the use of biography allows greater detail that seeks to accomplish this goal.

Fraenkal and Wallen (1993) proposed five main purposes for historical research (pp. 433-444). This study of the Committee

of Ten and James Houston strives to meet several of these. These purposes include educating people about the past so they can learn from it, learning about the past and seeking application to present day problems and concerns, assisting in prediction of events to come, testing hypotheses concerning relationships and trends, and seeking a more thorough understanding of current educational practices and policies (Fraenkal and Wallen, 1993, pp. 433-444). In the case of this study, the Committee of Ten was an influential document, and its influence can still be seen in present-day education. Understanding the curriculum efforts that existed in the past not only provides a better understanding of where current curriculum efforts originated, but also provides hints as to how these efforts might turn out. Therefore, an understanding of Houston and the Committee of Ten lends a greater understanding of such efforts as *A Nation at Risk* (National Commission on Excellence in Education, 1983) and *No Child Left Behind* (2002). Likewise, this study and a more thorough understanding of the topic might offer hints for possible solutions to problems school systems still face today.

Assumptions

The following assumptions apply to this study:

- 1) Historical research can help understand the past as well as inform current educational practice.
- 2) The primary source documents are authentic.
- 3) Research on Central High School, where Houston spent most of his professional life, can inform the perspective from which Houston viewed the Committee of Ten.
- 4) Despite the substantial ways in which the interpretations within this report differ from scholars in the curriculum field, it may still have viable points that have not been considered.

Limitations of the Study

This study is intended to document and explain the educational thought and practice of Edwin James Houston for the purpose of understanding recommendations of the Committee of Ten and educational practice today. In doing so, this study will address the educational work of Houston, the work of Central High School of Philadelphia, the Committee of Ten report, and work of historians examining these topics. This report is not intended to address all aspects of Houston's life, nor all aspects of the Committee of Ten. Instead, the topic will be

limited to the connections between these areas and their relevance to contemporary issues for secondary schools.

Organization of the Report

Chapter I provides an overview of the study, including introduction, background of the problem, significance of the study, statement of purpose, scope of study, research questions, methodology, assumptions, limitations, and organization of the report.

Chapter II establishes the context that preceded the Committee of Ten report. This includes both the broader context of late 19th Century secondary education and the narrower context of Central High School of Philadelphia.

Chapter III examines the career and especially the educational work of Edwin James Houston. This includes biographical information, his textbooks intended for students, books intended for the general public, and adventure books intended for educating youth while entertaining them.

Chapter IV analyzes the Committee of Ten report and Houston's minority report.

Chapter V summarizes the findings, suggests implications for further research, and offers observations for current educators, policy makers, and others interested in the Committee of Ten report.

CHAPTER 2
TURN OF THE CENTURY CONTEXT: NATIONAL, LOCAL, AND
DISCIPLINARY.

This chapter establishes the context of the Committee of Ten and Houston's minority report. It examines the history of secondary and post-secondary education in the U.S., the development of geography as an academic subject, and events that occurred at Central High School of Philadelphia during a time frame from around 1800 until the Committee of Ten report in 1894. In each area, a general context is established that supports an understanding of discussions in Chapters three, four, and five.

National Educational Context

In 1860, Herbert Spencer posed the question, "What knowledge is of most worth?" (Tanner & Tanner, 1980, p. 216). This is the essential curriculum question because how a society or institution answers it is really the foundation of its curriculum. Each educational institution in the United States answers this question in a different way. Sizer (1961) wrote, "The American secondary schools of 1892 had evolved from four distinct educational institutions, the Latin grammar school, the

college, the academy, and the common school" (p. 9). The oldest of these institutions, the Latin grammar schools, with their traditional academic curriculum centered on Greek and Latin, were really not relevant for anyone but the most elite of society. These institutions existed from as far back as 1635 to serve the needs of the elite and prepare students from around age seven until they entered college at 14 or 15. Students had to first be educated in dame schools or by private tutors before entering the Latin grammar schools where they then studied a classical curriculum such as Latin and Greek. While this did not prepare them for any profession or serve a practical function, it did provide the elite with the cultural capital that they needed to replace their parents as part of America's highest social class.

As members of the merchant class began to seek education for their children to enter the business world, schooling was expanded to include more practical studies (Reese, 1995). Therefore, members of the mercantile class, such as Benjamin Franklin, who saw a need for a more practical education for their children, started opening academies. According to Sizer (1961), these grew rapidly from after the Revolutionary War until the 1850's (p. 11). Although these academies were "private" institutions, "states stimulated the growth of

academies through gifts of money, acts of incorporation, and land grants, as legislators helped grease America's steep educational slide" (Reese, 1995, p. 22). Academy leaders found the creation of a new institution easier than reforming the old Latin grammar schools (Tanner & Tanner, 1980, p. 195). The clean break from the Latin grammar schools allowed leaders to create a totally new curriculum to meet the needs and desires of students and parents. Theodore Sizer (1961) explained,

The academy, then, left as important a legacy as that of the Latin Grammar School and the college. 'Practical' studies were introduced and children from many walks of life were to be educated. Both aim and content of education in America were broadened. (p. 14)

Much of the innovation in schooling during this period can be attributed to these private institutions. Reese (1995) explained, using cutting edge Boston as an example,

The private sector was the real educational innovator in eighteenth-century Boston. The town schools had a restricted orientation, either toward the classics at Boston Latin, or toward rudimentary writing and reading at the three nonclassical schools. Private schools taught many of the higher branches of learning that attracted middle- and upper-class families seeking a more practical education. (p. 5)

In Boston, as well as many other communities, the private schools' need to bring in money to survive drove these schools to offer courses the parents desired.

The academy was a very successful institution in the mid 1800's, while the Latin grammar schools experienced a decline in

enrollments. Although very few records were kept on academies and the students enrolled, it does appear that they were numerous throughout the country and enrolled a fair share of the adolescents that attended school. Reese gave some idea of the numbers when discussing the statistics found in the work of Henry Bernard. "Henry Bernard said there were over 6,100 private incorporated academies in 1855, with enrollments nine times higher than in the colleges. Most academies, however, never sought a charter and thus remained unincorporated" (Reese, 1995, p. 31). Obviously, the practical curriculum was successful enough that parents were willing to pay for the right of their pupil to attend a school where it was offered. However, the academy and Latin grammar school together enrolled only a small percentage of adolescents in secondary programs. Angus and Mirel (1999) cited 5.6% of 14-17 year olds were enrolled in 1889-1890 (p. 203). Despite low percentages of eligible students attending, secondary schools were now being asked to meet the needs of students who were not preparing to go to college. Tanner and Tanner (1980) indicated, "But there were no restraints on the curriculum for students who were not college bound. The academy strove to meet their needs with a program that was both practical and general" (p. 227). The academy offered something different to its students from the

traditional curriculum, and by creating a separate institution they were not bound by the old schools, colleges, or tradition. They were free to meet the students' needs, which had previously gone unmet in Latin grammar schools. This ultimately benefited the public high school, as Reese (1995) pointed out:

"Ironically, academies, too helped nourish the growth of public high schools by demonstrating the growing bourgeois demand for the higher English branches" (p. 25).

Demand for higher education was growing among all classes of society. However, the academy still only served a small percentage of the upper and upper middle classes since students who could not already read and write well were excluded from enrolling. During a period of economic depression from 1837 until 1842, poverty and social unrest over class inequity ultimately drove the upper classes to include in school the children of the poor (Reese, 1995). Common school activists saw the need for an institution that educated all classes and opened educational possibilities to at least all white people. By using the schools to educate the minds of the poor, the position of the elite was protected from potential disaster at the hands of revolution. For the most part, the public high school or common school was the destination for these efforts. In the 1820's and 1830's, common school reformers such as Horace Mann fought for

the common school to become the dominant form of secondary schooling. "Reform-minded activists who sought a common system of free public high schools for all white children, with access to the elementary and the higher branches, attacked diversity and campaigned against all rivals" (Reese, 1995, p. 21). The diverse schools created by individual communities functioned under a variety of names, but to Horace Mann and other common school reformers, all undermined the effort to create "a single system of public high schools with age-graded classrooms, a uniform curriculum, and hierarchal authority in the hands of men like themselves" (Reese, 1995, p. 21). The battle over the dominance of secondary education was waged throughout the next several decades, from the 1830's until the 1870's, and the outcome was not certain. Although the academy faded in significance during the 1870's and 1880's, it left an important contribution to the public high schools. In discussing the heritage left from the academy for the public high school, Reese (1995) wrote:

Academies widened girls' access to the higher branches, and they made the modern English subjects the heart of secondary education forever. Many classically trained reformers in the 1830s and 1840s lamented the passing of the old Latin schools, but the academies simply met a demand local district schools or town schools were unwilling or unable to provide. Academies offered variety, innovation, and whatever parents and their children could afford in the educational marketplace. (p. 32)

Although common school reformers differed from the supporters of the academies on numerous points, in retrospect, the academies played an essential role in the development of the public high school.

As the 19th century drew to a close, the public high school gradually replaced the private academy as the main option for secondary schooling. Krug (1964) noted,

It was probably some time in the 1880's that public high schools gained the numerical lead among the various institutions of secondary education. The *Commissioner's Report* of 1889-1890 listed 2526 schools under this heading, and their 202,963 pupils greatly outnumbered the 94,391 in a total of 1,632 private secondary schools, including academies. (p. 5)

As a sort of business, academies were based on supply and demand for a curriculum, and the demand for practical studies that had originally made them more desirable than the Latin grammar schools had subsided, as it could now be had for free in the public high schools. However, the academies that remained survived by offering a college preparatory curriculum to meet a demand for parents that viewed a public high school credential as less valuable in a market where anyone could attain it for free. As the public school came to dominate, many of the private academies that remained eventually took on the role of independent college preparatory institutions.

Meanwhile, the public high schools continued to expand, with many previous academies changing to public high schools as well. And almost from the beginning, the public high schools sought to meet the needs of both college preparatory and life-preparatory students (Angus & Mirel, 1999, p. 6). However, the freedom to choose a curriculum that served the interests of the students continued in the public high school as it had in the academy. Tanner and Tanner (1980) stated, "The freedom to build a new curriculum continued during the early decades of the public high school, but was sharply curtailed by the Report of the Committee of Ten on Secondary School Studies in 1893" (p. 196). Ultimately, the freedom of schools to offer something besides the traditional academic curriculum was greatly influenced by the Committee of Ten, but during the early decades of the academy and early years of the public high school, this freedom allowed for great choice in the school curriculum not previously enjoyed before or later.

Therefore, the American schools can trace their roots to two traditions: one practical and one classical. Jurgen Herbst (1996) painted the conflict this way, "By the 1870's the country was ripe for a searching debate over the high school question: What was the public high school's primary mission: to prepare for college or to prepare for life?" (p. 54). The public high

school was asked to choose from both functions and help students going to college and those choosing to go straight to work. The Committee of Ten, in effect, chose the classical, academic formalism associated with the traditional college preparatory function.

Secondary schooling at the time of this difficult decision was a complex and rapidly changing institution. The public high school dominated other forms of secondary schools, and the Latin grammar schools and academies were largely gone. But public high schools still only served a small percentage of the population. In 1890, just prior to the Committee of Ten report, 5.6% of adolescents were enrolled in secondary schools (Angus and Mirel, 1999, p. 203). Of these, 87.1% dropped out prior to completion (Sizer, 1964, p. 54). While by all accounts very few adolescents attended secondary school and very few of these intended to graduate from high school, college preparatory students still remained a great concern (Krug, 1961, p. 6-7). College entrance requirements varied widely. Some colleges required Greek and Latin, some only Latin, and some modern subjects and Latin. The examinations used to test these subjects also varied widely and often tested different pieces of literature. This made preparation of the few students intending on going to college very difficult for the high school. In

addition, these students, although few in number, were a major concern of the legislatures that ultimately funded the high schools (Herbst, 1996, p. 54). In some states the money awarded by the Regents was based on the students enrolled in the Classics Department (Herbst, 1996, p. 22). In these cases the desires of the students and parents might often take a back seat to the bottom line. By 1894, 14.3% of high school students were enrolled in college preparatory curricula. However, only 26.7% of these graduated high school (Sizer, 1964, p. 54). Therefore, the students that actually pursued post-secondary education made up less than 4% of high school students. However, although college-preparatory students did not make up a large portion of the secondary school student body, they could not be ignored and presented a difficult and time-consuming challenge to the secondary schools. The effect was that a dual curriculum existed in most schools. College-bound students making up a small percentage of the overall enrollment pursued a classical course with Latin, history, and some mathematics. The remaining students pursued the English course with a greater variety of subjects including natural sciences, geography, modern languages, and literature (Angus & Mirel, 1999, p. 6). In a sense, this was an early form of tracking as students pursued coursework based on their postsecondary intentions. Although

tracking has come to have a negative connotation, this was really just an effort to offer the curriculum parents and students desired for the English course and the preparation the colleges required for the classical course. Most scholars do not support the position that college preparatory students should be ignored. However, the dispute is over whether college preparation should be the focus of the curriculum for public high schools or should the college accept what the high schools decide is in the best interest of high school students.

Another interesting dynamic of high schools that should be considered is the gender breakdown of who attended secondary schools during this time. Krug (1964) pointed out, "According to the Commissioner's statistics in the 1889-1890 *Report*, 57.6 percent of pupils and 64.8 percent of graduates were girls" (pp. 11-12). The limited post-secondary opportunities for women at this time call into question a college-preparatory curriculum for students with no opportunity to attend college.

Two other important factors in the development of secondary education at this time were the call for vocational studies and the manual education movement. In response to increased enrollments and pressure from parents and communities, many school systems began to offer some vocational courses such as business arithmetic, bookkeeping, stenography, etc. Other

districts incorporated shop work and drawing into their more academic programs. Still others offered manual training courses such as wood and ironwork unconnected to any particular vocation. Students seeking even college preparation were often allowed some exposure to manual training as electives. While some districts and leaders embraced this, others fought it for a variety of reasons (Herbst, 1996). Even though only a small percentage of students were enrolled in this program at the time of the Committee of Ten report, this movement had a huge impact on Central High School of Philadelphia where Houston worked (Herbst, 1996, p. 97-105). The movement is also significant in the fact that it is largely ignored in the recommendations of the Committee of Ten report. Herbst even explains that the increased enrollments combined with these other options and the perceived devaluing of the high school diploma helped to increase enrollments in college preparatory courses despite the fact that many of these students still did not attend college (Herbst, 1996, p. 97). In the end the manual education movement and the beginnings of vocational education were significant events occurring during the period of the Committee of Ten, despite the fact that they were really not addressed by the report.

Another important consideration at this time was the relationship between high schools and colleges. The exact nature of this relationship is somewhat unclear. Some historians such as Edward Krug (1961) suggested that, "much of the demand for uniformity in college-admissions requirements came from the secondary-school men themselves" (Tanner & Tanner, 1980, p. 232). Krug justified this position on the basis that the wide variety of courses made preparation of college-bound students difficult for the secondary schools and required a great deal of work. This position is sharply contrasted by Edgar Wesley (1957), who described the relationship between the colleges and secondary schools as a war in which the schools won the first battle by refusing to teach Greek (p. 71). Wesley (1957) went on to write, "In reporting to the NEA in 1874, a committee observed that teachers rarely asked professors to their meetings and that the two groups were alienated by condescension and envy" (p. 69). This is a much less amicable relationship than that portrayed by Krug. Wesley (1957) summarized his appraisal of the relationship between colleges and high schools by noting, "These and many similar instances should dispel the lingering notion that there was, back in the 1870's and 1880's, a golden period in which public-school people gratefully accepted the educational leadership of college and

university professors" (p. 69). The reason for this animosity between the colleges and the secondary schools stemmed from the different role the two saw the high school as playing in the grand scheme of American education. Wesley (1957) explained,

The alternatives for the high schools were either educational independence or subservience to colleges with attendant frustration of popular hopes and expectations. High schools generally tried to avoid domination by the colleges because they felt they had a different mission. They were to educate citizens, train workers, disseminate culture; they were the people's college and not the college's preparatory school. (p. 70)

This somewhat independent view was in direct conflict with the Committee of Ten report that viewed its role as correcting the most defective part of the education system, the secondary school. From the college perspective, the system's function was to create college students, a task it was failing at. This perspective can also be seen in historians, such as Krug and Ravitch, but not all educators accepted college domination so easily. The relationship between the schools and colleges is essential to understanding the nature of the Committee of Ten report. It is the difference between help that was willingly accepted and domination by an outside institution.

Variations in college entrance requirements were not the only factors contributing to the wide variations in secondary schools. Another factor that led to wide variations from school to school was the nature of control in each community. Each

community, usually through lay boards, civic groups, and parents, exercised a great deal of control over the school and curriculum. Therefore, schools from community to community often differed a great deal. One positive aspect of such control is that the schools were obviously responsive to the needs of the community and desires of the parents. This was especially true for rural communities where schools were often significantly different from urban schools. However, with standardization of secondary schools, the needs of rural children took a back seat to urban needs (Tyack, 1974, p. 17). Inconsistency of the programs offered by the schools, which was very inconvenient from the college and college preparatory perspective, was not the only reason for the move toward standardization. This move was also driven by what was viewed by some educators (on many levels) as too much interference by lay people. "Taking schools out of politics" became the battle cry (Tyack, 1974, p. 23). Some professional educators thought that those trained in the field of education should make educational decisions. Angus and Mirel (1999) saw the Committee of Ten as the first step toward this "professionalization" of education and the shift of power away from lay boards and toward educational experts (p. 9). This ongoing struggle for control is a key element to this period.

As a nation, the United States experienced a great deal of change during this period. The population exploded and non-English speaking immigrants made up a substantial portion of this growth. As these "uneducated" people became the community, educators saw danger in community control and sought professionalization (Tyack, 1974, p. 21). Likewise, the transition from an agricultural to an industrial nation began the movement of large numbers of people into cities. This massive growth was used to justify the need for standardization and bureaucracy in education on the grounds of efficiency (Tyack, 1974, p. 17). Dealing with unprecedented growth was often handled through consolidation of the local schools and the rise of the educational bureaucracy. Educational experts and local boards seeking more efficient ways to run the growing systems imposed consolidation on the local communities, but these efforts were almost always fought at the local level (Tyack, 1974, p. 28). This led to much less individualization for community schools, but usually did lead to a "better learning environment" and an environment better suited to high school subjects (Tyack, 1974, p. 24). On the subject of consolidation, Reese (1995) observed, "Professional school people who wanted centralized state authority regarded district-level control as inimical to plans for a uniform system."

Organized into ungraded classes taught by nonspecialists, one-room schools were especially ill-suited for the higher learning" (p. 26). All of these changes led to an increase in the number of students in the public high school during the period from 1880-1900, often doubling enrollments in a single decade (Angus & Mirel, 1999, p. 6). These students had very different needs and desires from the students who had attended the schools of the past. Although he downplays the position that practical studies were in conflict with college preparatory studies for students planning to forgo college, Krug (1964) wrote of this period:

The period was one of industrial and business expansion, with ruthless competition, fantastic rewards for success, and, in some quarters at least, little sympathy for failure. Under such circumstances it was to be expected that the demand for the practical would be strenuously expressed; it was also understandable that it would remain vague, since no one could prove the superior merits of one kind of schooling over another for economic development. (p. 16)

The drive for a practical curriculum came from virtually all directions. Civic leaders, high school teachers, and even some college leaders spoke of the need for more practical studies (Krug, 1964, pp. 14-16).

At this time, public high schools, private academies, and private preparatory schools co-existed, but, for the most part, they served vastly different roles. The different functions of

these institutions made a single recommendation for both problematic. President Richard H. Jesse, University of Missouri, one of the Committee of Ten members stated, "the chief aim of private secondary schools is to get students ready for college, its subordinate aim to fit them for life. In the public high school the chief aim is to fit students for life and preparation for college is subordinate" (Sizer, 1961, p. 56). This is significant, as Charles Eliot and the Committee of Ten changed the curriculum for virtually all students when perhaps only private preparatory schools needed the uniform change to a college preparatory curriculum. However, private school enrollments, while increasing, were lagging behind public school enrollments. Sizer (1961) stated, "In 1890, 31% of the secondary school pupils were in private schools, according to Bureau of Education statistics, but in 1900—although the independent schools were flourishing—this percentage had fallen to 18%. The Committee of Ten could not have been unaware of this fact of tremendous importance" (p. 58). Although most colleges could count on private schools to provide students, the massive growth in public schools made a takeover of the curriculum well worth the effort. Harvard, Eliot's institution, had little need to change the public school curriculum, as most of their students during this time were prepared by institutions

other than public schools. Sizer (1961) explained, "In 1894, of 470 entrants, 126 came from public schools, 220 from private and endowed institutions, and 34 from tutors. Less than a third of Harvard men came from public schools; and indeed their percentage was decreasing" (p. 56). Herbst (1996) indicated that in 1878 at the University of Wisconsin, half of students enrolled in regular university course work had attended the university's preparatory department for their secondary work (p. 84). If a "ladder from the gutter to the university" required change and participation of the high school, as Diane Ravitch suggested (2000), changing other institutions, such as private schools and preparatory schools, rather than dominating the public high schools could have formed this ladder. However, most colleges viewed their preparatory departments with some shame. Herbst (1996) explained, "In its relationship with the public schools, the university was constantly embarrassed by its preparatory department" (p. 84). Most colleges at this time were struggling to free themselves of this burden. Sizer (1961) pointed out that, "In 1889, James Canfield stated that, 'of nearly four hundred institutions of higher learning in the United States, only sixty-five have freed themselves from the embarrassment of a preparatory department'" (pp. 59-60). They sought to use the public high school as a means by which to shed

this responsibility and expense, while still maintaining control over what the student arriving at the college door had learned. However, the Committee of Ten's recommendations and subsequent changes toward a college preparatory curriculum, while in the college's best interest, may have been more logically applied only to private college preparatory schools and preparatory departments in colleges. This would have allowed students who wished to pursue post-secondary school a route through which to prepare while still allowing public high schools to choose the curriculum that their students and parents desired.

The profession of education was also changing. Formation of the National Teacher's Association (later National Education Association NEA) in 1857 helped to create a national forum for education practitioners. In 1884, after a publicity campaign, the membership of the NEA drastically increased (Krug 1964, p. 8). While local schools were not interested in edicts from the federal government, the NEA allowed for national efforts at education reform, and teachers resisted less because they perceived the efforts as coming from other teachers rather than the federal government. By using the committees as vehicles for change, this ultimately gave scholars such as Eliot the necessary backing they needed to push their programs. In *NEA: The First Hundred Years* (1957), Edgar Wesley wrote,

The task forces in the war between the high schools and colleges consisted of committees. The use of committees by educators had been well established in the NEA and its departments. In fact, the most effective committees which did battle for the colleges originated in NEA circles. The Committee of Ten on Secondary School Studies (1892-1893) was only the first of several that won decided victories for the colleges. (p. 71)

The NEA and its subsequent committees ultimately gave Eliot and the colleges the tools to bend the will of the high schools.

Geography in the U.S.: An Academic Field in its Infancy

During this time period in America, the subject of geography was in its infancy as an academic area of specialty. Most colleges taught some form of geography, but it was usually incorporated into history or economics departments. The first independent department of geography at a major U.S. university was created at the University of California in 1898; the department housed only one professor until 1901 when a second professor was added (Dunbar, 1981, pp. 73-74). College professors were often not professionally trained in geography. In writing about the state of affairs at this time, Dunbar (1981) recounted the viewpoint of William Morris Davis, a prominent figure in the field, as follows:

William Morris Davis delineated five classes of "professional geographers" in 1895: topographers, cartographers, explorers, teachers, and writers on geographical subjects. None could get adequate university training in geography, as compared with specialists in other fields, and so Davis urged the vigorous promotion of

geography at all levels in order that it might be strengthened in the universities. (pp. 77-78)

Most geography texts were even written by authors trained in other fields. Prolific textbook author Jedidiah Morse, often called the father of American geography, was trained to be a member of the clergy (Koelsch, 2001, p. 246). It was some time after the Committee of Ten report until the subject of geography reached maturity as an independent academic field. This development can be seen in the growth of professional organizations, awarding of Ph.D.'s, and other indicators of professionalization. *The Journal of School Geography* was not created until 1897 and very few doctorates were awarded in the United States prior to the Committee of Ten report. The first Department of Geography to offer a Ph.D. in geography was the University of Chicago in 1903 (Dunbar, 1981, p. 76). The Association of American Geographers was founded in 1904, and the National Council of Geography Teachers was founded in 1915.

As with general study of geography in academia, teacher preparation at the college level was lacking when compared to other subjects. Normal schools did provide some training in the subject, but as with the colleges, classes were often taught by instructors trained in other fields. However, one notable exception was the work of Swiss geographer Arnold Henry Guyot, who is widely regarded as the first professionally trained

geographer in the United States. Guyot studied under Germans Carl Ritter and Alexander Von Humboldt and during the 1850's brought European ideas of geography to America (Koelsch, 2001, p. 247). The works of Guyot (*Earth and Man*, in particular) were often used in normal schools and colleges for training of teachers (Koelsch, 2001, p. 247). Overall, the work of Guyot did bring some semblance of professional training to teachers, but college and normal school course work were still scanty, at best.

Ironically, geography flourished most at the pre-college level because the college viewed it as foundational material. William Koelsch (2001) explained, "widespread acceptance of the assumption that geography was (in Kantian terms) a propaedeutic or foundational discipline, however, meant that it was readily conceded a place in the pre-college curriculum" (p. 246). In fact, Koelsch (2001) went on to write, "some eleven different types of geography were taught in American secondary schools prior to 1861, including ancient geography, modern geography, sacred geography, mathematical geography, and political geography" (p. 246). In the years leading up to the Committee of Ten, the broad field of geography encompassed many things and was a growing subject. However, after the Committee of Ten, geography saw a decline in student enrollment and in time

allotted within the secondary curriculum. In the years that followed the report, physical geography enrollment percentages peaked in 1896 and in total number of students in 1915 as it was gradually replaced by general science courses (Koelsch, 2001, p. 254-255).

In addition to foreign specialists Guyot, Ritter, and Humboldt, several Americans were influential in the formation of American geography. In *Origins of Academic Geography*, Preston James (1981) discussed William Morris Davis of Harvard University, one of the most influential geographers in the U.S. and a member of the geography conference of Committee of Ten. Referring to Davis, James (1981) wrote, "There was one single outstanding leader who formulated the first statement regarding the objectives and methods of geographical study, and who took the first steps necessary to establish geography as a learned profession" (p. 322). Likewise, Richard Hartshorne (1981) appraised Davis's importance as, "In discussions of the history of geographical thought in the United States it is generally accepted that William Morris Davis played the leading, if not the dominant, role during the first quarter of this century" (p. 139). Davis' role on the Committee of Ten was likewise dominant, and his impact on the subject of geography is difficult to overestimate.

Three other influential geography conference members at the time who had an impact on the formation of geography as well as the Committee of Ten report were Francis Parker, Mark Harrington, and T. C. Chamberlin. Francis Parker was principal at Cook County Normal School. He had studied under Kiepert, Ritter's successor at Berlin, and his writings were known for promoting the views of Ritter and Guyot. His writings made him a significant figure in geography. Mark Harrington was a former college professor who was, at the time of the report, head of the National Weather Bureau. Chamberlin, chairman of the geography conference, had just resigned from the presidency of the University of Wisconsin to head the Department of Geology at the University of Chicago. All of these would serve on the geography conference of the Committee of Ten with Houston.

Central High School of Philadelphia: Innovation Caught in the
Crossfire

During the late 19th century, many developments also occurred at Central High School in Philadelphia. However, Central High School was a somewhat unique school, and an understanding of Central High School is essential to understanding not only Houston's recommendations but also an alternative direction for the role of the American secondary school.

Central High School of Philadelphia was actually more of a cross between a high school and a college, which was not uncommon in the United States at that time (Dumych, 1999, p. 275-276). Such institutions were often referred to as people's colleges. This was problematic from the college perspective as it challenged their monopoly on higher education and gave students another option for advanced education. However, when one recognizes that most adolescents were not attending any type of secondary school at the time, then the idea of competition between traditional colleges and people's colleges loses some significance. The competition that worried the colleges did not, however, hurt Central's enrollments. In fact, competition for spots at Central was fierce, with the school often accepting less than one percent of applicants. With many more applicants than openings, difficult entrance exams were required for admission (Labaree, 1988, p. 20).

Likewise, its teachers were a select group chosen from the best primary school teachers in Philadelphia. As such, they not only enjoyed pay that was four times that of other teachers, but they also had a great deal of autonomy when it came to their classrooms. Many of the professors had, in fact, graduated from Central and proven themselves as master teachers in the Philadelphia primary schools. Central graduates were an elite

group prepared in a very competitive environment, and when compared using tests, they often outperformed their college-educated competition. During periods when tests were the method used to make hiring decisions, Central graduates did particularly well (Labaree, 1988, p. 106). This was significant to the future of Central High School because the graduates of Central understood the practical orientation of the school and the traditional role the school played in the community. College educated professors saw preparation for college as a task above that traditionally performed by Central. A crucial vote on the future of practical education at Central ultimately broke down along these lines.

Originally, the school offered three courses of study. Most of the students took the "Principle" curriculum that was a four-year program that prepared students to enter the business, political, or economic world. This curriculum was in line with the overall mission of the school; it produced "men of affairs, not men of letters" (Labaree, 1988, p. 20). This curriculum could best be described as a rigorous, practical version of college for those interested in the business world (Labaree, 1988, p. 20-21). Initially, they did offer a college preparatory curriculum and a two-year "English" curriculum at the request of some parents, but the bulk of their students took

the "Principle" curriculum. By 1856, the Principle curriculum was the only curriculum offered by Central High School. In a time when most people chose not to go to college, Central High School offered a practical, advanced form of education that was extremely rigorous and successful. Labaree (1988) pointed out that practical does not mean inferior:

But by orienting the school toward commercial life rather than higher education, Central's founders were not choosing a lesser educational role for the school. On the contrary, to its supporters and constituents, the high school [Central] was seen as a species superior to a college preparatory school; it was a 'people's college,' which was more attractive than the traditional college in part because of its practical curriculum. (p.21)

In fact, the very nature of being a practical/terminal institution "liberated its curriculum from the straightjacket of college entrance requirements" (Labaree, 1988, p. 21). This tradition of practical education had been well received by the city and represented a valuable alternative for parents wishing to provide further education for their children.

The Committee of Ten certainly had an impact on the curriculum of Central High School and the practical offerings in particular, but changes were already well underway at Central by the time Houston served on the geography conference of the Committee of Ten. One of the most significant events to undermine the practical curriculum at Central occurred eight years earlier in 1885 when the Central Manuel Training School

opened just down the street from Central High School. This was only the second secondary school in the city, but it did offer the first real competition to the school for prospective students. This caused a number of reactions. For a few years, faculty and school supporters sought to change Central into a junior college to preserve it as the pinnacle of practical education within the city. However, the board of education never supported this move. By 1888, a battle occurred over the curriculum and direction of the school. On one side were the Central graduates, including many professors at the school, and on the other side were college-educated professors seeking reaffirmation of the school's position in the community through a move toward college preparation. The college educated professors won out in 1889 with the appointment of Henry Johnson as president of the school. Johnson was college educated and had been a Latin professor for most of his career. Johnson wrote the new curriculum for Central High School virtually single-handedly. It included two tracks with one intended for preparation for life and one for college, but both significantly less practical in orientation (Labaree, 1988, pp. 148-153). The controversy over this shift in the very goals of the school raged for years, dividing parents, faculty, the school board, and the community. It even contributed to Johnson's early

resignation as president of Central. However, Johnson had successfully changed the curriculum and was supported by the growing number of professors educated outside Central. The practical curriculum offered by Central so successfully and for so long, was under attack and, by 1893, appeared to be losing badly. In 1893 or 1894, Houston ran for president of Central high school. Houston's run for president was obviously an attempt to help regain some control over the path the school was taking. In February 1894, Houston had been defeated in what he called a very unpleasant canvass (E. J. Houston, letter to H. S. Hopper, February 14, 1894). Had he been elected, Central would have almost certainly followed a different route. Houston and the other alumni knew the value of the more practical curriculum as an alternative to the college preparatory route. With the practical curriculum he defended in the best interest of students struggling to survive, his selection to the geography conference to the Committee of Ten gave him an opportunity, and Houston made his opinions on this shift in curriculum known.

Summary

Overall, the educational context of the Committee of Ten report can best be characterized as a very fluid and turbulent period in the formation of the American education system. High schools were growing rapidly, and their exact function was not

yet clearly defined. Communities were experiencing growing pains as the population growth soared and varying interests completed for control of the high school curriculum these new masses would learn. From this, a struggle for power developed with educators seeking professionalization while local lay boards attempted to maintain control. As Krug (1964) pointed out, "In short, the simple business of keeping school- particularly a high school- was not so simple as it would look retrospectively to a latter age" (p. 16).

The same struggles were raging at Central High School. The alumni and old guard professors were struggling to continue the traditional practical curriculum that had been so successful for so long. The newer college educated professors were seeking elevation of the standing of the school by moving to a college preparatory curriculum. Parents and community members were weighing in on both sides.

Meanwhile, the subject of geography was just developing as an independent subject. Although much more advanced in Europe, there were very few true geography experts in the United States, and many of those who had an influence on the subject had limited background, experience, or credentials. Finally into this environment, a group of men were asked to come together to redefine the direction of geography in America. Edwin James

Houston, a lone teacher perhaps destined to be ignored and frustrated with losses at Central, went to join this committee and represent a valuable curriculum and philosophy of schooling against seemingly insurmountable odds.

CHAPTER 3

EDWIN JAMES HOUSTON: LIFE, CAREER, AND PUBLICATIONS

This chapter explores the life and work of Edwin James Houston. Although very little biographical information of a personal nature is available about Houston, a great deal can be learned about him through his work, comments from his peers, and remarks by his former students. His minority report to the Committee of Ten, perhaps the piece that provides the greatest insight into the man and his thoughts on education, will be examined at length in chapter four.

Formative Years

Edwin James Houston was born on July 9, 1847, in Alexandria, Virginia, to John Mason and Mary (LaMour) Houston (Phillips, 1978, p. 670). He attended public primary schools in Philadelphia and then successfully completed the rigorous examinations necessary for acceptance to Central High School. After graduating in 1864, Houston taught at Girard College in Philadelphia and then moved to Europe where he attended the University of Berlin and the University of Heidelberg (Phillips, 1978, p. 670).

His time in Germany is significant because it exposed Houston to the ideas of many of the most significant figures of the day in the subject of geography. While geography was a subject in its infancy in America, scholars such as Ritter and Humboldt were forging new paths in the subject in Germany. Graduates of German universities had an impact on the subject of geography around the world. Likewise, the numerous graduates of these German universities and the opinions of German experts shaped the Committee of Ten in areas other than geography. Theodore Sizer (1961) described the impact of German universities on the Committee as follows:

Many American scholars were already at work at the great universities in Germany, where "scientific" scholarship would not only bring forth major discoveries in botany, for example, but also in theology, literature, and history... This scholarship was a massive and exhaustive process and left an indelible impression on young Americans. These returned, taught at Johns Hopkins and elsewhere, and developed the modern model of graduate study. At least fifteen of the one hundred men of the Committee of Ten and its nine conferences held German degrees, symbols of scientific scholarship. The influence of the scientific method, then was profound on American scholarship and colored the recommendations of the Committee of Ten. (p. 27)

Individuals with such a credential were widely respected for their expertise in their field. However, most of the members of the geography conference were not educated in these universities and may have been far less familiar with the work of these innovators in the field.

In 1867, Houston returned to Philadelphia to become the chairman of the newly formed physical geography and natural philosophy department at Central High School. In this new role, he designed many of the courses, and, finding the available textbooks inadequate, he wrote many of the textbooks, including *Elements of Physical Geography* (1891) and *A Short Course in Chemistry* (1884) (Dumych, 1999, p. 275-276). Given that he graduated from this institution just three years before his appointment as department chair, his early contributions to the building of a new program speak very highly of his abilities. Additionally, Houston "was one of the first educators to see the value of laboratory instruction and developed a well-equipped laboratory at Central High School" (Phillips, 1978, p. 670). This will be significant later when connected with the Committee of Ten, where the members of the Committee sought to eliminate traditional geography on the grounds that it was boring or that it was not a "hard science."

As Houston saw it, geography was a hard science, rigorous in content, and practical in nature. Houston's innovative ideas in both textbooks and laboratory class work no doubt contributed greatly to his comments and his outrage at many of the opinions of the other committee and conference members. It is obvious that his experience with teaching the broad field of geography

had led him to different conclusions from his associates. Given the special nature of Central and the possibilities for expanding this type of schooling to other places, Houston's input on the subject of geography could have helped these college men understand a great deal about the possibilities of the subject they were asked to examine.

Likewise, Houston's expertise in the fields of electrical engineering, physics, and geography lends credibility to his opinions in the report. Houston was a man of science, and the current view of geography as something less than a science should not obscure the fact that Houston was intimately familiar with empirical science and saw a different way to teach and organize it to benefit more students. Given many of the arguments against traditional geography and in favor of specialization, Houston's knowledge of both the broad field and these more specialized areas is significant when looking at the two points of view in the Committee of Ten.

There was another side to Houston, a side for which he is primarily known today, when he is remembered at all. His significance to the field of electrical engineering is recognized as his greatest legacy. In 1870, he and a student at Central named Elihu Thomson began working together on electrical inventions and experiments (Thomson, 1998, p. 925). The plan

was for Thomson to perform the experiments and for Houston to document the work and the findings for publication (Dumych, 1999, p. 275-276). This partnership proved very productive. They worked together and eventually formed the American Electric Company (1879) and then the Thomson-Houston Electric Company (1883). During these years, Houston and Thomson invented the three-phase alternating current generator and arc lighting (Thomson, 1998, p. 925), which led to significant improvement in lighting (Houston, Edwin, 1997, p. 924). Although Thomson left Central High School to focus on the company, Houston remained at the school and split his efforts between the two pursuits. By 1882, however, he had limited his involvement with the company (Dumych, 1999, p. 275-276). Houston saw himself principally as an educator throughout his life.

In 1884, Houston was a member of the electrical commission appointed by the U.S. government and in the same year was the chief electrician of the International Electrical Exhibition held in Philadelphia (Houston, Edwin, 1906, p. 359). In 1892, the Thomson-Houston Electric Company merged with Thomas Edison's company to form General Electric (Thomson, 1998, p. 925). In 1893 Houston served as one of three presiding officers for the International Electrical Congress at the Chicago Exposition (Houston, Edwin, 1906, p. 359) and as the chief electrician for

the Chicago World's Fair (Edwin, 1914, p. 9). He was also the first president of the electrical section of the Franklin Institute and editor of its journal (Phillips, 1978, p. 670). Houston also served as the vice president of the Educational Club of Philadelphia (Houston, Edwin, 1906, p. 359).

In 1894 Houston resigned from Central High School and went to work with A.E. Kennelly as an electrical engineering consultant (Phillips, 1978, p. 670). During this time, he wrote the first set of elementary textbooks on electricity including a ten volume set entitled *Elementary Electro-Technical Series* (Phillips, 1978, p. 670). "Houston played an important role in the early years of electrical engineering, not only on a practical level with his pioneering work in arc-lighting systems, but also in his role as an educator. Many future electrical engineers received their guidance from Houston or his textbooks" (Dumych, 1999, p. 275-276). Houston's contributions did not stop with his own inventions, but because of his commitment and passion for education, he left a greater legacy within the students that learned from him.

Regardless of his publications or successes in electricity, Houston was first and foremost a teacher. "In spite of Houston's achievements in the commercial electrical field, he regarded educational and scientific work as his primary calling"

(Dumych, 1999, p. 275-276). This was illustrated in a number of ways throughout his life. He chose to continue teaching long after he could have chosen the business world. He spoke as a teacher on the Committee of Ten, where many others spoke as administrators. He spoke about education as only one who is passionate about teaching could. When speaking at the dedication of a new building in 1902, he was introduced by William H. Staake as "the Boys' Friend, as he has been termed" (Edmonds, 1902, p. 236). He began the speech as follows: "I am indeed glad to have the opportunity, even at this late hour, to respond to a toast on a subject that has always been so near to my heart, - 'Boys'" (Edmonds, 1902, p. 237). Franklin Edmonds (1902) in *History of Central High School of Philadelphia*

likewise portrayed Houston as a master teacher:

He brought to his new work an enthusiasm that imparted life to his instruction, a love for boy-nature that made him a potent influence among his pupils, and a genuine scientific power that presently won for him and for the school a national reputation. (p. 199)

Roland P. Falkner, a student of Houston's, described Houston as follows:

I can never forget E. J. Houston. In the class-room he was clear as a bell, the boy must have been stupid indeed who did not profit by his instructions. But most of all I value him for his moral influence. Without affectation of holiness or piety, he knew how to reach the impressionable spot in a boy's character. I had several conflicts with him in regard to questions of disorder. His reproof was mild, but it sank deeper than a longer homily. Nor have I

forgotten his admonitions, though I strove to show that I was indifferent to them. If my experience is of a type of that of others, I can well understand the universal love and affection in which he was held. He never catered to popularity, but won it through sterling integrity and good sense. (Edmonds, 1902, p. 224)

While many who teach are passionate about their subjects, a true teacher cherishes children. Houston understood this, which is a more important distinction than it may seem at first glance. Even after he formally left the teaching field, he still sought to teach children.

In the later years of his life, Houston became involved in boys' associations and wrote adventure books, such as *In Captivity in the Pacific*, *The Jaws of Death*, and *At School in the Cannibal Islands* (Phillips, 1978, p. 670). That Houston imbedded geography in his action adventure books further demonstrates Houston's commitment to education in everything he did and his desire to be innovative in teaching what he viewed as a powerful subject.

The Books of Edwin James Houston

During his lifetime, Houston wrote over 100 books on a variety of subjects ("Author Predicted," 1909). While some of these books saw widespread use as textbooks, others were never widely circulated. Primarily, these books fall into three general categories: textbooks (both upper and lower level); books intended to educate the general public on a variety of

topics; and adventure books intended to make learning fun. These categories are not exact, and books intended for the general public or even adventure books could certainly have been used as textbooks. However, the books can be roughly categorized for discussion's sake. Books within a given category appear similar in their format, style, audience, and purpose.

Houston's Textbooks

The first category of Houston's books includes numerous books he wrote both for courses taught at Central High School and courses offered at other levels of education. These books were used widely and received praise for their quality at the time (Houston, 1891, p. v). They cover a variety of topics including physical geography, commercial geography, mathematics, electrical engineering, magnetism, electro-therapeutics, natural philosophy, physics, and chemistry.

One example from this category is *Elements of Physical Geography for Use in Schools, Academies, and Colleges* (Houston, 1891). It is a beautifully illustrated textbook with some rather interesting features. First, it was designed with both large and small print. Major items are in large print with finer details and advanced points in smaller print. It was suggested in the preface that teachers and advanced students use

the smaller print while younger or less advanced students focus on the key points in larger print.

This book is particularly important because it deals with the subject matter under discussion for the Committee of Ten report and provides a glimpse as to how Houston viewed the subject. In this text, Houston (1891) defined geography as, "description of the earth" (p. 2). He went on to break down geography into mathematical geography, political geography, and physical geography. Mathematical geography deals with the Earth's relations to the solar system. Houston (1891) explained,

Mathematical Geography forms the true basis for accurate geographical study, since by the view we thus obtain of the earth in its relations to the other members of the solar system, we are enabled to form clearer conceptions of the laws which govern terrestrial phenomena. Here we learn the location of the earth in space, its size, form, and movements, its division by imaginary lines, and the methods of representing portions of its surface on maps. (p. 2)

This includes a wide variety of subjects such as tides, eclipses, day length, seasons, hemispheres, latitude, longitude, etc. The next branch Houston included was political geography, which covers "the earth in its relations to the governments and societies of men, of the manner of life of a people, and of their civilization and government," (Houston, 1891, p. 9). Obviously this includes countries, studies of various cultures, governments. Houston (1891) described physical geography as follows:

Physical Geography treats the earth in its relation to nature and to the natural laws by which it is governed. It treats especially of the systematic distribution of all animate and inanimate objects found on the earth's surface. It not only tells of their presence in a given locality, but it also endeavors to discover the causes and results of their existence. (p. 9)

Houston's breakdown of physical geography continued to include study of five "classes of objects - Land, Water, Air, Plants, and Animals" (Houston, 1891, p. 9). Further, in several places, Houston commented about the study of geography in relation to other subjects. For example, Houston (1891) wrote,

The study of Physical Geography, including as it does not only the crust of the earth and its heated interior, but also the distribution of its land, water, air, and animals, includes, in its range, a great variety of topics, and necessitates for its proper elucidation many branches of science. Some knowledge of the elementary principles of these sciences is necessary to the proper study of Physical Geography. (p. iv)

This is relevant to this study, as one of the central issues being debated between the majority and minority reports of the Committee of Ten was specialization versus generalization. Houston's belief that many specialties are better taught within a broader subject was reinforced by his point made here and the content included in the text itself. This does not mean biology, chemistry, zoology, were not covered, but they were covered under courses or units such as oceans and air as suggested in Houston's graphic organizer of geography (Figure B). These smaller areas can remain rigorous and scientific

while organized in a different manner. The point is especially valid for the majority of students who will not make a career of one of the specialized fields but could benefit from a basic understanding of a wide variety of subjects and the connections between each subject.

Some of the most interesting insights into Houston and the subject of geography can be gained by comparing the various editions of *Elements of Physical Geography*. There seem to have been as many as 14 editions of the text although many of the editions appear to be almost identical. However, there are some interesting passages to be found in the editions that follow the Committee of Ten report. In the editions up to 1891, Houston commented on the success of the previous editions and the increase in the number of schools using the text. He therefore noted the inadvisability of making substantial changes since the book was well received. In fact, very few changes can be found between the various editions leading up to 1891. However, by 1901, some changes can be seen. Houston (1901) even commented on these:

In the preparation of the new book the author has endeavored so to proportion the subject matter as to give due prominence to such topics as, in his judgment, would prove of greatest value to the student. In this direction physiography has been treated more fully than in the older book. At the same time, however, he has studiously avoided giving such an undue prominence to this part of the science as would necessitate the suppression of equally important

topics. The influence of geological agencies in giving the earth its present surface features has been fully treated, and yet not so fully as practically to exclude the influences of these features on the climate, and this, in its turn, on vegetable and animal life, especially on the development and civilization of earth's highest type of life, man. (p. vii)

This is a very interesting passage because Houston was well aware of the Committee's recommendations, which pushed a narrow definition of geography that was essentially only physiography and which were being implemented at many of the schools that had been buying his textbooks. However, Houston persistently defended his curriculum. He did add a substantial amount of material to this revision including a large section on mineralogy and therefore did give the schools some material that they were in all likelihood requesting. However, he was not willing to narrow the entire subject and continued to refer to it as a science and incorporated numerous other sciences under its study. Houston (1901) wrote, "The author has not hesitated to draw information from all standard works on Geography, Physics, Astronomy, Geology, Botany, Zoology, and other allied sciences" (p. vii). Although Houston did make changes to his work as a result of the Committee of Ten, he did not totally capitulate to the recommendations.

In the next book in this category, *Commercial Geography*, Gannett, Garrison, and Houston (1905) defended the importance of

geography in the "modern" world. "That this study is of vital importance is attested by the fact that in ignorance of, or indifference to, such causes, nations have often adopted policies that have retarded their progress and worked disastrously against their welfare" (Gannett, Garrison & Houston, 1905, p. iii). Again, this reads like a broader conception of geography than the Committee of Ten allowed, as we shall see in chapter four. In this text, the reader can expect to learn much about economics and political systems in addition to geography. The text is organized in such a way that it first explains factors that affect commercial operations such as topography, climate, manufacture and transportation, etc. Next, world products, regional differences, and processes of manufacture are explained, and finally interactions between countries are addressed. In their own appraisal of this method, the authors wrote,

It is believed that this study will give the student a good foundation for whatever business the future years may hold in store for him, an enduring pride in his country and loyalty to its institutions, and a readiness to serve it as a good citizen in any capacity that may be allotted to him. (Gannett, Garrison & Houston, 1905, p. iv)

These are fairly lofty goals for a geography textbook, but as Houston defined and taught geography, it does seem to have a great deal more relevance to the lives of the students. His desire to pull many smaller fields together seems more practical

than training all students to be young meteorologists or zoologists. For the majority of students, touching on a variety of areas and focusing students on the world around them (even the advanced student) enriches the general education experience and seems much more sensible than separate courses on specialized areas.

Another text, *Electricity and Magnetism: Being a Series of Advanced Primers of Electricity* (Houston, 1893a), unlike one of the other electricity books that will be addressed later, was targeted at advanced students who had a thorough understanding of electricity and magnetism. It was illustrated but not to the extent of the basic book that is targeted at the general public.

Other books by Houston in this category include *Algebra Made Easy* (1898a), *Electrical Engineering Leaflets* (1897), *Electrical Measurements and Other Advanced Primers of Electricity* (1896d), *Electrodynamic Machinery for Continuous Currents* (1896f), *Wonder Book of Volcanoes and Earthquakes* (1907d), *Wonder Book of Magnetism* (1908c), *Elements of Chemistry* (1898), *Elements of Physical Geography* (1891), *Intermediate Lessons in Natural Philosophy* (1904), *Interpretation of Mathematical Formulae* (1898c), *Recent Types of Dynamo-Electric Machinery* (1898d), *Wonder book of Light* (1908b), and *Wonder Book of the Atmosphere* (1907c). Most of these books share similarities in style, audience, illustration, and purpose despite obviously covering a wide variety of topics. The texts generally begin with simple ideas. Ideas are broken down into

small points. Each point is numbered and builds on the previous points. Numerous drawings are provided throughout the books, and labs or small experiments are often illustrated. Generally, small and large text is included with the broad points in larger print and finer details in small print. Complexity advances a great deal as the text continues. Overall, the books as a whole seem to effectively make the content approachable to the readers.

Some of these books do possess interesting, unique points that are worth noting and that can add to the understanding of the Committee of Ten report. One such book that offers interesting insights into Houston's work is *The Interpretation of Mathematical Formulae* (1998c). In this text, Houston wrote about math in a very different way. In contrast to typical math texts, this text, meant more as an accompanying text for math students, is largely narration. It begins very simply with addition and gradually builds on each lesson with detailed narration explaining each example. By the end of the book, the math has grown quite complex, yet continues to include narrative explanation of each new process. This is innovative as a companion to regular math texts for students who struggle with academic formalism.

Another insight into Houston's educational thought can be found in *The Wonder Book of Light*. Houston (1908b) wrote,

The author has not hesitated, in either this or the other Wonder Books, to employ freely a few of the old, old fairy

stories for illustrating some especially difficult point. It is his experience in the teaching of the natural sciences to the young, that the more unusual or out-of-the-way the illustrations employed, the greater the chance of their producing a marked effect on the mind. (p. 1)

Here, once again, Houston tried to peak the interest of students and capture their imaginations. Houston was obviously an experienced teacher with a refined sense of how students learn.

A final text with another point worth noting is *Intermediate Lessons in Natural Philosophy* (1904). In the preface, Houston (1904) wrote,

The text, as far as practicable, is based on experiments. These experiments are of an exceedingly simple character, and can be performed without the aid of an expensive cabinet of apparatus. Plain and simple instructions are given as to the proper manner of performing the experiments, and the attention of the student is especially called to the particular points to be observed during the progress of each experiment. The facts so developed are afterwards fully discussed in the text. (pp. iii-iv)

Houston was responsible for developing laboratories at Central High School, and in this text, he again encouraged their use in helping students learn the material. While the use of laboratories in science classrooms is standard today, this was not the case in the early 1900's. Once again, Houston was finding a way to connect subject matter to the life of the students and the life of society. Simple rote repetition of academic facts was replaced by experimentation that the students could see and connect to society.

Houston's Academic Books for the General Public

The next category of Houston's books includes many on the same subjects as the last category, but with an entirely different audience, the general public. In *Alternating Electric Currents*, as well as elsewhere, Houston (1895a) explained the need for these books:

The authors believe that they are meeting a demand, that exists on the part of the general public, for reliable information respecting such matters in electrical knowledge as can readily be understood by those not specially trained in electro-technics. The subject of alternating-electric currents is, to-day, perhaps, the most prominent in the electrical engineering field. Although when profoundly treated, the subject is so extremely technical as not only to necessitate the use of advanced mathematics but also to require, on the part of the student, considerable knowledge of electricity, yet the authors feel confident that a considerable portion of the subject can readily be understood by the general public. They therefore offer this volume, with the belief that since the commercial applications of alternating currents are rapidly becoming so important, it is no longer a question of willingness, but of necessity, on the part of the general public, to become familiar with the outlines of this branch of electro-technics. (pp. 3-4)

Most of the books in this category have a similar preface that explains the need for greater understanding on the part of the general public and attempts to make such material approachable to this audience. This category includes dozens of books on a variety of subjects including electricity, magnetism, mathematic formulae, and machinery.

Two books in this category are *The Electric Telephone* (Houston & Kennelly, 1906) and *Electricity Made Easy* (Houston &

Kennelly, 1903). These books are typical of this category. Their content and pace were modified to meet the needs of the general public. They were designed to start simply with numerous wonderful illustrations and gradually use more complex pattern of building upon the previous concept. However, the depth of both of these books is much greater than one expects. Although the texts were meant to be easy to follow and are very accessible, they progress into very complex aspects of their subjects. However, through use of simple diction, illustrations, logical progression of ideas, and simple mathematics when possible, the subjects are approachable to those with no background in the subject. Overall, readers of these books should gain a fairly thorough understanding of the topics covered.

Other books in this category include *Alternating Electric Currents* (1895a), *Dictionary of Electrical Words, Terms, and Phrases* (1902), *Electric Arc Lighting* (1896a), *Electric Incandescent Lighting* (1896b), *Electric Motor and the Transmission of Power* (1896h), *Electric Transmission of Intelligence* (1893c), *Electricity in Electro-therapeutics* (1896e), *Electricity in Everyday Life* (1905), *Magnetism* (1896g), and *Electric Heating* (1895b). These books contain certain features very similar to those books already discussed in this category, but as with the textbooks, revealing items are present in some of these books.

One noteworthy aspect of *Magnetism* (1896g) is an acknowledgement to Professor Mark W. Harrington, formerly of the U.S. Weather Bureau, for, "valuable data concerning magnetic observations in the United States" (Houston, 1896g, p. v). This is significant because Harrington was a member of the Geography Committee and a signer of the majority report.

Another relevant artifact is actually glued into the back of *Electric Incandescent Lighting* (1896b). The copy was obtained from Alabama Polytechnic Institute and was donated from the library of Walter Avery Henson upon his death in 1931. The entry glued into the back reads:

Prof. Edwin J. Houston is a teacher of undisputed ability. He is even more than a teacher because the pages he inscribed teach their lesson directly and effectively. There are many that write, but few of those that write truly teach and impart the spirit and subject matter of the work in a way that inspires the reader to further efforts. Prof. Houston is a man of the caliber who teaches from his writings. For many years his reputation has been so widespread that to merely mention his name in connection to any scientific achievement was to make the same worthy of respect and consideration. He is a fluent, simple, and effective writer. (Clipping found in *Electric Incandescent Lighting*, 1896b)

Although the author of these words is unknown and obviously the source is unclear, they do express similar assessments found elsewhere as to the caliber of Houston's teaching and writing. Once again, Houston seems to have been an extremely qualified teacher who was recognized for his work on teaching geography.

Houston's Adventure Books

The final category of books is perhaps the most revealing of Houston, the educator. These are the action adventure books from later in Houston's life when he became involved with boys' organizations. In the preface to *The Young Prospector* (1906), one of Houston's first efforts at this type of book, he wrote the following:

In presenting "The Young Prospector," the author recognizes that he is entering a different field of literature from that to which he has so long been accustomed. He takes this step, however, because he is interested in young people, trusting that an experience of over a quarter of a century in the schoolroom with boys, as well as in various kinds of work on a large scale for boys may have given him insight into their peculiarities, their likings, and their needs that may prove of value in his new field. (Houston, 1906, p. 5)

This seems to be true because while the books are obviously intended to educate boys on science, geography, and other subjects, they are also entertaining adventure stories not unlike the later Hardy Boys series. Many of Houston's adventure novels are very similar in style and format. Most have appendices unusual for adventure books. These appendices provide information on such topics as geography, geology, chemistry, and zoology. It is obvious that one of the major purposes of these books is to teach a variety of subject areas through the adventure narratives. In the preface to *The Boy Geologist at School and in Camp*, Houston (1907b) wrote, "It is the author's hope that while reading the story, and endeavoring

to understand some of the difficulties of the 'boy geologist' and his companions, his readers will unconsciously gain no little information on this branch of natural science" (p. 6). Houston's goal was to integrate education and entertainment in an attempt to get boys interested in these subjects. In the Preface to *The Boy Electrician*, Houston (1907a) wrote,

An experience of more than a quarter century in the school-room in the actual teaching of the natural sciences, has convinced the author that the average boy possesses a far greater fondness for these studies than is generally credited. Every live boy is anxious to understand the many things that are going on around him, and this is not limited to what his elders are talking about, but extends especially to natural phenomena. There are many bright boys who for the lack of proper opportunities fail to have their scientific instincts awakened, and thus remain all their lives ignorant of the great scientific powers with which nature has endowed them. In "The Boy Electrician, or, The Secret Society of the Jolly Philosophers," a story, full of fun and adventures, is told of two bright boys who possessed marked scientific powers that were not permitted to lie dormant. The remarkable and quaint doings of "The Jolly Philosophers," can hardly fail to be attractive to all boys. If, as he hopes, the author succeeds in awakening in some of his boy readers, the marked scientific powers with which nature has endowed them, this book will not have been written in vain. (pp. 4-5)

As with his other endeavors, Houston's efforts with the adventure books sought to make education approachable and engaging to young boys.

Houston's method of incorporating educational material into these books was done somewhat subtly, although it is obviously present. For example, in *At School in the Cannibal Islands* (1909), many of the illustrations look more like something out

of a biology textbook than an adventure book. Characters often discover strange creatures such as a remora or a unique land feature, providing further subjects for discussion. Likewise, the characters in this story are boys who love natural history and gifted teachers of natural history. In *At School in the Cannibal Islands*, Houston (1909) wrote,

"There will be plenty of chances of your being in the open, my lads," replied the doctor. "In teaching natural history on an island like Harding Island, we will find it more convenient to go to our specimens than to attempt to bring them to the school." (p. 23)

These are not typical adventure stories or typical textbooks. However, in both books Houston made a point in the preface of writing,

During the progress of the story much information is given concerning natural history. Like the other books in the series, however, the facts of natural science, no matter how interesting, are not permitted to crowd out those more interesting scenes of fun and adventure that young readers naturally look for in a book of this character. (Houston, 1909, p. 5-6)

Again Houston's pursuits support the idea of an educator who has extensive experience and great understanding of learning and adolescents.

Other books in this category include *Born an Electrician* (1912a), *Boy Geologist* (1907b), *Boy Electrician* (1907a), *Five Months on a Derelict* (1908a), *Once a Volcano* (1912b), *Young Prospector* (1906), *A Chip Off the Old Block* (1910), *Our Boy Scouts in Camp* (1912c), *The Yellow Magnet* (1911b), and *The Jaws of Death* (1911a). While these books are similar, many of them

do provide unique and useful insights into Houston and the minority report.

One final revealing statement from Houston can be found in the Preface to *The Boy Geologist at School and in Camp*. Here Houston (1907b) expressed the timeliness of this book. He wrote,

The recent disastrous eruption of Mount Vesuvius and the terrible earthquakes at San Francisco and Valparaiso, make the present an especially suitable time for referring to the more important phenomena of volcanoes and earthquakes. For this reason, in "The Boy Geologist" the author has given special attention to this class of geological phenomena. (p. 6)

Just as with the books intended for the general public, here Houston was trying to educate readers on the science of the world around them. He knew subject matter was potentially engaging enough to young boys for this to be possible. Again, as we shall see, this is in very sharp contrast to the opinions of the other members of the geography conference who felt that the subject bored students and that the amount of time allotted to geography should be reduced.

Summary

The life and works of Edwin James Houston provide a good opportunity to examine many of his ideas on education. His formative years provided Houston with an education that was substantially more progressive than the typical schools of the day. Likewise, his graduate studies exposed him to some of the greatest geographers in the world at the time. His work with

electricity brought him fame and some financial successes, but he was always an educator at heart. His publications also indicated this as he published textbooks, educational books for the general public and adventure books that all sought to educate the audiences about the sciences. An examination of all of these shows Houston to be somewhat of a progressive for his era. When compared to Houston's contemporaries, who proposed subject matter in isolation, Houston's work sought to connect subject matter to the life of students and to life of society. His books show that the ideas he proposed to the Committee of Ten were not based strictly in theory but had been examined thoroughly in his school and the schools that purchased his books. Such an understanding of Houston's wide ranging educational work will shed light on his perspective on the Committee of Ten.

CHAPTER 4

THE COMMITTEE OF TEN REPORT AND THE MINORITY REPORT BY

EDWIN JAMES HOUSTON

This chapter examines the Committee of Ten report and Houston's minority report in conjunction with the information presented in the previous chapters. This analysis concludes that Houston proposed a reasonable and educationally viable alternative to the recommendations of the Committee of Ten and raises questions about current historical interpretations of the report.

Origins

As discussed in chapter two, the period from 1880-1900 was not only a period of extraordinary growth in the public schools, but also a period of tremendous confusion as to the role the public high school and college would play. Many schools such as Central were blurring the lines between high school and college. Meanwhile, many colleges were accepting students straight out of primary school and much to the colleges' displeasure preparing the students in preparatory departments of the colleges. The curricula of high schools varied widely with local interests and parental desires.

On July 9, 1892, the National Education Association (NEA) appointed and provided funding for the creation of the Committee of Ten. The NEA also suggested some guidelines for the work they would undertake a few months later. The Committee of Ten was to organize conferences of college and secondary school educators from the principal subject areas with the charge of recommending uniform college entrance requirements. These subcommittees were to then "consider the proper limits of its subject, the best methods of instruction, the most desirable allotment of time for the subject, and the best methods of testing the pupils' attainments therein" (Committee of Ten, 1893, p. 3). With this charge, in November of 1892, the Committee of Ten set about their task.

It is important to consider the students who would be affected by the recommendations. In 1892, only a small percentage of students were attending high school, much less college. Again, Angus and Mirel (1999) indicated that in 1889-1890 only 5.6% of the population aged 14-17 attended high school (p. 11). Eliot did acknowledge this in the report:

Their [secondary schools] main function is to prepare for the duties of life that small proportion of all the children of the country - a proportion small in number, but very important to the welfare of the nation- who show themselves able to profit by an education prolonged to the eighteenth year, and whose parents are able to support them while they remain so long at school. (Committee of Ten, 1893, p. 51)

The Committee of Ten was cognizant of the fact that they were writing a curriculum for only a small portion of the population drawn primarily from the elite economic classes. In 1894, 14.3% of high school students enrolled in the college preparatory curriculum. Only 26.7% of "college preparatory" students graduated from high school (Sizer, 1964, p. 54). Only 12.9% of all students in high school graduated. Therefore, the vast majority of students the Committee was writing for were students who were planning on terminating their education prior to graduation.

Purposes

A key point to understanding the Committee of Ten and the recommendations that resulted is the purpose for which they met. According to the charge given to the committee by the NEA, a major goal of the committee was to establish uniform college entrance requirements (Committee of Ten, 1893, p. 3). "One of the subjects which the Committee of Ten were directed to consider was requirements for admission to college; and particularly they were expected to report on uniform requirements for admission to colleges, as well as on a uniform secondary school programme" (Committee of Ten, 1893, p. 51). At the time of the report, some schools had refused to teach certain subjects that colleges required, often because they

could not find interested students or qualified teachers. Tanner and Tanner (1980) pointed out that this was worrisome for the colleges because "some college men were beginning to fear that the high schools would, by refusing to teach certain subjects, set college standards. The Report of the Committee of Ten assuaged their fears for at least a generation after its publication" (Tanner & Tanner, 1980, p. 233). In addition, college professors were often dissatisfied with college preparation of the incoming students. By changing the secondary schools, they hoped to improve the incoming students and be rid of preparatory departments at the same time. It seems clear that a substantive overhaul of the high school and elementary school curriculum was the motivating intention from the beginning. Eliot had, in fact, campaigned for massive changes in these schools for some time leading up to the appointment of the committee (Tanner & Tanner, 1980, p. 221).Sizer pointed out, "Eliot, for one, saw another dimension to the issue: he felt college entrance requirements to be the most effective point to carry out general secondary school reform" (Sizer, 1961, p. 95). Therefore, setting out to change the entire American education system through the use of college entrance requirements represents an assumption that college preparation is the purpose of the entire system. While the Committee of Ten

did acknowledge that the purpose of secondary schools was not to prepare students solely for college, they still rationalized preparing all students for college on the grounds that any student who graduated from a reputable (one that chose their curriculum) secondary school should still have the option of attending any college or university.

Even the very subjects to be considered by the Committee of Ten pre-determined the college preparatory nature of the report. Subjects that were addressed in the report, although they were often changed to meet the needs of the colleges, at least received some support. Subjects that were excluded were often hard-pressed to defend their continuation in the curriculum. Wesley (1957) noted,

The report piously observed that secondary schools did "not exist for the purpose of preparing boys and girls for colleges." It then proceeded to discuss the teaching of only those subjects which colleges did recognize, omitting any consideration of art, music, manual training, commercial subjects, and other practical courses, on the theory that such subjects had no disciplinary value. (p. 73)

Therefore, although geography suffered at the hands of the Committee of Ten, subjects that were omitted from the committee's recommendations faced the daunting battle of justifying their very existence in the school curriculum.

The charge given the conferences is also paramount when considering the reports that resulted. All subcommittees were

given questions to guide their discussions. Of these questions, five out of 11 relate to college requirements. This further illustrates the argument that the real purpose of this report was to create a college preparatory curriculum in all schools.

Composition of the Committee of Ten and Geography Conference

The composition of the Committee of Ten itself was unbalanced, even if one assumes colleges should have a 50% stake in the high school curriculum. In fact, Herbst (1996) observed that the Committee of Ten included, "only two active school-men: Oscar D. Robinson, principal of the public high school in Albany, New York, and John Tetlow, principal of the Boston Girls' School. The two men prided themselves on strong college-preparatory programs" (p. 108). The others to a person represented colleges, universities, or private preparatory schools. Even if these were university representatives, one expects them to have prior experience with public high schools. However, as Herbst (1996) noted,

These men had been selected by Nicholas Murray Butler, a philosophy professor at Columbia University and member of the council, not for their familiarity with the public high schools- besides Robinson and Tetlow, only Harris and Baker had had classroom and administrative experience in public schools- but for their national reputations as "educational statesmen." (p. 108)

Therefore, although there were representatives who worked in a secondary school setting, none represented the typical high school of the day or held positions as high school teachers.

This also holds true for the committees on each subject. In forming the Committees, "they then proceeded to select the members of each of these Conferences, having regard in the selection to the scholarship and experience of the gentlemen named, to the fair division of the members between colleges on the one hand and schools on the other..." (Committee of Ten, 1893, p. 5). Although the intent was apparently to have proportional numbers of college and high school representatives, this was not the result. According to the report, there were 47 college representatives and 42 school representatives. However, this number is misleading as most of the secondary schools represented were not typical high schools of the day. Many of the schools, such as Phillips Academy, Phillips Exeter Academy, the high school at Tulane University, and even Central High School of Philadelphia were included as high schools, but they were much more likely to represent the college perspective. Likewise, most of the "schoolmen" chosen were not teachers but headmasters, principals, and superintendents. These men were not representative of the teachers of the subjects being discussed. Cubberly noted, "The committees were dominated by

subject-matter specialists, possessed of a profound faith in mental discipline. No study of pupil abilities, social needs, interests, capacities, or differential training found a place in their deliberations" (quoted in Tanner & Tanner, 1980, p. 222). The end result was a committee heavily slanted toward a college point of view. Inevitably, tremendous power was derived by the colleges to determine the high school curriculum. The geography conference particularly illustrates this consequence.

Out of the members of that conference who signed the geography conference's report, five were from colleges, one from the Weather Bureau, and two from high schools (Committee of Ten, 1893, p. 11). Hartshorne noted that, "reflecting the situation of geography in colleges at the time, the four college members of the geography conference came from departments of geology (Hartshorne, 1981, p. 140). Looking at this committee illustrates a great deal about the college preparatory focus and even the dominance of meteorology and geology in its recommendations. The constituency of the conference had a clear influence on the recommendations.

Who was primarily responsible for the content of the majority report of the geography conference? According to Robert Beckinsale (1981), "there is no doubt that Davis was mainly responsible for the report that was sent to the

committee" (p. 112). Beckinsale (1981) went on to write, "Although the committee members were surprised at the radical nature of the proposed changes, they adopted the report" (p. 112).

Who was W. M. Davis? Davis's background included a variety of areas. His highest degree was a master of mining engineering, and he had done apprenticeship work in both meteorology and geology (Koelsch, 2001, p. 249). Although he was very influential in the field of geography, his qualifications to lead the field are questionable given his lack of training in the field and educational experience.

At the time of the Committee of Ten report, it is fair to say that Houston was far better educated in this field. As discussed in Chapter 3, Houston had studied in German graduate schools and was familiar with the works of Humboldt, Ritter and Guyot. Given the state of geography in America, his credentials in the field of geography were outstanding, certainly more impressive than Davis's.

Davis was also not experienced in the type of committee work with which the committee was charged. Hartshorne (1981) noted, "In December 1892 Davis became involved, probably for the first time, in group discussion of the scope and purpose of geography with colleagues from other colleges and teachers from

secondary and normal schools" (p. 140). Davis had little exposure to the ideas of others and was not really in the best position to lead such a substantial effort.

Davis was from Harvard where he worked with the School of Meteorology. Beckinsale (1981) indicated, "Davis was over 30 years old when, having been warned about his incompetence as a lecturer, he deliberately set out to turn himself into a most proficient educator" (p. 109). This warning came from none other than Charles Eliot, Harvard's president and the principal author of the Committee of Ten report. Eliot even warned Davis that he was unlikely to gain tenure as a Harvard professor. This relationship is interesting given the role Davis played on the geography conference and Eliot's mission to create a unanimous report that reflected the college preparatory shift in secondary schooling.

Davis managed a rather successful career. He published a widely used textbook on meteorology and was influential as an educator both through his own work and the work of his students (Beckinsale, 1981, p. 109). Beckinsale (1981) observed that, "The influence of the Harvard school of Meteorology has been felt everywhere" (p. 112). In fact, Davis wielded significant power not only on the committee but also in the years that followed. Koelsch (2001) explained,

Davis' boundary-setting activity was a strong early influence on the group [American Association of Geographers], however. Initially Davis' strongly physically based criteria for membership in effect defined what a professional geographer was (and, by implication, was not). For a much longer period Davis exercised a kind of intellectual veto over papers presented by young geographers, often summoning their authors to breakfast or luncheon the next day to feed on his personal critique. (p. 253)

As discussed earlier, Davis' definition of geography was much narrower than experts such as the Germans and Guyot. Because of this, Davis was willing to give up portions of the subject he did not support. Koelsch (2001) wrote, "Davis, always ready to relegate economic geography to the economists, was equally ready to leave historical geography to the historians" (p. 254). So in effect, Davis exercised extensive control over the scope of geography, and this control may well have been in the hands of someone with a narrow conception of the subject who was ill qualified to make recommendations for the subject as a whole.

In discussing Davis's work while on the Committee of Ten, Hartshorne stated, "There is little doubt that he supported the majority in urging specialization in but one branch of physical geography. This recommendation was strongly opposed in the minority report of one of the schoolmen" (Hartshorne, 1981, p. 141). While on the Committee of Ten, Davis pushed for the field of geography as defined in his work, which only included the narrow area of physical geography. The schoolman referenced by

Hartshorne was obviously Houston, who advocated the broader field of geography defined in his work as well as the work of Ritter, Humbolt, and Guyot. There is evidence that Davis was apparently unfamiliar with the historical record of his field, and when later he became aware of it, he came to agree with much of what Houston proposed in the minority report.

Work of the Committee

The Committee of Ten first met at the home of Nicholas Butler, president of Columbia University on the evening of November 8th, 1892. After this social gathering, they labored the next three days to organize and discuss a report that ultimately changed secondary schooling in the United States (Sizer, 1961, p. 1).

One of the first things they decided was which subjects merited consideration by the sub-committees or conferences as they were called. Prior to the meeting, 40 of the "leading schools" in the United States were questioned through correspondence as to the subjects they offered and the amount of time spent on each. The information showed that over 40 subjects were taught at these schools. Some were eliminated from consideration because they were only found in a few schools or only taught a few hours per week. This information was provided to the committee and on November 10, 1892, they decided

to organize conferences on the following subjects: Latin; Greek; English; Other Modern Languages; Mathematics; Physics, Astronomy, Chemistry; Natural History; History, Civil Government, and Political Economy; and Geography (Committee of Ten, 1893, pp. 3-5).

The Committee of Ten further determined that each conference should have ten members. These members were to be selected for scholarship and expertise in the subject to be considered. A fair division of school men and college men was to be maintained as well as a fair representation of regions of the country (Committee of Ten, 1893, pp. 4-5).

Next, the Committee created a list of 11 questions to help guide the conferences in their considerations of the subjects. The questions that the committee suggested were as follows:

1. In the school course of study extending approximately from the age of six to 18 years- a course including the periods of both elementary and secondary instruction- at what age should the study which is the subject of the Conference be first introduced?
2. After it is introduced, how many hours a week for how many years should be devoted to it?
3. How many hours a week for how many years should be devoted to it during the last four years of the complete course;

that is, during the ordinary high school period?

4. What topics, or parts, of the subject may reasonable be covered during the whole course?
5. What topics, or parts, of the subject may best be reserved for the last four years?
6. In what form and to what extent should the subject enter into college requirements for admission? Such questions as the sufficiency of translation at sight as a test of knowledge of a language, or the superiority of a laboratory examination in a scientific subject to a written examination on a text-book, are intended to be suggested under this head by the phrase "in what form."
7. Should the subject be treated differently for pupils who are going to college, for those who are going to a scientific school, and for those who, presumably, are going to neither?
8. At what stage should this differentiation begin, if any recommended?
9. Can any description be given of the best method of teaching this subject throughout the course of school?
10. Can any description be given of the best mode of testing attainments in this subject at college admission examinations?
11. For those cases in which colleges and universities permit

a division of the admission examination into a preliminary and a final examination, separated by at least a year, can the best limit between the preliminary and final examinations be approximately defined?

With these questions, the committee directed the conferences to convene at various locations December 28-30, 1892 (Committee of Ten, 1892, pp. 5-7). The geography conference convened on these dates at the Cook County Normal School in Englewood, Illinois.

Main ideas of the Committee of Ten

Some of the main ideas of the Committee of Ten affected all subject areas. Some of these ideas were given as guiding principles to the conferences such as the need for national uniformity in secondary education programs and acceptance of college input into secondary education. While some were presumably voted on and approved by the conferences such as the need for increased teacher training, the equality of all chosen subjects for mental discipline, and the idea that the proposed curriculum was appropriate for all students. Still others were ideas that Eliot conveyed in the report about the committees and their work such as the unanimity of the committee and conference work.

One of the first and most essential points presented in the report is that there is a need for uniformity in both secondary

schools and colleges across the nation. The wide variety of programs offered at schools and the various requirements for college entrance were seen as a fundamental problem with the educational system. Likewise, schools like Central High School that blurred the clear division between secondary and post-secondary schools were not engendering the uniformity that the authors of the report sought.

Another intrinsic idea that the Committee of Ten assumed was that the colleges should have at least a 50% voice in the curriculum of the secondary schools. From the outset, the plan was to divide equally the number of "school men" and college men. However, the actual proportions did not even come close to this arrangement.

The next idea is especially problematic in light of Houston's objections to the report. This is the idea that this report represents a unanimous effort of 100 education experts. Eliot repeatedly made the point in the early pages of the report that the conferences reached total agreement. The unanimous agreement of the 98 "experts" legitimized the report and helped encourage secondary schools to accept its recommendations. Eliot wrote, "When one considers the different localities, institutions, professional experiences, and personalities represented in each of the Conferences, the

unanimity developed is very striking, and should carry great weight" (Committee of Ten, 1893, p. 12). The idea that all these men, who in theory represented a collaboration between high schools and colleges, agreed unanimously on almost every issue was an important premise to Eliot and probably encouraged many schools to accept the curriculum.

Eliot did point out that there were two minority reports, but "in the first case [the minority report by James H. Baker] the dissenting opinions touch only two points in the report of the majority, one of which is unimportant" (Committee of Ten, 1893, 12). He then moved on to say again how unanimous the conferences were. Readers who do not attend carefully may not even notice that the second minority report was mentioned but then ignored here. Because the minority reports contradicted Eliot's point about the weight the recommendations of the committee and conferences should carry, it is perhaps not surprising that Baker's minority report is minimized and the second minority report (Houston's) was brushed aside. A third minority report also was written by the conference on Physics. Like Houston's this report does not receive significant attention. Historians such as Krug (1961) who also mention Baker's minority report while ignoring Houston's, perpetuate this misrepresentation (Krug, 1961, p. 9).

The emphasis on the appearance of unanimity was especially apparent for one area of the report. According to the Committee of Ten report (1893),

The 7th question is answered unanimously in the negative by the Conference, and the 8th therefore needs no answer. The Committee of Ten unanimously agree with the Conferences. Ninety-eight teachers, intimately concerned either with the actual work of American secondary schools, or with the results of that work as they appear in students who come to college, unanimously declare that every subject which is taught at all in a secondary school should be taught in the same way and to the same extent to every pupil so long as he pursues it, no matter what the probable destination of the pupil may be, or at what point his education is to cease. (p. 17)

That all schools should teach students who were planning on going to work in the world the same curriculum as the few students that were planning on going to college was presented as the unanimous opinion of 98 education experts.

Another idea tantamount in the report is the notion that greater training was needed for teachers. Some of the conferences, including geography, even stated that they doubted the training of the teachers at the current time was sufficient to carry out the recommendations of the report. Additionally, because most of the conferences were recommending substantial changes, teacher training was a priority of the report.

Another pervasive idea, which spurred the other minority report by James Baker, was that all subjects were equally well suited for mental discipline. The report (Committee of Ten,

1893) stated, "The Conferences have abundantly shown how every subject which they recommend can be made a serious subject of instruction, well fitted to train the pupil's powers of observation, expression, and reasoning" (p. 43). The idea that, through mental discipline, any of the Committee's approved subjects could be used to train the minds of pupils was intrinsic to the report. Further, the belief that the use of these subjects and mental discipline would prepare both for life and college was essential for the recommendations of the report to be successful and appropriate.

Another tenet in the report was that more time on a subject made the subject more valuable to the student. The example given in the report (Committee of Ten, 1893) was that if a student spent twice as much time on Latin as mathematics, and both subjects were done well, "Latin will have twice the educational value of mathematics" (p. 43). Therefore, students studying to enter the world and pursue careers would receive twice the educational value from Latin as math because they were in the class for more time. And the same consequence would hold true for any of the subjects regardless of the course the pupil pursued in the future.

The next precept of the report was the idea of choice. By the committee's own admission, not all that was in the report

could be accomplished. Therefore, choices had to be made by students or on behalf of the students. Further, according to the report, colleges should give preference to the students from schools that make their choices from the Committee of Ten's guidelines.

Interestingly, this did not mean all choices were equal. In the creation of the "programmes" (modern tracking), the committee did include a Modern Languages and an English program. However, "the two programmes called respectively Modern Languages and English must in practice be distinctly inferior to the other two" (Committee of Ten, 1893, p. 48). The other two "superior" choices were the ones that included the more traditional college preparatory Latin curriculum. So although choice was a central idea to the Committee of Ten Report, the choices were to be made from the Committee's subjects, and some choices were paramount to others.

One benefactor of the recommendations of the Committee of Ten was the laboratory sciences. At this time the sciences were just beginning to receive a place in the high school curriculum. However, in each of the four courses of study recommended by the committee, students were required to take both physics and chemistry. Additionally, in three of the courses (all but the Classical) students took some combination of anatomy,

physiology, or geology. The recommendations of the Committee of Ten placed the laboratory sciences squarely in the secondary school curriculum. However, the sciences were taught in isolation rather than connection with the other sciences.

The final precept was that the curriculum proposed by the Committee of Ten was appropriate for all students, regardless of the student's future. The sequence and logic of this argument presented in the report are intriguing. First, the report acknowledged that the secondary schools do not exist for the purpose of preparing students for college because only an "insignificant" percentage go to college. Consequently, the main focus of the schools should be on preparation for life, and preparation for college should remain "incidental." However, the committee stated that college should be accessible to all students who graduate high school, and colleges should accept all students who complete a good secondary school course of study. Yet, according to the committee, it was not reasonable to expect colleges to accept students from the secondary schools at the time prior to the report. Therefore, perhaps the most significant tenet of the report was that if schools would accept the Committee of Ten report and implement its recommendations, students would be prepared for life and college, and colleges would welcome them from such a curriculum.

Historical Interpretations

TheodoreSizer (1961) summarized the report and the opposing views it seems to generate as follows:

For better or for worse, the Report of the Committee of Ten had great influence, influence that has carried down to the present day. Harris, in transmitting the Report for government publication to the Secretary of the Interior, Hoke Smith, called it "the most important educational document ever published in this country." Many others of the time agreed with this albeit prejudiced assessment. Some were dubious, and still others caustically opposed, feeling that the Committee's "arm-chair" methods had served only to increase the traditionalist point of view in secondary education and that the Committee had missed the fact that American society was rapidly changing. (p. 6)

Sizer's assessment supports the contention that evidence exists to sustain conflicting interpretations of the Report to the Committee of Ten. Virtually every major scholar in the curriculum field, especially historians, have expressed an opinion on the report. These views vary widely and are consistent with the beliefs the authors hold about curriculum theory.

Historians such as Krug (1964) and Kliebard (1992) defended the report and portrayed it as an effort at improving the position of modern subjects in relation to classical subjects, giving students choices, and establishing the high school's primary purpose as preparing students for life rather than college (Kliebard, 1992, p. 163). Kliebard and Krug expounded the idea that the focus of the report was to allow students from

English and Modern Language programs to enter college thereby improving the position of the modern subjects in relation to the classics. Kliebard (1992) also defended the Committee of Ten's position that all students should be taught in the same way regardless of probable destination. He did so on the grounds that to differentiate on the basis of destination would be undemocratic.

Meanwhile Lawrence Cremin (1955) viewed the report somewhat differently. He called it "a statement which summed up with impressive coherence the best of the generation which had preceded it" (Cremin, 1955, p. 295). Cremin's view that the recommendations of Committee of Ten were more regressive than progressive would be echoed by several other scholars. Like Krug and Kliebard, Cremin noted the leveling of the ground between modern subjects and classics when it came to college admissions. Unlike Krug and Kliebard, Cremin focused much more on the mental discipline rationale of the Committee of Ten. According to Cremin (1955), "the Committee was primarily interested in improving intellectual ability by disciplining the mind; and for this purpose, all of the principal subjects might do" (p. 297). While Cremin (1955) was not overly critical of the report, he primarily characterized it as report in which the

secondary school remained "a downward extension of the college" as it had been for centuries (p. 297).

Wesley, writing about some of the same features of the report, was far more critical of the report. Wesley (1957) observed,

Another unfortunate outcome of the report was its sanction of the idea that whatever a pupil studied he should study thoroughly. When this principle was actually applied, it lessened, of course, the number of subjects that a pupil could take. In other words, it was a plain denial of one of the basic principles of secondary education, namely, that it involves broad surveys, wide views, brief exposures, the exploring of varied interests, the sampling of diverse topics, subjects, and areas. Instead of this reaching, expanding, and exploring, the Committee of Ten would hold the child to a prolonged exposure and a thorough mastery of the few subjects that a remote college decreed that he had to study. (pp. 73-74)

Likewise, Wesley was also critical of the reports reliance on mental discipline. Wesley (1957) wrote,

From the standpoint of educational progress, however, the report was of doubtful value; it was based upon the fast-fading psychology of formal discipline; its social vision was dim; its concern for pupil growth was nonexistent. Its total influence was designed to arrest the development of the high school as a social or community influence, and its authors revealed themselves as subject-centered, task-bound, and college-minded. In brief, it had the merits and demerits of the 1890's. (p. 74)

Herbst (1996) painted a similar picture of the report's effect on America's schools,

The committee's report set a benchmark for an era that had passed. It drew an impressive and convincing picture of secondary schooling as it had been known in Europe since the Reformation and in America from the days of the

colonial Latin grammar schools and academies. It suggested that this academic program would serve equally well for preparation for college or life. The document revived the spirit of the Yale Report with its definition of secondary education as training and disciplining the mind through academic studies and argued that the approach should be retained. The committee had in fact written an epitaph instead of a blueprint for the future. (p. 108)

Like Houston, Herbst expresses a similar view regarding the impact of the Committee of Ten.

Overall, historians who value academic traditionalism have tended to defend the report while progressives have tended to reject its recommendations. Though both positions can be supported, both would benefit from a reconsideration that included a closer examination of Houston and the minority report in relation to their conclusions.

Geography in the General Statement of the Committee of Ten

The actual report signed by the 10 committee members is a 55 page document that summarizes the work of the nine conferences. The document begins with a broad overview of the work and then presents brief summaries of each committee's work. Finally, the committee attempted to pull together the work of the various conferences to propose a cohesive curriculum. The subject of geography and the recommendations of the geography conference were mentioned several times in this portion of the report.

The general report mentioned the geography conference's contention that too much time is given to the subject in relation to the results procured. This statement was in connection with the assumption that most readers would expect all the conferences to ask for more time for their particular subject. The statement by the geography conference asking that less time be allotted to geography did make it into the summary but with little elaboration.

In the short summary of the geography conference's report, the authors of the Committee of Ten report (1893) also expressed surprise at the radical nature of the committee work and report:

Considering that geography has been a subject of recognized value in elementary schools for many generations, and that a considerable portion of the whole school time of children has long been devoted to a study called by this name, it is somewhat startling to find that the report of the Conference on Geography deals with more novelties than any other report; exhibits more dissatisfaction with prevailing methods; and makes on the whole, the most revolutionary suggestions. (p. 31)

The work that resulted from the conference and the dissatisfaction with the current subject was a surprise to the Committee of Ten.

The summary of the conference's work indicated that, "it is obvious on even a cursory reading of the majority and minority reports that geography means for all members of this Conference something entirely different from the term geography as

generally used in school programmes" (Committee of Ten, 1893, p. 31). The summary noted that the conference's definition of geography included not only the study of the surface of the Earth, but also botany, zoology, astronomy, meteorology, commerce, government, and ethnology (Committee of Ten, 1893, pp. 32-33). It characterized this broadened and "comprehensive" definition as "the physical environment of man" (Committee of Ten, 1893, p. 33). In the end, the summary synopsized the recommendations of the geography conference as:

In short, they recommend a study of physical geography which would embrace in its scope the elements of half-a-dozen natural sciences, and would bind together in one sheaf the various gleanings which pupils would have gathered from widely separated fields. (Committee of Ten, 1893, p. 33)

As will be discussed later, this definition in actuality is much closer to Houston's definition than anything that came from the majority report from the geography conference.

Although Houston's objections went unmentioned in the broad summary portion of the report, in the summaries of the individual conferences, Houston's report did garner some recognition, although he was not named. The summary of the geography conference portrayed Houston's objections this way: "The dissenting member, however, while protesting against the views of the majority on many points, concurs with the majority in some of the most important conclusions arrived at by the

Conference" (Committee of Ten, 1893, p. 31). The substance of Houston's objections or the fact that Houston presented a viable alternative to the recommendations was never really conveyed until Houston's actual words at the very end of the entire document. The portrayal of Houston as largely in agreement with the geography conference's recommendations served to obscure his criticisms.

Geography also received attention in the section of the general report where the Committee of Ten sought to propose cohesive curricula that could be created from the recommendations. However, in these sections the trend was toward specialization and narrow subjects, rather than toward the broad subject as defined a few pages earlier (and by Houston). The chart on page 41 of the Committee of Ten report (1893) demonstrates this point.

First Secondary School Year		Second Secondary School Year	
Latin	5 p.	Latin	4 p.
English Literature	2 p.	Greek	5 p.
English Composition	2 p.	English Literature	2 p.
German (or French)	5 p.	English Composition	2 p.
Algebra	4 p.	German, continued	4 p.
History of Italy, Spain & France	3 p.	French, begun	5 p.
Applied Geography	4 p.	Algebra*	2 p.
		Geometry	2 p.
		Botany or Zoology	4 p.
		English History to 1688	3 p.
		*option of book-keeping and commercial arithmetic	
Third Secondary School Year		Fourth Secondary School Year	
Latin	4 p.	Latin	4 p.
Greek	4 p.	Greek	4 p.
English Literature	2 p.	English Literature	2 p.
English Composition	1 p.	English Composition	1 p.
Rhetoric	1 p.	Grammar	1 p.
German	4 p.	German	4 p.
French	4 p.	French	4 p.
Algebra*	2 p.	Trigonometry/Higher Algebra	2 p.
Geometry	2 p.	Chemistry	4 p.
Physics	4 p.	History (Intensive) & Civil Govt.	3 p.
History, English and American	3 p.	Geology or Physiography (½ year)	4 p.
Astronomy (3 p. first ½ year)	3 p.	Anatomy, Physiology, Hygiene(½ year)	4 p.
Meteorology(3 p. sec. ½ year)	3 p.		
*option of book-keeping and commercial arithmetic			

Figure A. Recommendations of the Committee of Ten for Course of Study and Periods Per Week

The subject of geography was reduced to only one year of study and was replaced by meteorology, physiography, geology, astronomy, and isolated sciences. Rather than geography being taught for a number of years and each year encompassing various subjects under the broad subject of geography, these charts follow the majority conference's recommendations, which opted for specialization of various branches which were broken down into separate courses each year (Committee of Ten, 1893). The final curriculum organization chart on page 46 of the Committee of Ten report (1893) shows the four tracks available to the

students. In the classical track, one of the "superior" tracks, geography was dropped altogether, and in all 3 of the other tracks, specialization was again chosen over generalization (Committee of Ten, 1893).

Geography in the Committee of Ten report generally followed the recommendations of the majority report of the geography conference. The subjects that resulted represented specialized areas that had been selected from the broader subject while the broad subject was relegated to the elementary schools.

Geography in the Majority Report of the Geography Conference to
the Committee of Ten

The report submitted by the geography conference to the Committee of Ten is divergent from what one might expect after reading the summary in the Committee of Ten report. The geography conference began by acknowledging that the study of geography encompassed many subjects, including the natural sciences. However, the extent to which these should be studied as part of the broad subject of geography or studied in isolation was immediately called into question. The conference decided:

While it did not seem to the Conference advisable to greatly modify the range of subjects usually embraced under the term geography, they recommend a more distinct recognition of its different phases and some modifications of treatment for the purpose of giving these greater

emphasis and more advantageous relations to other work, as indicated below. (Committee of Ten, 1893, p. 204)

In fact, the conference members did propose substantial changes to the subject of geography by basically eliminating it in favor of a few narrow specializations. By doing so, they relegated geography to the elementary schools and eliminated it from any real place in the high school curriculum. This would be consistent with the recommendations of the overall Committee of Ten report and even with the subsequent Committee of Fifteen report, both of which tended to exalt specialized subjects over correlation.

Next, the report addressed the elementary geography curriculum. Here, they acknowledge that,

There are important reasons for devoting the work of the earlier and intermediate years to those features of geography which will be most serviceable to the majority of pupils without regard to any sharp classification, because these are the only years during which many pupils remain in school. The earlier courses should, therefore, treat broadly of the earth and its environment and inhabitants. The instruction should extend freely into fields which are recognized as belonging to separate sciences in later years of study. It should deal not only with the face of the earth but elementary considerations in astronomy, meteorology, zoology, botany, commerce, governments, races, religions, etc. so far as these are connected to geography. (Committee of Ten, 1893, pp. 204-205)

In contrast to recommendations for secondary school curriculum, the majority members of the conference maintained that the broad study of geography incorporating numerous subjects was more

beneficial for terminal elementary aged students. They recommended such a curriculum for elementary students (perhaps beyond their responsibility and certainly without any elementary representation on the committee), but did not recommend this curriculum for high school students who were for the vast majority likewise not planning on further study. This definition of geography is almost identical to that described in the summary by the Committee of Ten. However, here, the majority conference report was only dealing with the elementary curriculum. It is almost as if the writers of the summary only read this far and mistakenly thought that this broad definition was the one entailed by the majority report.

The majority report of the geography conference made it very clear, however, that that this broad approach was not to extend into high school.

But when this common groundwork is laid, there is a distinct advantage in a gradual differentiation of the subject. Some of its phases may be disconnected from the formal study of geography and taken up in connection with the subjects to which they are most intimately related. For example, the geographical element in history is best understood, appreciated, and retained in memory when taken in connection with historical study. The distribution of plants and animals will only have its fullest meaning when studied in connection with the nature of the plants and animals themselves; that is, as a phase of botany or zoology... In general, all forms of applied geography are most advantageously taken in connection with their applications, provided that a general knowledge of

elementary geography has been previously acquired, as indicated above. (Committee of Ten, 1893, p. 205)

Under the curriculum suggested by the majority report, the broad field of geography would be moved to the elementary schools and in the high schools would be replaced by specialized branches of study related to geography.

The first specialized branch was labeled "physiography", which as Houston would point out was a very problematic term. Its definition was somewhat vague. It seems that the writers of the majority report (mostly from geology departments) meant for this to be an advanced form of physical geography or the study of the Earth's surface (landforms primarily). This definition was very similar to geology even in the specific topics recommended.

The next specialized branch to receive attention was meteorology. The committee recommended the creation of a separate course in meteorology, hardly a surprising recommendation given the backgrounds and occupations of some of the conference members. They even recommended that the study and use of weather tools be taught in the elementary schools.

Next was the specialized subject of geology. This was a more established subject at least at the college level. Because literature and instructional methods were available on the subject and this was more familiar to teachers than the previous

two proposed specialized subjects, the committee recommended geology be used until teachers could be trained in meteorology and physiography. Subsequently, it too would be replaced by physiography and meteorology.

Consequently, geography as it had been taught for decades would basically be eliminated from the secondary school curriculum in favor of two subjects for which teachers had little or no training. However, the majority members of the geography conference felt that this was possible because the results obtained from elementary geography were insufficient to merit the time it was taking up in the curriculum.

As noted in the Committee of Ten's summary of the conference, the conference did indeed state that either less time should be given to geography or more results obtained for the time. Their rationale was that the subject of geography was ineffective and that isolated subjects in specific areas would be more effective. From the perspective of a college professor, the groundwork of students in one's exact discipline rather than general knowledge gained by broad study would certainly prepare the students better for further study in that discipline. The drawback would be that fewer subjects can be covered and that the isolated nature of the learning may make it less useful to students. In addition, students may find it difficult to see

the connections between the various subjects. However, the Committee of Ten opted to move toward a program more appropriate for college preparation, and therefore, the broad course of geography as it had been known in the high school would become an elementary concern.

The conference described an educational "scheme" or method to be used in teaching the elementary geography courses: "first, see; next, reproduce; then study the productions of others, and meanwhile, ponder and reason on all" (Committee of Ten, 1893, p. 211). Following this scheme, they then broke geography down into observational geography, representative geography, descriptive geography, and rational geography.

Consistent with the Committee of Ten's recommendations in the general report, the majority group suggested that the various subjects should be used for the systematic training of the mind in three areas: powers of observation, powers of scientific imagination, and powers of reasoning. These efforts to discipline the mind were not to be segregated from the subjects but were to be kept in the teacher's mind at all times and incorporated into lessons as appropriate.

After giving some suggestions about the hiring of teachers and purchasing of equipment, the conference offered specific suggestions about teaching methods for elementary geography,

physiography, and meteorology. They stopped short of giving such recommendations for high school geography because it had been in schools for many years and methods of teaching it were available in many other publications. The committee therefore focused all the discussion of methods on physiography and meteorology. In the methods section, they devoted about 12 pages out of a total of 18 to these two specialized branches of geography.

Next, the committee addressed the issue of entrance requirements to colleges for the area of geography. According to the committee, colleges should accept whatever the high schools teach with a variety of alternative subjects. Basically this meant "that physiography, geology, and meteorology should be given, in terms of admission to college, values equal to the full extent of the work expended in their pursuit" (Committee of Ten, 1893, p. 235). Further, physiography was to receive preference when it came to entrance exams. With college admission requirements, the geography conference's recommendations replaced geography with specialized subjects.

Overall, the recommendations of the geography conference closely parallel main ideas in the recommendations of the Committee of Ten. The Committee of Ten and the geography conference were both dominated by subject specialists

representing the college preparatory perspective. The recommendations that resulted primarily represented a move toward disciplinary specialization and narrowing of subjects to more closely align the secondary school curriculum with the subjects offered at colleges.

Geography in the Minority Report of the Geography Conference to
the Committee of Ten

Edwin James Houston's minority report to the Committee of Ten is a 13 page document that addresses topics in the order presented in the geography conference's majority report. Houston systematically challenged what he saw as serious flaws in the report. Because Houston's opinions cannot be addressed without acknowledging how they differed from the majority report, similarities and differences between the majority and minority reports to the geography conference will be addressed in this section. Ultimately, the recommendations of the two reports were radically different.

Houston began with the majority's statement that it did not seem advisable to make substantial changes to the specialized areas included under the subject of geography. Houston claimed that although he agreed that major changes were not a good idea, he suggested that in fact they had made major changes to the subject (Committee of Ten, 1893, p. 237).

Houston then addressed the idea of having a break in the sequence of studies. He said that the majority report's plan to include a break in studies after the start of high school before resuming study later in high school was ill-advised. Houston (Committee of Ten, 1893) wrote,

The advantages of the continued study of any subject are generally recognized by educators. If an intermission of several years in the geographic studies is permitted, between the grammar grades and the latter part of the high-school course, much time will necessarily be lost in again bringing the mind of the student to the point it reached when it temporarily abandoned these studies. (p. 238)

Although the majority report was not actually recommending the study of geography later in high school, the study of geology, physiography, or meteorology would also benefit from continuous study after the broader elementary studies.

Houston next addressed the idea of specialization versus articulation. Houston explained,

But, apart from this, the proposition to replace the general subject of physical geography in the high school by specialized branches of the science, appears to me to be one of the worst features of the Majority Report, and its adoption, I believe would work an irreparable injury to the intelligent study of natural science not only in the schools, but also in the colleges and universities. (Committee of Ten, 1893, p. 238)

Houston went on to suggest that geography brings together numerous areas of scattered facts into a coherent understanding. Therefore, geography, as a broad subject, is useful for helping

organize the knowledge garnered in other subjects in a manner where these separate facts can be organized in a logical way.

Houston wrote,

Under its generalizations, the numerous, and, to the child, the often disconnected facts of geography fall into orderly groupings, and much that has hitherto perplexed and harassed its naturally inquisitive mind, first finds intelligent explanation. (Committee of Ten, 1893, p. 238)

The subjects taught in isolation would only lead to more scattered facts in specific areas, and the areas not selected would be ignored. He suggested that such a change to an isolated study would represent a regression not a progression in the subject of geography.

Houston suspected that this proposal was motivated by the tendency in education to get rid of the old for the sake of something new without reason. He regretted this pattern in education to move away from tried methods to try the next big thing. He suggested this and the representatives serving their interests motivated much of the majority report.

Houston next addressed the subjects chosen and possible reasons for the selection of these narrow branches. Houston incisively diagnosed the motivation behind this recommendation when he wrote,

The minds of the geologist and meteorologist, in my opinion, are too evident in the recommendations of the Majority Report. The advantages of the special departments of geology and meteorology have, I fear, been so magnified

as to prevent the intelligent consideration of the remaining branches, the study of which is equally necessary for the broad culture of the child. (Committee of Ten, 1893, p. 239)

Houston pointed out that the members of the majority report had selected the subjects that served their agenda to the exclusion of the numerous other branches. Further, he concluded that this would inflict harm on the educational value of the subject for the bulk of students who would not pursue one of these areas as a topic for further study. Therefore, as discussed in Chapter 3, when the Committee of Ten report was being implemented at schools around the nation, Houston was unwilling to concede to a narrow definition in his geography textbooks, and although he compromised somewhat by including larger sections on physiography, he did not limit the subject to the narrow version the majority proposed.

Next, Houston addressed the elementary curriculum where he agreed with the majority on several points, although not always for the reasons stated by the majority. He agreed that the study of geography should extend out into many of the natural sciences and that the environment of the child should serve as the starting point of the curriculum. He discussed children's innate curiosity and fascination with the natural world around them. To this end, he suggested that no textbook be used in elementary schools for the teaching of geography. Instead, he

suggested the world around the child and nature serve as the source of subject matter in these early years. He argued that this will intrinsically derive from the child's curiosity and will promote the child's success (Committee of Ten, 1893, p. 239).

Houston next addressed the statement of the majority report that too much time was given to the pursuit of elementary geography in relation to the results obtained. Houston vehemently disagreed with this point. Houston argued,

In the first place I respectfully submit that the statement is not truer of geography than of any other study of the lower grades. Indeed, I doubt if it is as true of geography as it is of either number or language. The excellent work in geography that is now being done by a large proportion of the lower grades of schools, generally throughout the United States, will, I feel assured, in its results, compare favorably with those attained in either number or language. (Committee of Ten, 1893, p. 240)

One of the key differences was again that college professors were measuring these results by what the entering freshmen know about their given subject area. The results obtained may have indeed been frustrating to teachers of meteorology or other specialized fields, but for Houston, the broader purpose of preparing youth for life applied to a wide range of students and was almost certainly better met by the broad course.

To Houston, time was certainly not wasted in the pursuit of geography. As the reader may recall from Chapter 3, Houston had

expressed frustration at the difficulty of covering the entire subject of geography in the limited time available. In *Elements of Physical Geography*, Houston (1891) wrote,

The variety of topics necessarily included under the head of Physical Geography renders it almost impossible to cover the entire ground of the ordinary text-books during the time which most schools are able to devote to the study, and the feeling of incompleted work thus impressed on the mind of both teacher and scholar is of the most discouraging nature. (p. iii)

Given Houston's position that it was difficult to cover important subject matter in the time allotted prior to the report, his adverse reaction to the recommendation by the majority report for less time is understandable.

In discussing the time used for the subject, Houston addressed the majority's statement about "dawdling and dwelling on trivialities." To this, Houston cautioned that compressing the curriculum into additional periods per week to move through the topics more quickly was not the best approach. Houston preferred the benefits of gradual growth and teaching over an extended period of time. Rather than increasing the number of periods per week, he suggested that it was essential that time be given to absorb material, and preferred that the material build from year to year rather than a portion of a subject be taught in one period of time (Committee of Ten, 1893, p. 240-241). Houston firmly held that the breaking of subjects into

compartmentalized knowledge did not facilitate student learning. However, a case can be made that it was the preferred approach for specialists in the chosen subject areas. By choosing a narrow area such as meteorology and giving it greater attention to the exclusion of branches, the meteorology professor benefits. However, study of numerous areas under a broad title may better serve students not planning on pursuing meteorology as a career. In the course of discussing the division of other broad subjects, where the titles "obscured the contents of the subject," Sizer noted that, "Eliot himself had recommended geography to be so split" (Sizer, 1961, p. 96). Thus broad subjects were split into the narrow classes resembling specialized areas of study that the college professors prized.

While Houston agreed with some of the elementary school changes, he agreed with very few of the high school changes. As with elementary school, the majority report recommended less time in high school for the subject of geography. The only reasoning Houston could find for this was as follows:

This, as I understand it, is a result of the experience or belief of at least a majority of the Conference, that not only the study of geography in general, but of physical geography in particular has failed to awaken the interest or arouse the enthusiasm of pupils. (Committee of Ten, 1893, p. 241)

Houston obviously disagreed with this sentiment and said that his experience of 20 years had shown him the exact opposite

effect on students. Houston found that his students possessed a "lively interest" and "marked enthusiasm" for the subject (Committee of Ten, 1893, p. 241). Houston continued, "Nor do I believe that the general experience of teachers in this respect would bear out the opinion expressed by the Majority Report" (Committee of Ten, 1893, p. 241). However, Houston was the only secondary teacher on the committee to object to these types of statements. Houston suggested that if this were true, it was due to a lack of definitiveness and want of logical order, both of which characterized the recommendations of the majority report.

Next, Houston separated geography into elementary geography, descriptive geography, mathematical geography, political geography, and physical geography. He suggested that geography should be studied each year in high school. For specific topics to be covered under these headings, Houston referred to Guyot's plan and suggested the sequence found there. This plan, created by Guyot, treated the subject of geography broadly and encompassed the study of the oceans, atmosphere, plants, animals, and man. Houston again advised against physiography, which according to the majority report would only deal with the land and a light coverage of the oceans. Houston

suggested some of the methods that could be used to teach the subject in the high school.

Next, Houston addressed the majority report's position on college entrance requirements. Here, Houston stated that the conference had exceeded their powers in three ways:

1. In proposing new studies for the secondary schools.
2. In naming subjects not required for admission to colleges.
3. In recommending the dropping of a subject now specially mentioned as one of the requirements for admission to many colleges. (Committee of Ten, 1893, p. 244)

Houston then listed some of the many colleges that required physical geography for admission.

Houston then discussed the subject of physiography, which made up a substantial portion of the majority report's recommendations. Houston spent a considerable amount of time in discussing the term physiography, claiming that the term was vague and misleading. According to Houston, the Century Dictionary at the time offered the following definition: "a word of rather variable meaning, but, as most generally used, nearly or quite the equivalent of physical geography" (Committee of Ten, 1893, p. 245). Houston also discussed the use of the term in works by geographers such as Geike, Dana, Prestwich, and

Huxley. For the most part, these authors used the term to describe the geology of dry land. It was commonly associated with geology more so than geography. Given the background of most of the majority conference members, this is not surprising. But as Houston indicated, the study of geography, and not of geology, was what the conference had been directed to consider (Committee of Ten, 1893, p. 245). Therefore, because the term basically meant a narrower version of physical geography, Houston again objected to the move towards specialization.

Houston examined the specific curriculum proposed by the majority report. To do so, Houston included his own chart (Figure B), which separated the subject of geography into all its branches, such as Botany, Phytology, Zoology, Meteorology, Biology, Orography, Topography, Hydrography, Climatology, Oceanography, and Ethnography. From this broad curriculum, Houston addressed the narrow branches selected by the majority report and indicated where these would fall on the chart.

For physiography, Houston cited five places within the majority report where the committee asserted that they accepted the narrower definition of the study of the land and not the broad definition as suggested in the summary by Eliot. Houston asserted that it was difficult to understand why the committee had chosen this particular narrow branch of geography over all

the others. For Houston, such a shift, while clearly beneficial to future geologists, would do little to help students understand the world around them.

Houston then moved to the proposal for meteorology, which again represented a move toward specialization. Houston wrote,

It would in my judgment be bad enough if it were proposed to substitute the general subject of the atmosphere and its phenomena for the more extended subject of physical geography; but to propose a substitution of the highly specialized subject the Committee desire to make of meteorology, namely, the weather and its attendant phenomena, is, I feel sure, a great error, and one calculated to work much harm to that part of the school system on which the college and university depends so largely for its students. (Committee of Ten, 1893, p. 248)

Again, Houston objected to the committee's attempt to replace the broad subject of geography with a narrow version of meteorology, just one of several branches of geography.

Referring to the chart on page 35 of the report, all of the requirements for geography could, in fact, be satisfied by the study of meteorology. Comparing this to the Houston chart, the former is a much narrower curriculum that does little to increase the general understanding of the world around the students. Conversely, college professors of meteorology would be very well served.

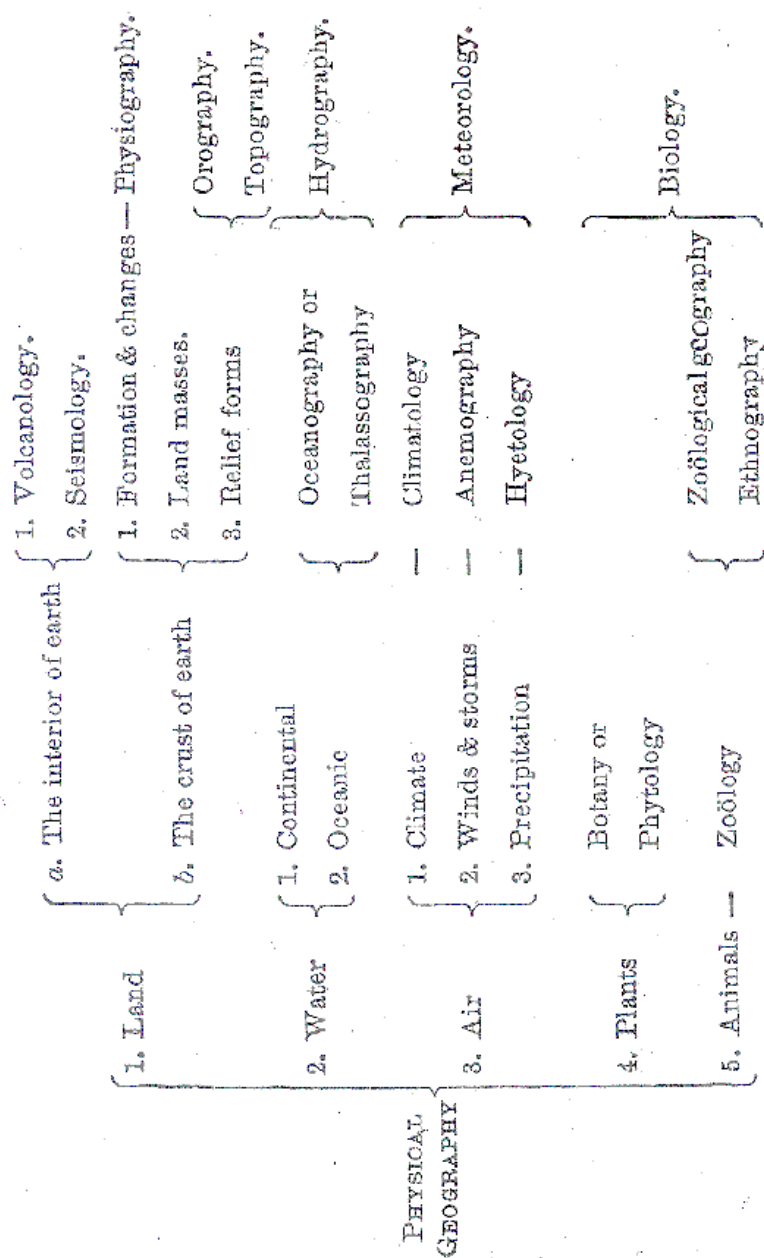


Figure B. Houston's Graphic Organizer for the Broad Subject of Geography as printed in the Minority Report to the Report of the Committee on Secondary School Studies (1893).

Houston pointed out the presence of problems with the conference's proposals, related to sequence and topics included. However, he chose not to pursue them because the underlying change the Conference recommended in the subject itself was so fundamentally flawed in his view that smaller problems in the report did not seem worth addressing (Committee of Ten, 1893, p. 248). Once again Houston seriously discouraged the fundamental move toward specialization.

Houston's final point of contention with the majority report of the geography conference also lent strength to his argument. Houston objected,

In conclusion, I desire to take direct issue with the statement repeatedly made during the Conference, and contained by inference in the Majority Report, that all existing works on physical geography are practically useless because insufficiently modernized and advanced. The magnificent works of Humboldt, the valuable comparative geography of Ritter, and the classic writings of Guyot, treat of physical geography or geophysics in its truest, broadest sense, and need far better argument and more convincing reasons than those advanced by the Majority Report, in order to be successfully relegated to obscurity. (Committee of Ten, 1893, pp. 248-249)

Here, Houston objected to the choice by the majority report to ignore the historical field on the grounds that it was not modern enough. For Houston, the works of these authors could have done a great deal to improve the recommendations of the majority report. Throughout the minority report, Houston referred to other scholars, such as Dana, Geike, Prestwich,

Humboldt, Ritter, and Guyot, who seem to more closely match his definition of geography than that of the majority report.

Guyot's geography, much like Houston's, was

global in its reach, explanatory in its method, scientific in a contemporary sense in its assertion of causal relationships, and meaningful in its teleology in that time and place. Guyot made a convincing case for geography as a coherent and unified academic discipline linking nature and human activity. (Koelsch, 2001, p. 247)

This broad unifying conception of geography seems much more in tune with Houston's work when compared to the specialization and narrow subjects resulting from the Committee of Ten report. The divergence between these two plans is the difference separating progressivism and essentialism. Tanner and Tanner (1995) noted the following when comparing the two schools of thought:

Although, as discussed later, many progressives also recognize the importance of the codified experience of the human race, their conception of such experience extends far beyond that of the essentialist, who delimits it primarily to certain organized bodies of academic knowledge. Moreover, where the essentialist tends to see such knowledge largely as something to be acquired and stored for some future use, the progressive is concerned with the significance of such knowledge in the immediate life of the learner. (p. 153)

While both the essentialist and progressive understand the importance of subject matter, progressives see subject matter as something that needs to be relevant to the life of the learner and to other disciplines within the curriculum. Progressive curriculum reform therefore involves more than just accretion of

additional subjects. Instead, it involves articulation with the life of the student, life of society, and other portions of the curriculum. Houston was far more progressive than the geography conference in his conception of the subject. The leading experts on geography appear to have defined geography in much the same way Houston did. This is central to understanding the differences in the majority and minority reports. Ironically, in the years that followed the report, the work of several of the authors of the majority report would gravitate toward the more progressive definition employed by Houston and others. Davis, the primary author of the majority report, even came to credit Ritter for his later and broader conception of geography.

Houston's conclusion attacked the majority report's assertion that in all probability the subjects of physiography and meteorology could not be taught because most teachers did not have sufficient expertise in the fields. The majority report of the geography conference recommended that geology be substituted for it until teachers could be training in these new branches. Houston expressed the following opinion of this plan,

That they should be willing to recommend the displacement of a well tried branch for the sake of a branch they acknowledge cannot yet be generally taught, can hardly be regarded as partaking of that broad, liberal spirit in modern educational matters so necessary for true advance. (Committee of Ten, 1893, p. 249)

It seemed to Houston illogical to replace the broad established subject of geography with two subjects that were not even in a position to be taught.

Influences on and Changes in Members Post-Committee of Ten
Report

Although it seems that Houston stood alone in his opinions represented in the minority report, in the months and years that followed the report, other geography conference members broadened their definitions of the field. Both Chamberlin and Parker later published works that employed a broader definition of geography as including the study of man as defined by Ritter and others. Although Davis's work showed no such change for at least two years as he persistently clung to the narrower definition, in time, even Davis's thinking slowly evolved. Hartshorne (1981) noted about Davis,

But a series of papers beginning late in 1895 and continuing through the next decade show very significant changes. In a paper read in October 1895, as well as another published sometime in the same year, he spoke of geography as "the study of the earth in relation to man." This expression, so far as I can find, Davis had never used before. It had been used by Parker and other schoolmen. In the following decade Davis used it in a dozen or more papers- with one modification to be noted later. In the first several cases he mentioned no source, but beginning with his address to the University of the State of New York in July 1897, he named Ritter as the source. (p. 142)

Davis's conversion in his definition of geography is significant because it represents a move in the very direction suggested by Houston. It broadens the definition to include such considerations as economic geography and historical geography previously excluded by Davis and the majority report. By 1923, Davis ultimately came to more closely parallel the work of Guyot and Ritter and, therefore, Houston. Hartshorne (1981) summed up the change in Davis as follows:

William Morris Davis in that last address to the Association of American Geographers had come a long way in his view of geography since the days when he worked in it without thought of defining its content, and even a long way since formal exposition of his position in his most often quoted presidential address of 1905. In doing this, he seems never to have dug into the writings of past students of geographic thought before writing his own. Rather, his thoughts about geography came to him from thinking about his own work and considering what his contemporaries were saying and writing. But from these he did learn. (p. 146)

Although Davis did ultimately familiarize himself with the field where he had published and somewhat dominated, it wasn't until the field had been decimated by the recommendations of the Committee of Ten report.

Davis' recommendations in the majority report may have been questionable as well when they were placed into practice.

Koelsch (2001) pointed out,

But the institutionalization of Davis' recommendation that the high schools require a field- and laboratory-based course in physical geography as the first-year science

course, embodied in the report of the National Education Association's Committee on Secondary School Subjects (the so-called "Committee of Ten") in 1892, had become a flat failure by 1905. Untrained teachers gave up the attempt to interest reluctant students, and natural scientists saw little utility in physical geography as a propaedeutic for later study in biology, chemistry, and physics. (p. 254)

From this point on, geography as a subject declined rapidly, and by 1928, physical geography drew a little over two percent of high school enrollments (Keolsch, 2001, p. 255).

Subsequent to the damage done to the subject, Davis actually changed his mind concerning his earlier views. Where he had exercised great control and kept the scope of geography narrowed to physical geography for years, he ultimately embraced other elements he had originally excluded. Hartshorne (1981) wrote,

This period of development of Davis's thinking about geography culminated in his classic address in 1905 as first president of the new Association of American Geographers. If one compares that with the views he had expressed before 1892, one might well conclude that he had moved more than halfway toward the views which the schoolmen had inherited from Guyot and Ritter. (p. 144)

As Davis's views converged with the schoolmen who had learned from Guyot and Ritter, he was also adopting the views Houston expressed in the minority report. This move away from the narrow definition of geography as physical geography is an essential element of Houston's argument in the minority report. Likewise, other schoolmen expressed frustration with the

geography that resulted from the Committee of Ten and Davis's control. Hartshorne (1981) wrote,

At the time teachers concerned with geography in the schools were increasingly dissatisfied with the virtual limitation of geography in the high schools to physical geography, even if it included scattered examples of the consequences of physical features for human activities. In the years following the report of the Committee of Ten, more than a score of teachers, including a number from the college level, wrote no fewer than thirty-five papers published in a wide variety of educational journals either directly opposing the limitation to physical geography or at least stressing the importance of the human side of geography. (pp. 144-145)

In the end, Houston was far from alone in his views opposing the majority report's recommendations.

Another powerful figure on the geography conference, Francis W. Parker, published *Talks on Pedagogics* in 1894 just one year after publication of the Committee of Ten report. In this document, Parker outlined his theory of concentration, several points of which conflict with the recommendations of the geography conference to the Committee of Ten report he had signed a year earlier. In the theory of concentration, the child is the center of the system around which ten central subjects are connected, geography being one. However, isolation of subjects is specifically warned against. Parker explained,

The prominent weakness of education is isolation of subjects; reading by itself- first steps and consequent ones; writing in copy-books; arithmetic with an occasional application; geography without history; history without geography; "art for art's sake." Indeed, it seems as if

the universal tendency has been to separate subjects as widely as possible; to completely ignore organic synthesis. Isolation is analysis gone to seed. No truth is more striking than the essential relation of all subjects to each other. (p. 394)

Although Parker signed the report of the geography conference, it would seem that he doubted at least some of the ideas included in the report.

Houston's minority report to the geography conference addresses most of the major points offered by the majority report and proposes an alternative to this plan. Given the support of many of the geography experts of the day and even other geography conference members in the years that followed the report, Houston's report undoubtedly is an important document that should be considered in dealing with the geography conference or even the Committee of Ten report. It represents a prescient precursor to progressive education. Inclusion of Houston and his minority report in the dialogue on the Committee of Ten adds not only to the understanding of the Committee of Ten report but to the history of progressive education in general.

Summary

The key conflict between the geography conference's report, Houston's minority report, and Eliot's summary in the Committee of Ten report arises from the definition of geography and the

related terms. In the Committee of Ten report (1893), Eliot wrote, "It is obvious on even a cursory reading of the majority and minority reports that geography means for all the members of this Conference something entirely different from the term geography as generally used in school programs" (p. 31). This proves to be precise and is a major conflict between the two sides. This conflict also existed between Eliot's summary of the geography conference's report and the conference's report itself. For example, the summary of the geography report discusses the subject of geography encompassing elements of botany, zoology, geometry, and physics. The resulting definition is closer to Houston's, and includes geography that is rigorous, academic, and incorporates scientific subject matter.

Elimination of geography in favor of the empirical sciences may have been unwarranted even during the push for empiricism. Given Houston's definition, geography was an empirical science. It was experimental and scientific, but it was organized into the broader subject in such a way as to be useful to the bulk of students who had no interest in finishing high school, much less attending college. The drive for empiricism may have been inherently in favor of specialization and subjects such as chemistry, but the experts such as Humboldt had long noted the

need for looking at empiricism in a different way. Margarita Bowen (1981) explained the problem with application of traditional empiricism to all subjects:

While it proved highly effective in organizing inquiry in numerous specialized sciences during the last three centuries, that method appears to have been largely inimical to the development of geography and so the position of this subject is of particular interest in the current debate. Until recently geographers showed a marked reluctance to engage in serious criticism of the established theory of science and in consequence allowed their study to remain methodologically at a disadvantage in relation to sciences like physics and chemistry for which the empirical method was expressly formulated.... In order to change that theory of scientific procedure it is necessary, as Humboldt saw over a century ago, to propose an alternative procedure based on a more appropriate theory of knowledge. (p. 2)

Given his background, Houston understood that the subject of geography was not, in fact, inferior to other subjects on the basis of not being empirical. In further discussing the work of Humboldt, Bowen (1981) went on to write,

It was perhaps too much to expect, given the depressed condition of geography as an intellectual discipline in his day, that in one leap, as it were, the subject could not only rise to the standard of other natural sciences in terms of procedure but also transcend them with a wider view of scientific inquiry. (p. 12)

The inclusion of empirical or "hard science" is not eliminated by Houston's broad subject of geography, but it could, in fact, proliferate as a greater number of the branches of science could be included. Houston's vision for geography would allow a large number of sciences to be covered under the heading of geography.

For example, in covering the geography of the oceans, "hard sciences" such as chemistry, biology, mineralogy, and anatomy could all be touched on, and they would all be connected in such a way as to logically organize them in the student's mind.

Segregation of the sciences is not necessarily the only way to teach the material. The physics of a wave could naturally be connected to the animals that live in the surf and the chemistry of ocean pollution. The very connectedness of this plan would make it much more logical and would help the students retain what they learn. Likewise, unlike the conventional plan where students take a year of physics, a year of biology, and a year of chemistry, Houston's plan would expose the students to each of the subjects every year and allow them to use the ideas associated with each subject on a continual basis. Therefore, solving a physics problem or completing a chemistry lab would not be something that was solely a one-year learning experience. Additionally, other sciences excluded from the curriculum normally, such as mineralogy or zoology, could be broached.

Houston's conception of geography would have been more beneficial to all students besides those that planned on pursuing a career in one of the specialized fields. Likewise, Houston's plan would have exposed students that did not complete high school to each of the sciences.

Conversely, the geography conference's conception that geography is relevant to only those students that seek a career in one of the narrow areas selected is in keeping with the college preparatory prejudice of the Committee of Ten report which generally recommends the traditional college preparatory disciplinary specialization. As with other areas of the Committee of Ten report, the geography conference reflects the perspective of college professors and college preparatory secondary schools. Understandably, the resulting curriculum naturally serves the needs of college preparatory students to the exclusion of students opting to forgo college.

Broadly speaking, the subject of geography as well as the function of the educational system in general could be expanded with Houston's ideas. Such an expansion might not only enhance the understanding of the Committee of Ten, but it might make schooling more relevant to those not interested in pursuing college. Houston's advocacy of a viable alternative for students not preparing for college represents a previously ignored facet of the current interpretation of the Committee of Ten report.

CHAPTER 5

FINDINGS AND IMPLICATIONS

In this chapter, the research questions posed in chapter one are answered and connections between the information in the subsequent chapters is synthesized. A discussion of the findings, implications for research, and implications for practice conclude the study.

Research Findings

1. What dissenting opinions did Edwin Houston offer to the Committee of Ten?

Jurgen Herbst (1996) portrayed the educational divergence of the period this way, "By the 1870's the country was ripe for a searching debate over the high school question: What was the public high school's primary mission: to prepare for college or to prepare for life?" (p. 54). The public high school was seeking its role in the educational scheme of the country. The Committee of Ten, in effect, answered the question as to the role of the secondary school by choosing the classical, essentialist curriculum associated with the traditional college preparatory function.

Secondary schooling at this time was a complex and rapidly evolving institution. The public high school dominated other forms of secondary education. However, public high schools still only served a minority of the school-aged population. In 1890, just prior to the Committee of Ten report, 5.6% of adolescents were enrolled in secondary schools (Angus and Mirel, 1999, p. 203). Of these, 87.1% dropped out prior to completion (Sizer, 1964, p. 54). Although very few adolescents attended secondary school and very few intended to graduate from high school, college preparatory students remained a great concern (Krug, 1961, p. 6-7). College entrance requirements and examinations varied widely. Therefore, although few in number and proportion, college preparatory students could not be ignored by the high schools. As a result, the schools sought both to prepare students for life and to prepare them for college.

It is reasonable that colleges would desire incoming students to have previously received as much education in their subject area as possible. If students possessed a substantial foundation in their subject, professors were free to begin studies at a much higher level and move into the more advanced areas of the discipline. Conversely, broad subjects, such as geography, that intended to expose students to a wide variety of

experiences and ideas, did not focus on narrow specializations for extended periods of time. Typically, however, specialization was preferred in order for college professors to see this benefit of the secondary schools. Also, specialized subjects chosen for the secondary school curriculum needed to reflect the areas of specialization represented by these professors. If the narrow branch chosen for inclusion in the secondary curriculum was not a professor's specialty, their students would likely get less preparation than under the broad subject approach. As a result, specialization in specific secondary subjects correlated to college equivalents would have better served the college preparatory function.

In effect, disciplinary specialization was the end result of the majority report from the geography conference to the Committee of Ten. The majority report recommended that the specialized subjects of meteorology and physiography replace the subject of geography. As discussed in Chapter 4, the choice of these two narrow branches of geography parallels closely the backgrounds and specializations of the majority conference members. Predictably a move toward specialization in their subject area in secondary college preparatory curriculum would undoubtedly have benefited their interests. The move toward specialization and the traditional college preparatory function

was not only characteristic of the geography conference, but was also true of the Committee of Ten report in general.

Edwin James Houston's opinions in the minority report to the geography conference of the Committee of Ten dissented from virtually every point made in the conference's majority report. Houston dissented on small items such as avoiding a break in studies at the beginning of the high school curriculum, and Houston disagreed with more substantial ideas such as the decision by the conference members to ignore the field of study as conceptualized by leading geographers such as Ritter, Humboldt, and Guyot at the time. Essentially, however, Houston's opinions represented a fundamental divergence of opinion on not only methods and topics, but on the function of secondary schooling. Houston explained,

But, apart from this, the proposition to replace the general subject of physical geography in the high school by specialized branches of the science, appears to me to be one of the worst features of the Majority Report, and its adoption, I believe would work an irreparable injury to the intelligent study of natural science not only in the schools, but also in the colleges and universities.
(Committee of Ten, 1893, p. 238)

Houston went on to suggest that geography synthesizes numerous areas of scattered facts into a coherent whole. Therefore, geography, as defined by Houston, Ritter, Humboldt, Guyot and others, is useful for helping organize the knowledge gained in

other subjects in a manner in which these separate facts can be systematized in a logical way. Houston wrote,

Under its generalizations, the numerous, and, to the child, the often disconnected facts of geography fall into orderly groupings, and much that has hitherto perplexed and harassed its naturally inquisitive mind, first finds intelligent explanation. (Committee of Ten, 1893, p. 238)

Specialized subjects taught in isolation would only lead to more scattered facts in narrow areas, and the branches not selected would be ignored. Houston suggested that such a change to an isolated study would represent a regression, not a progression, in the subject of geography.

Houston saw an alternative to the two options of educating for college preparation or educating for menial labor. As had been the tradition at Central High School, education for a white-collar job in the business or political world was a viable function that the secondary school had performed successfully for decades. Based on that experience, Houston recommended a broad education that exposed students to a multitude of subjects and helped to organize this knowledge in logical ways. While the majority report pushed for specialization in narrow branches, which would benefit the college preparatory function of the school, Houston pushed for a broad subject approach that benefited all students regardless of educational destination.

2. How were Houston's opinions about the report shaped by his work at Central High School?

Houston's work and even his education at Central High School molded his opinions by exposing him to a non-college preparatory curriculum and tradition that was successful and highly sought after. It allowed him to discern that in the day of the report, college was certainly not the only path to success nor the only focus of those involved in secondary schooling. In fact, Labaree (1988) suggested,

...by orienting the school toward commercial life rather than higher education, Central's founders were not choosing a lesser educational role for the school. On the contrary, to its supporters and constituents, the high school [Central] was seen as a species superior to a college preparatory school; it was a 'people's college,' which was more attractive than the traditional college in part because of its practical curriculum. (p. 21)

Houston's time at Central allowed him to see an alternative to either Eliot's portrayal of the high school as in shambles asking for college guidance or the college preparatory school. Houston had experienced a school that was successful and yet did not need direction from the colleges. In actuality, the programs at Central were popular for the very reason that they were not college preparatory but instead emphasized applied studies.

Houston's work as a teacher of geography while at Central gave him first hand experience with this subject and with

students attempting to master it. His experience was significant primarily because Houston was the only member of the geography conference to have taught geography at the secondary level. When the majority report discussed the interests of students or the results obtained from study of the subject, Houston was certainly in a better position to witness these points first hand and to dissent with what he believed to be their unfounded conclusions. In discussing the assertion in the majority report of the geography conference that the results obtained from elementary geography did not merit the time allotted it, Houston argued,

In the first place I respectfully submit that the statement is not truer of geography than of any other study of the lower grades. Indeed, I doubt if it is as true of geography as it is of either number or language. The excellent work in geography that is now being done by a large proportion of the lower grades of schools, generally throughout the United States, will, I feel assured, in its results, compare favorably with those attained in either number or language. (Committee of Ten, 1893, p. 240)

Houston's time working with students as they came out of the elementary schools would unquestionably have given him a better perspective on elementary studies than the college professors.

Houston's pursuits while at Central High School and his lifelong dedication to education made him an exceptional representative for teachers. He knew through his work with students, his work educating the general public, and writing

educational adventure books, that education had many purposes and that the end result was certainly not always college admission.

3. How did the recommendations of the Committee of Ten affect Central High School and Edwin James Houston?

The battle for college domination was already raging at Central High School a few years prior to the Committee of Ten Report. Alumni and professors long associated with the school were fighting to save the practical life-preparatory curriculum from newer professors, educated in colleges, who sought to turn Central into a college preparatory school. Central alumni were an elite group prepared in a very competitive environment, and when compared using tests, they often outperformed their college-educated competition. During periods when tests were the primary method used to make hiring decisions, Central graduates did particularly well (Labaree, 1988, p. 106). This was significant to the future of Central High School because the graduates of Central understood the practical orientation of the school and the traditional role the school played in the community. College educated professors saw preparation for college as a task superior to the function traditionally served by Central. A crucial vote on the future of practical education at Central ultimately broke down along these lines. Houston

fought for a broad practical education, but the Committee of Ten certainly dealt a heavy blow to the cause as it moved the entire nation toward college preparation and academic formalism.

The influence of the Committee of Ten report contributed to the alteration of Central's curriculum and resulted in a shift to a curriculum much like the one the Committee of Ten recommended (Labaree, 1988, p. 154). Although this battle was bitterly fought and a number of other factors supported each side, the college preparatory curriculum and academic formalism prevailed over a practical curriculum that accommodated student needs and aspirations.

The Committee of Ten report is one of the most influential documents in the history of education in the United States. But in many ways, it was a document that was more regressive than progressive in effect. Its impact on the bulk of students was to disconnect them from the curriculum by changing the focus of public high schools from preparation for life to preparation for college. Of course, most students planned to complete neither high school nor college and could have benefited from a more practical education that provided them with skills more marketable in the workplace. Central High School of Philadelphia offered a curriculum that had been successfully educating the business and community leaders for decades. The

Committee of Ten, in effect, removed choices from parents and students. Reading many historians, one would think this was no great loss, as schools at the time were struggling. However, quality attempts at relevant education were occurring at schools like Central High School throughout the country and some of these offered alternatives that have largely been ignored in the historical literature.

4. How were Houston's views significant to the overall report and to the interpretations of the report today?

Houston's views were significant to the overall report because they problematize many recommendations of the Committee of Ten report and its subsequent interpretation. While Houston does not attack the report as a whole, many of his criticisms certainly are applicable to more than the geography conference. For example, in areas other than geography, the opinions of the college subject specialists dominate the report. Virtually nothing has been published about how the recommendations of the Committee of Ten report were received by classroom teachers. As a result, Houston represents one of the few available secondary teacher perspectives on the recommendations.

Houston and Central High School are probably most pertinent because they challenge the assumption that the Committee of Ten offered the only viable alternative secondary schools at the

time. On the contrary, what was lost may have been an invaluable alternative for students who wanted preparation beyond basic primary school education but did not wish to pursue a college education. A practical education for leadership in business or the community was eliminated when the function of secondary schooling became solely college preparation.

In general, the study of biography and, specifically, the study of teachers can contribute to an understanding of an education past. Studying the educational authorities of the day is appropriate, but inclusion of actual teachers and classrooms can clarify what was occurring in classrooms rather than what reformers championed in schools. An examination of Central High School and Houston's life contributes to a balanced understanding of the Committee of Ten from the perspective of a teacher who refused to blindly accept a shift from a broad curriculum preparing students for life to specialization and a sole focus on college preparation.

An examination of Houston's life and work may also contribute to understanding the history of progressive education. In some senses, Houston was a harbinger of progressive education. His ideas on the role schooling could play in the lives of students were certainly more progressive than the academic specialization proposed by the Committee of

Ten. In attempting to define progressivism, Cremin (1961) identified four ideas progressivism meant in the minds of progressives. Cremin (1961) explained, "First, it [progressivism] meant broadening the program and function of the school to include direct concern for health, vocation, and the quality of family and community life" (p. viii). The broad curriculum of Central High School and that proposed by Houston assuredly aimed to prepare students to seek gainful employment as businessmen and leaders of the community. In contrast, disciplinary specialization proposed by the geography conference relied on mental discipline to be of any use to those going into the business or political world.

On progressivism, Cremin (1961) continued, "Second, it meant applying in the classroom the pedagogical principles derived from new scientific research in psychology and the social sciences" (p. viii). While Houston's work largely predates the research Cremin was referring to, the Committee of Ten, with its reliance on mental discipline, would certainly not be considered progressive, and many of the ideas Houston defended subsequently would be supported by research on learning. For example, the idea of mental discipline would be discredited while ideas such as taking student interests as a starting point, continuity between sequential years of study,

and integration of subjects would soon be accepted principles of progressive education.

The third principle that Cremin identified with progressivism was "the tailoring of instruction more and more to the different kinds and classes of children who were being brought within the purview of the school" (pp. viii-ix). This is an area that clearly differentiates Houston from the other 97 participants in the Committee of Ten. Houston recognized the advantage and value of educating a wider range of students than those few bound for college. The Committee of Ten clearly did not tailor the curriculum to the needs of these students but instead clung to the curriculum that had characterized the schools intended only for the elite. While Central was certainly not a school intended for, or open to, all students, acceptance into it and success in it were based strictly on merit rather than class or privilege. The curriculum that Houston recommended was tailored to meet the needs of the rapidly growing portion of society that chose to send their children to secondary schools.

The final idea Cremin (1961) identified with progressivism was, "the radical faith that culture could be democratized without being vulgarized, the faith that everyone could share not only in the benefits of the new sciences but in the pursuit

of the arts as well" (p. ix). Again, in this area it appears Houston was clearly something of a progressive before his time. His textbooks and books for the general public attempted to make science accessible to the masses. Houston even wrote math books that sought to make math more approachable to those with limited math background. In both cases, the use of extensive diagrams and simple language attempted to place the material within reach of virtually all people, but not at the price of diluting the subject. In fact, even in Houston's books intended for the general public, the books are consistently rigorous and thorough.

Although Houston did not unconditionally fit Cremin's conception of a progressive, he obviously was an innovator in many of his progressive ideas. Examination of Houston's work and that of other figures from his era, can lend valuable insights to not only the Committee of Ten, but into the origins of progressive education.

5. What are the implications of these findings to current curriculum efforts?

In terms of practice, current curriculum efforts should look beyond the college preparatory assumption that still prevails. Preparation for life with courses that are broad, but rigorous, can be a viable route for some students not wishing to

pursue college. Rather than compartmentalizing knowledge, curricula would encourage students to make connections between subjects so that they would then be able to retain and apply the knowledge more readily.

One impediment to such courses is the assumption that only a college preparatory curriculum can be academically rigorous. This assumption reflects the notion that theoretical knowledge is superior to practical knowledge. Academic hierarchy and the stigma attached to technical programs are still prevalent problems and often make it difficult to recruit students into valuable technical education programs that teach marketable skills. Instead, students with no intention of going to college remain in a college preparatory track where they are disconnected from the curriculum due to the stigma attached to technical education. They drop out or graduate and go to work without the requisite skills for demanding employment. From the original Academies (before they, too, were dominated by college preparation) a demand has always existed for a curriculum that is practical, broad, and challenging, without colleges determining guidelines. On the popularity of the practical academy curriculum, Tanner and Tanner (1980) explained: "But there were no restraints on the curriculum for students who were not college bound. The academy strove to meet their needs with

a program that was both practical and general" (p. 227). A rigorous, practical curriculum organized effectively for students preparing for life should be a tantamount goal, and this is what Houston and Central High School exemplified. If such a program can produce highly skilled, employable graduates, the program will be sought after and the stigma will disappear.

Historians working in the curriculum field should more closely examine the claims of secondary interpretations of the Committee of Ten report and other key documents. To accept the interpretation of historians without examination of the document itself can be problematic. Further research should analyze the claims of the Committee of Ten report beyond a cursory scanning and include such important facets as minority reports, other publications of the authors before and after the report, the context of the report, and the work of those involved in the report.

Biography can be particularly useful for filling in the gaps left by other types of research. By looking at the individual historical actors, researchers are able to see beyond the broad generalizations that often characterize historical research. Cunningham (2001) suggested, "A survey of the literature of progressivism reveals a dearth of teachers, as distinct from educationists and administrators, and in working

towards the idea of a prosopography of progressivism we need to focus on more examples of the former" (p. 447). Although numerous authors have analyzed the recommendations of the Committee of Ten, the perspectives of other historical participants should also be considered. Perhaps these "anonymous practitioners," such as Houston, offer some of the most invaluable insights as compared to the "pioneers and policy makers" who made up the Committee of Ten (Cunningham, 2001, p. 436). By looking at Houston, one can learn a great deal more about the Committee of Ten than by simply reading the interpretations of historians who have a tendency to characterize the report in such a way that is convenient for broad interpretation of the period.

Implications for Further Research

Further research could be conducted on other portions of the Committee of Ten report, as just noted. It is unlikely that Houston was the only one of the 98 conference members to have reservations about the recommendations of the report. The minority report of the Physics conference might provide interesting insights and a starting point for further research. An examination of the historical record may discover other participants of the conferences who later reconsidered the recommendations of the report. At this time, Houston is the

only anomaly to the prevailing interpretation of the report we are aware of. According to Kliebard (1992), prevailing interpretations have a tendency to blind the research community to divergent interpretations. Well-respected researchers such as Sizer and Krug have completed seminal works on the Committee of Ten without ever substantially challenging the prevailing interpretations or pointing out other perspectives. These dissenting opinions might help to rectify the current interpretation of the report. Such investigations could yield the kind of insights that Gaddis (2002) called for: "This, in turn, means freeing not just the great but also the obscure in history from determinism: from the conviction that things could only have happened in the way that they did" (p. 140). Although the historical record of the challengers may have been obscured by the prevailing interpretation, other outcomes and perspectives were possible and certainly deserve consideration. Gaddis (2002) continued, "Our responsibility as historians is as much to show that there were paths not taken as it is to explain the ones that were, and that too I think is an act of liberation" (p. 141). In this case, the exploration of such paths could add immeasurably to the understanding of both the Committee of Ten and of progressive education.

Houston's biography, as well as biographies of other harbingers of progressive education, could add valuable insight into the history of progressive education. Cunningham (2001) wrote, "We need to consider how biographies of the more obscure classroom teachers help to reveal the transmission of progressive education" (p. 435). Simply examining the victors of the battles only tells one side of the story.

Further research into the programs at other schools prior to the Committee of Ten could change the current interpretation that the Committee of Ten report brought order from chaos. Central was not the only school offering a practical education to help prepare students for life. Somerville High School in Somerville, Massachusetts, for example, was certainly similar to Central High School in several ways. Somerville offered a practical curriculum intended for those not planning to go to college. As with Central, this curriculum was well received and helped to increase student enrollment. Ueda explained,

The introduction of practically oriented coursework preceded a climb in enrollment at Somerville High School. Substantial rises in attendance and graduation rates attested to the attractiveness of a diversified curriculum that included preparation for low-white-collar employment. (Ueda, 1987, p. 90)

Further research might examine the effects of the Committee of Ten on Somerville or other secondary institutions. Ueda (1987) listed numerous institutions that attempted to offer such a

curriculum. A look at innovative, but ignored, programs from our curriculum history could inform both research and practice.

Implications for Practice

A historical study, such as this one, is not only useful for understanding the past, but can also lend insights into contemporary programs. The No Child Left Behind Act of 2002 (NCLB) is a sweeping piece of legislation that touches nearly every aspect of schooling in the United States. Its push for accountability and subsequent increased testing is likely to have powerful impacts on education. In the case of the Committee of Ten report, schools that did not conform to the recommended curriculum faced exceptional pressure from parents and citizens being told their student could not go to college under a "sub-standard" curriculum. Likewise, schools not conforming to NCLB are likely to face sanctions that could include losing many of their best students and even jobs.

The idea that no child should be left behind regardless of race, socio-economic status, or disability is undoubtedly a noble goal to pursue. However, a historical perspective may suggest that the No Child Left Behind Act may have unintended consequences that in fact cause students to be left behind.

Like the Committee of Ten report, the NCLB Act seeks to have all schools meet the same academic standard. Schools that

fail to meet this standard face negative sanctions. Due to its emphasis on test scores and escalated punitive accountability for low scores, essentialism is likely to be the resulting curriculum from No Child Left Behind. In his work on high stakes testing, Madaus (1995) identified three principles that govern the influence of high stakes tests on curricula:

- Teachers will teach to the test if important decisions are perceived to be related to the test results.
- When test stakes are high, the tradition of past exams comes to define the curriculum.
- When teaching to the test, teachers pay attention to the form of the test as well as the content.

The high stakes testing associated with NCLB is likely to result in teaching to the test. Kreitzer and Madaus (1995) warned that this could be problematic: "When teachers teach to such tests, they too often are left with little choice but to exclude important but non-tested skills from their instruction. The curriculum narrows in content coverage and in learning experiences; instruction becomes little more than an extended test practice" (p. 26). Narrowing of the curriculum would result in a basically essentialist curriculum not unlike that recommended by the Committee of Ten. Kreitzer and Madaus (1995) identified the students who were in fact usually left behind by such a curriculum: "It is old news that tests affect curriculum, and bad news that this influence seems to be largely negative,

but the worst news of all is that the pernicious effects of high-stakes, measurement-driven instruction are meanest for poor, urban youth" (p. 31). The very students that NCLB is intended to help will be those hurt most by the resulting academic specialization and formalism.

Instead of focusing on a test students do not see as relevant to their lives, curriculum efforts should focus on practices that make the day to day curriculum meaningful to these children. Progressive programs that provide innovative curricula and ascribe to more than the traditional college preparatory function are more likely to assure that already academically disaffected students are not left behind.

During the 1930's, the Progressive Education Association conducted the Eight Year Study. Twenty-eight secondary schools were freed from the constraints of college entrance requirements through agreements with colleges. The schools were then free to adopt the curricula they saw fit. Many of the schools adopted progressive programs that emphasized the integration and application of subject matter, and that were substantially different from the traditional essentialism associated with college preparation. While one would expect these programs to better prepare students for life, students prepared in these progressive programs also performed better in college than their

peers prepared in traditional college preparatory programs (Aikin, 1942). Perhaps if the legislators wish to truly leave no child behind, they should promote curricular approaches that strive to do more than prepare students for college.

Houston's ideas and the practices at Central High School represent a different perspective on education than the one offered by the Committee of Ten and the NCLB Act. Rather than letting colleges determine the curriculum for students and teaching non college-bound students a watered down version of the college-preparatory curriculum, a viable alternative is available. It is possible to teach knowledge and skills valued in the workplace and help students become marketable upon graduation. As Houston's work at Central High School demonstrated, application and academic rigor are not mutually exclusive.

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