

## Evolution at Amherst College

*John Kroll '66 wrote this paper in 1965 for an American Studies seminar taught by Professor John William Ward, who later became president of the college.*

By John Kroll '66

The idea for this paper came from Richard Hofstadter's Social Darwinism in American Thought, in which the author reviewed the battles which took place over the theory of evolution before it was accepted. Clergymen were among its chief opponents, and scientists its major defenders. Since Amherst had always been a traditionally religious college, which yet had also taught science, I wondered what its reaction to Darwinism had been. My hunch was that the faculty and students had split into two camps over the issue. Then I read Thomas LeDuc's Piety and Intellect at Amherst College, in which he said, "Over the issue of evolution, there was really no battle at Amherst." By setting down, as closely as I have been able to ascertain, the steps by which Darwin came to be accepted, I hope to show that the situation here was neither as acrimonious as I had imagined, nor as placid as LeDuc's statement implies.

The founders of Amherst College were orthodox Calvinists, as concerned with the state of their souls as had been their Puritan ancestors 200 years before. They were also evangelists; the purpose to which Amherst was dedicated was the training of ministers and missionaries to spread Christianity from North America over the world. While the future missionaries were in college, their teachers' goal was to develop truly pious Christian men. This, more than any devotion to intellect or secular training, was the aim of Amherst College for at least its first 50 years. Prof. W.S. Tyler, historian of the college, wrote, "(The founders desired above all things that they should be true Christians." Dr. Zephaniah S. Moore, the first president, emphasized at the founding ceremonies that the concern of the college was faith, as set down in the Bible and interpreted in the Calvinist tradition: "It is of primary importance that we be correct in our moral and religious instruction." And President Julius H. Seelye, who took office in 1876, stated, "Unless we make the Bible [this college's] cornerstone and top stone, the edifice itself will crumble." Inasmuch as Harvard had become Unitarian in 1805, Amherst had additional impetus for its dedication to conservative Christianity.

Students in the early years were as ascetic and zealously concerned with faith as the faculty. Parents who feared the heterodoxy of Harvard and the temptations of the city sent their sons to Amherst. Revivals were frequent -- W.S. Tyler counted 18 during Amherst's first half century -- and the faculty hoped one would occur at least every four years, so that each generation of students would be touched. These periods of mass conversion had great success. In 1858, at the dedication of East Dormitory, President Stearns rejoiced that all who were to live there were converted Christians.

The faculty were selected as much as their spiritual fitness as on their ability in their fields. One criterion, set down in a "Prayer for Colleges," was that they be "heartily Christian, whose hearts shall be in lively sympathy with revivals." Representative of these early professors was William S. Tyler, professor of Greek for nearly 60 years. Like many of his colleagues, Tyler was an ordained clergyman; some of his sermons became classics among Amherst students. Tyler's two histories of the college as well as his other writings demonstrate his belief that Amherst College was an instrument of God's work.

This religious tradition was the most important fact about Amherst throughout the 19<sup>th</sup> century. However, the founders did not neglect intellectual development as an essential aim of the college. Students underwent a rigid, strict group of courses, including sciences. Between religion and course work, undergraduates had no time for (or much interest in) frivolous

activities.

This was Amherst in 1830, when the first confrontation between science and religion occurred. The challenge came not from biology but from geology. Bishop Usher, in his famous analysis of the Bible, had concluded that the Creation came in 4004 B.C. The disparity between this date and the apparent age of rocks had been solved through the theory of catastrophes, which stated that there had been several epochs in the history of the Earth, each ending in a great catastrophe. The most recent of these had been the Flood. Usher's calculations had been based on data since then.

In 1830, however, Lyell published his Principles, which provided evidence for the theory of uniformitarianism, which stated that the same causes which now acted on the Earth had always acted, and always with the same rate of energy. The Earth had developed at a uniform rate. The problem was how to reconcile this with the Biblical story of Creation.

In the forefront of those who accepted this challenge was Dr. Edward Hitchcock, since 1825 professor of geology and natural theology at Amherst. A minister as well as a reputable scientist, Dr. Hitchcock was well qualified for the task. He had never contested the point that the Earth was far older than 6,000 years; his observations had convinced him of that. Yet he saw no real discrepancy between the two versions of Creation. "The facts of science, rightly understood, should not contradict the statements of revelation, correctly interpreted." Hitchcock's own interpretation rested on the Hebrew word for "day." Its etymology was an indefinite term which could denote any space of time. He concluded that the six days of the Bible meant spans of geological time and that much had happened between the creation of matter and the creation of light, both of which Genesis placed on the first day. In two books, The Religion of Geology and Religious Truths Illustrated from Science, Hitchcock attempted to show that geology is the servant of religion, that its findings confirm the Scriptures.

No leader of Amherst College doubted that religion had priority over science. In any conflict, the accepted interpretation of the Bible took precedence. Prof. W.S. Tyler is clear on this point in his history, where he declares, "Long may it be before that shall be said of Amherst College (as has been said of another), 'Theology and religion is defunct as a power; science already has possession of \_\_\_\_\_ College.'" Tyler's refusal to insert the name of the college implies that he regards it as erased forever from the Book of Life; it has already been consigned to hell.

Yet science had an honored place at Amherst, as long as it kept its place. Tyler's eulogy at the funeral of Dr. Hitchcock, who had served as president for nine years, includes a surprisingly generous assessment of the achievements of science:

"Galileo and Copernicus were God's chosen instruments in revealing himself to men, not less truly, though in a different way, than Job and David.... What a fullness of meaning, never before comprehended, do these words of inspiration derive from the light of modern science."

Hitchcock is no less an instrument: "Many a disbelieving student has been convinced... by his lectures on the analogies between Geology and Natural and Revealed Religion."

This address was made in 1864, five years after Darwin published The Origin of Species. While it does not refer to him, it deals with one of his themes. The Christian belief was that God created the universe by design, placing man over all other species, so that each animal was the same today as when it was first created. In support of this theory, Christians pointed out how well each organism was adapted to its environment; this was a result of design. Fish, for example, lived in water because that was how God had intended it, while man was intended to

live on land.

Darwin's theory overthrew this. Species had not always been as they are today. The transformation took place through a long chain of minute accidents, so the results came about by chance. This theory meant that God's special providence became unnecessary. His very existence came into question.

Tyler rebutted Darwin through a restatement of the argument from design. The wonder and variety of life on earth, he stated, necessarily implies a Creator. A study of anatomy, physiology, psychology, and comparative philology demonstrates it. In fact,

“The natural tendency of such studies is to faith and humble piety.... The undevout and unbelieving naturalist is... mad. He sees no chemist in the laboratory of nature.”

Tyler's objection to Darwin is that his theory allows for no goal, whereas Christianity directs itself toward a stated end. Final causes are inherent in botany, zoology, and natural history, Tyler insists. “They have to do with the adaptations of means to ends, which are more directly and palpably of a moral nature.” He answers Darwin by restating the position which Amherst had taken from its beginning.

“It is only science and philosophy falsely so called that is ever disparaged in the Scriptures. When human wisdom exalts itself above the wisdom of God, or sets itself in opposition to the Kingdom of God, then of course it is false and deserves to be dishonored.”

The orthodox men of Amherst did not attempt to evade Darwin's attack. As a training ground for ministers, they realized it was their institution's duty to meet its challenges by using science's own tools. In his Reminiscences, Hitchcock stated that the most important use of the college's collections of natural objects was:

“to learn [sic] young men how to defend and illustrate religion.... Where else but in college can those who mean to be ministers of the Gospel acquire such knowledge? Surely not in our theological seminaries, nor in the families of private clergymen. The abstract metaphysical way of treating those subjects which they may learn elsewhere, will only excite the ridicule of the able, skeptical naturalists.”

President William Stearns, who served from 1854 to 1876, echoed Hitchcock in his speech at the dedication of Walker Hall, a new science building, in 1870. “Christianity now finds its most powerful antagonists in men who call themselves scientific,” he declared. Stearns himself was an unsophisticated man, termed by one historian “the last of the Puritans” to assume Amherst's presidency. In any battle between science and religion, he was automatically on the side of the Christian faith. His aim as president was to graduate defenders of Christianity.

Although this aim had not changed since the college's founding in 1821, Amherst after the Civil War was different in many ways. More and more of its students were drawn from the cities, and they saw Amherst as a stepping stone not to the ministry but as preparation for medical school, law school, teaching, journalism, banking, or business. In 1871, only 25 percent of the graduating class became ministers. Though religious requirements continued strong, students' time became increasingly devoted to fraternities and athletics. These trends continued and expanded through the end of the century.

The attitude toward religion had changed subtly also. LeDuc points out that Stearns

argued in a frequently repeated New Year's sermon that the Bible should be read not because it was divinely inspired but for its practical value, because it contained "the finest maxims of prudence, the best safeguards of virtue."

Speeches of the period indicate a growing belief that science is valuable not only as God's handiwork but for its own value. Stearns also believed it should be studied as an essential part of the liberal arts education. They are "a whole new area to be explored." An address by Prof. J.L. Diman of Brown in 1869 reveals an even greater cleavage between the positions of science and religion. He warned the Phi Beta Kappa chapter at Amherst that:

"The study of the physical sciences excludes the mind from the highest and most pressing questions that concern man as an immortal being..... The spirit is hopelessly dwarfed on which these shackles have once been fastened."

In contrast, studies such as religion, history, and poetry "keep the soul in constant, inspiring contact with the deepest springs of action."

There is nothing unconventional about the placing of religion above science. What is noteworthy is the complete separation of the two, each with its own purpose. Science no longer illustrates the truth of the bible. Instead, Diman yokes it to the earth, in a modern restatement of the Christian's abhorrence of earthly things. He cites Darwin, an agnostic; Huxley, an agnostic who had been a Christian, and Herbert Spencer, "who does not even rise to the level of worshipping an unknown God" as examples of the dangers which can befall those who devote themselves exclusively to science. These three men were favorites of orthodox ministers who warned their congregations of the perils of modern science.

The college's desire to fight Darwinism with the tools of science themselves did not extend to explain his theories to the undergraduates. Instead, perhaps the closest example of the college's position was provided by the Rev. Dr. Enoch Fitch Burr, lecturer on the Scientific Evidences of Religion from 1868 to 1877. A graduate of Yale, Burr had studied science for six years. The acclaim which his book, Ecce Coelum, or Parish Awakening, received led to his appointment at Amherst. Burr relied chiefly on the old argument from design, citing "the wonder of a bird's wing" as evidence for God's existence. Evolution, in contrast, "crowded God out of the universe." Though cast in scientific language, (e.g., "the theistic hypothesis"), Burr actually argued from the assumption that Christian theism was "credible a priori," "perfectly sufficient," and "suited best to human convictions and traditions," thus treating historic conditioning as part of the essential nature of man.

Burr also argued ad hominem. No Christian could believe the theory of evolution because it was "founded by atheism, claimed by atheism, supported by atheism, and used exclusively in the interests of atheism." Evolution, in fact, was not a science; it was only a "speculation held by some scientific men."

Amherst received Burr favorably. The trustees thanked him for his "valuable and able course of lectures to the senior class." President Stearns termed them "conclusive in the argument attempted," and a newspaper, the Congregationalist, noted that they had been "most warmly received by both professors and students." When collected in a book, Patri Mundi, or Modern Science Testifying to the Heavenly Father, they were hailed by one temperate religious magazine as "a complete demolition of evolution from the standpoint of science."

Burr's orthodoxy represented the old Amherst. But Stearns, although as theologically conservative as Burr, was liberal in the latitude he allowed his faculty, who did not have to toe a prescribed mark. Of his teachers of science, Stearns said, "(we do not forbid him) to express his

doubts when he honestly misbelieves; we only demand of him that he should approach sacred subjects with a reverent spirit” Claude Fuess, college historian, concludes:

“Stearns had the wisdom to let his faculty go their separate ways, without trying to dictate their methods of instruction or to mitigate their minor heresies. Under him, the policy of academic freedom within certain wide limits was firmly established at Amherst.”

This freedom was important. It allowed the appointment in 1879 of Benjamin K. Emerson, Amherst 1865, as instructor of geology and zoology. Emerson was the first Amherst teacher to accept the theory of evolution; he was among the first who brought to his alma mater an influence that was to become increasingly important in American education: the German university.

German universities, through widespread use of innovations like the laboratory and seminar, emphasized research, objectivity, and analysis of data. Instead of building on conclusions that were generally accepted, it first investigated the grounds on which those conclusions had been reached. John W. Burgess, Amherst 1867 and later an instructor of political science at the college, describes the difference in the German philosophy and the Amherst philosophy of 1875:

“The Faculty regarded the college as a place for discipline, not research. To them the truth had already been found. It was contained in the Bible. Research implied doubt, and that there was good deal of truth yet to be found, and that truth already found was approximate and in continual need of revision and readjustment.... When research undertook to account for life and morality, then its hostility was recognized and its advance combated.”

President Stearns had already dissociated the ideals of German university from those of Amherst, which remained “to make men.” When Burgess attempted to introduce one feature of German education, a seminar in political science for graduate students, faculty interference caused him to leave Amherst for Columbia.

Emerson, who had studied for three years under Ernst Haeckel, remained at Amherst until his retirement in 1879, becoming one of its most beloved faculty members. Described by Burgess as “rely the founder of modern science and modern scientific study at Amherst College,” Emerson frankly based his courses on extensive laboratory work and the Darwinian hypothesis. From LeDuc’s description of his approach, he evidently treated science as independent of religion. Yet there was no attempt to remove him from the faculty. Evidently he did not explain Darwinism explicitly in class, and he is circumspect in describing his position on the matter.

That Emerson, representative of the new, existence at Amherst (though perhaps tenuously; Burgess says he was “regarded as being theologically unsound”) at the same time as Enoch Burr demonstrates the fundamental tolerance that the college displayed in 1870. It was such that W.S. Tyler, in his history, could praise both the popular lectures of Burr and the “signal ability” of Emerson. While Tyler would no doubt abhor that thought that Darwinism might become generally accepted at Amherst, with Emerson the hole had been made in the dike.

In 1873, Louis Agassiz, the famous biologist who had been Darwin’s most skillful opponent in America, died. His death left the anti-evolutionist scientists without a major leader, as Asa Gray and other naturalists championed Darwin’s theory. By 1880, Darwinists held respected positions at Yale, Princeton, and Brown, and Harvard’s naturalists were unanimously

evolutionists. Amherst's religious tradition kept conservative forces dominant there, but Darwinists like Emerson had infiltrated, and as the debate over evolution raged throughout the intellectual and theological world, it was bound to affect students at Amherst as well. The period from about 1875 to 1885 was that of the greatest controversy over Darwin; at the end of it, the trend towards acceptance of evolution could be seen.

The conflict can be seen most clearly in President Julius H. Seelye, who served from 1876 to 1890. Seelye, Amherst class of 1849, had been professor of moral philosophy here as well as having served in Congress. An evangelist, Seelye was firmly in the tradition of piety as the aim of the college. He said to the Board of Trustees:

“The moral results of an education are its most important issue.... All the influence of the college should conspire first of all to make the student pure and upright.”

At the same time, Seelye recognized the importance that science would play in the modern world. He advised a ministerial student to take chemistry instead of Hebrew because:

“Advances in chemistry will revolutionize the science and will enter into the industrial life of the world. If you do not take chemistry, you will not understand the most important developments in science in the history of the world.”

Seelye, a doctrinaire theologian, had studied for three years at the German university at Halle, famed for its theological program. Enthusiastic about German methods, he encouraged Amherst graduates to study there and engaged enough German-trained personnel to comprise one third of the faculty in 1863. Later the proportion became even higher.

The impact of German academic freedom must have been strong in Seelye. Twice in Seelye's presidency we see a conflict between it and the dogma to which Seelye subscribed so faithfully. The conflict comes out in Seelye's attitude toward the teaching of Darwin at Amherst.

Seelye's own position on Darwin was certain. He had gained a reputation in 1872 when he published a “Criticism of the Development Hypothesis,” which was reprinted in 1888. Seelye's objections were based not on his own Calvinist conditioning as much as on lack of scientific evidence. He argued that no transmutation of the species had ever been observed. Like Henry Adams, he pointed to animals which had existed unchanged since the beginning of record. How, he wondered, could so weak an organism as a coral survive, and survive unchanged, through the ages if Darwin's hypothesis were correct? He pointed to the tentative phrases which Darwin used to introduce his conclusions (such as “I see no difficulty in supposing” and “It is conceivable”) as evidence that Darwin had not proved his theory definitely.

His second set of arguments was in reply to Darwin's The Descent of Man, which had appeared in 1871. Gradation between man and monkey did not imply that man had developed from the monkey, said Seelye. More important, man has a spiritual endowment of which the monkey shows not the slightest trace. “Was ever a temple found within the monkey?”

With Plato, Seelye stated that a world of immutable truth, not dependent on man, implies an eternal thinker. From Aristotle, he argued that the existence of a visible world implies a Creator and Creation. All these arguments assume some higher power, not necessarily the Christian God. Seelye's clinching argument, though, is based on his faith and the assumption of a Christian world: “The most important fact in human history, as probably none would deny, is the appearance of Jesus Christ among men.” No theory of evolution can explain this. Seelye's criticism, then shows two strands, an objection to Darwin's explanation on scientific grounds and

a rebuttal to those who use evolution to deny the necessity of a god.

This was the staunch anti-evolution position which Seelye brought to the presidency. Yet he in no way interfered with Emerson or the substance of his courses. The conflict between them came in 1878, when Emerson agreed to give a series of lectures on evolution. The students themselves had conceived the idea for the talks, since evolution was fully explained nowhere at Amherst. (The sentence one of them uses, "Many of us signed the petition for light," indicates the ignorance undergraduates felt on the subject; significantly, the phrase "for light" is reminiscent of the light which converts to Christianity were said to have seen.) But these lectures were more than Seelye could allow. At the next faculty meeting, he said:

"Gentlemen -- to speak of Evolution -- the Department of Psychology and Philosophy feels perfectly competent to handle this subject -- and will thank all other Departments to keep their hands off."

With this statement, Seelye disavowed the legitimacy of the Darwinian hypothesis and its place in the Amherst curriculum. The tolerance by which two historians characterize Seelye is subordinated arbitrarily to the dogma which is the foundation of both Seelye's life and Amherst's history. The position of Seelye's own department prevailed.

But the debate was too ubiquitous to be kept out of Amherst, and Seelye himself inadvertently furnished fuel for it. A student explains:

"In our class in Hickok's Empirical Philosophy, Seelye had us all get a special treatise of Anti-Evolution. On the back were ads for Evolution books, which we sent for and read, so that the majority of '79 became better informed evolutionists."

What Seelye perhaps objected to in Emerson's approach to science was the geologist's separation of it and religion. Seelye himself, in an often-repeated address, stated, "The facts of nature are dead unless vivified and expounded by spiritual principles." In a letter to a graduate student in Germany who was preparing to teach biology at Amherst, Seelye reiterated:

"A comprehensive view of nature can never be obtained... (unless it be clearly discerned as) an absolutely dependent product of an absolutely independent and spiritual Creator. I know that you see this truth, and I trust... it will not be wanting from your instructions."

The man to whom he wrote was John Mason Tyler, Amherst class of 1873 and the son of Prof. W.S. Tyler. J.M. Tyler, known as "Tip" to hundreds of Amherst students, exemplifies the viewpoint of men who grew up while Darwin was being read and discussed and whose reaction to it was therefore less shocked and angered than was that of men whose views had been formed before Darwin was published. Befitting the son of W.S. Tyler, "Tip" was strongly Christian, evangelically so. But he had also been influenced by his teacher Emerson, who had strengthened Tip's own love of science. After spending two years at Union Theological Seminary, in response to his father's wish that he become a minister, he convinced W.S. Tyler to send him abroad, where he studied science, based on the acceptance of evolution. At Amherst, Tyler eminently fulfilled Seelye's dictum that biology be taught so as to glorify God. He was the first professor at the college to reconcile Christianity and The Origin of Species, and in the process demonstrated that a Darwinist could also be a Christian. One alumnus wrote, "I do not know any man who was more truly religious." Another commented, "After knowing him, the Christian religion ceased to be a speculative problem. There it was, visible, demonstrable."

A historian of biology at Amherst divides the first hundred years into the early, or

pre-Tylerian phase, characterized by textbooks and lectures, and the modern era, which depended on lab work. In his lectures, however, Tyler joined the old view of religion and his new acceptance of evolution.

Tyler, with almost missionary zeal, taught the facts and laws of evolution as essential elements in the culture of every educated man, and even as moral lessons without which the interpretation of life was incomplete.

No animal was so lowly that its history did not afford him a sermon applicable to life.

Tyler published two books, Man in the Light of Evolution and The Whence and Wherefore of Man, which not at all self-consciously included chapters on the Bible and faith and which exemplified the modern reconciliation of science and religion:

The idea of origin by birth from some preceding form, and this is the essential idea of evolution, was perfectly natural and reasonable to all the writers of the Bible.

He reversed the 19<sup>th</sup> century viewpoint on the immutability of species by labeling it “stagnant.”

The power of the Creator is equally demanded in both (the Biblical and evolutionary views of creation); only it is differently distributed. And evolution is the very highest proof of the wisdom and skill of our Creator.

Although Tyler’s course drew increasing numbers of students, and though the professor taught Darwin’s “epic of creation as his father taught the Iliad and the Odyssey,” Seelye’s attitude toward the course remained inconsistent. He in no way attempted to dictate to Tyler, and Emerson at one point admitted, “The old man lets us alone.” But in December 1879, in reply to a poll of the newspaper Observer on whether evolution was taught at Amherst, Seelye declared,

This college does not teach groundless guesses for ascertained truths of science. So long as the notion that man is evolved from the monkey or from any irrational animal has not a single fact to rest upon and is in flat contradiction to all the facts of history, I think we may leave it with the sciolists.

While the answer appears to deny flatly that evolution was here, there is such disparity between it and the methods of Tyler and Emerson that closer examination is necessary. Perhaps Seelye meant to emphasize that though evolution was presented, it was only as a hypothesis, not as a fact. His statement is in any case ambiguous enough to reflect Seelye’s ambivalence over whether Darwin should be taught at all.

Although Tyler had shown that a Darwinist and a Christian could be combined in one person, many students, either fearing the example of agnostics Huxley and Darwin, or unconvinced by scientific evidence, did not accept Darwinism. Although secularizing trends of the 1860s had become more notable, the religious atmosphere still prevailed. One alumnus, A.L. Gillette, class of 1880, noted it. A revival took place while he was in college, and the faculty were all apparently sympathetic to it. Alumni wrote of the great influence of President Seelye on the undergraduates, comparing him to Zeus and the Arc de Triomphe. Seelye’s personal opposition to Darwinism was perhaps also transmitted to his students.

But Emerson and Tyler had their followers also; the personal impact of those and other famous Amherst professors of that day was enormous. The two sides debated evolution

strenuously in the early 1880s. Fortunately the STUDENT (the student newspaper) had become less guarded by that time, so we can gauge undergraduate thought. In 1882, by which time Tyler was allowed to give special lectures on evolution, the newspaper said:

The theory of evolution is a subject of which no intelligent man should be ignorant. It is one of the greatest problems of the day and is engrossing the attention of the scientific world's greatest minds. These Saturday evening lectures were very much enjoyed by the last senior class, and Prof. Tyler is kindly repeating them. The full attendance and increased attention show clearly in which spirit they are received by the class.

We see here a willingness to accept Darwinism or at least a willingness to accept its importance. The necessity of learning the opposing point of view which this quotation also implies shows Amherst's openmindedness at this time. A similar quotation appeared in the STUDENT in 1884. Other evidences of debate include a reference to class day debates on evolution and, in the OLIO of 1883, to a commencement address on the subject. Since the texts of these debates have not been preserved, we do not know on what grounds students based their arguments. Anti-evolutionists may have used Paley's Evidence of Christianity, which preached belief in miracles and used the argument from design. This book was read in a required course that existed at Amherst until 1886, when the teacher of the course retired.

The course was taken over by Professor of Mental and Moral Philosophy Charles W. Garman, widely acknowledged as the greatest teacher Amherst ever had. A firm believer in physical evolution, Garman qualified his belief by dissociating that from mental and moral evolution, analogies to Darwin that were becoming widespread.

[Darwin's] law of brain path evolution starts from the lowest beginnings and through accidental variation reaches the higher level. Hallock states the law of mental evolution; it works from above downward. It may be illustrated by religion. Christianity is God becoming man and not man gradually lifting himself up to the divine level through natural selection.

This helped to answer a question which had been plaguing Christians especially since The Descent of Man. They wondered what man's place was in an ever-evolving universe; is man really the end of the evolutionary process? Garman, a firm Christian, joined other theologians in setting man apart from other organisms through his mental and spiritual capacity.

Garman's course is important at Amherst because it questioned his students' assumptions about the nature of God, man, and the universe, forcing them to evaluate their values before synthesizing their ideas. In this he differed totally from Seelye's doctrinaire approach, summarized by the President's dictum, "Give them the light first." A student summarizes the difference:

I entered Amherst College in 1881 when the turn was coming in President Seelye's pre-eminence as a teacher. The class of 1882 suspected that Garman might have a new message.... Seelye and Garman divided the year of philosophy, Seelye still speaking ex cathedra and Garman presenting nothing with authority and giving us the idea that we were sharers in the new day. Seelye's moral philosophy was the least satisfactory because of his fundamental positions from which he never varies.

To the increasing number of students who did not begin with Seelye's Calvinist position, the President became largely irrelevant. "He was not a success in helping the students

understand meet the new problems which arose from the work of Darwin and Spencer, for in the sureness of his position he entertained no 'if's,' " wrote one. Another commented that Seelye's influence was limited to the truly religious students.

The emphasis in religion was moving from concern with individual salvation to social gospel. Amherst moved this way also: President Seelye, for example, defended five teachers at Andover Theological Seminary who had advocated the Social Gospel against charges of heresy. With this change in religious direction, Darwinism could hardly continue to be a significant controversy. Even Amherst students had made the transition from believing religion was evangelical and dogmatic to regarding it as a personal choice.

While my classmates were losing their religion under Garman (writes one), under Seelye and Garman I came into a perfectly normal, healthy, modern view of religion that was utterly different from the old people at home.

Attempts at revivals in the 1890s had little success because students' concerns were directed elsewhere.

They are still attempting to have revival services.... President Gates urged me to take a more active part in the meetings. "Let your studies take a second place during the next week or so." BUT I GUESS NOT.

In this atmosphere, religion, the source of traditional opposition to Darwinism, had little chance to discourage belief in a theory that had gained almost universal acceptance. Although it was said shortly before President Seelye resigned that the principal task of his successor would be to reconcile science and religion, there is no evidence of any attempt to discredit Darwin in the 1890s at Amherst.

What event marks the end of opposition to Darwinism? As I have tried to show, the acceptance of Darwinism at Amherst was gradual. Education is a slow process, and it took time for individual professors to bring evolution to Amherst, then more time for their students to accept it; the college did not conduct mass conversions to Darwinism. Perhaps the closest example of official recognition of it took place in 1896, when a course was added to the biology curriculum in "The Evolution of the Animal Kingdom," which, according to the catalog, "traces, as far as possible, the line of evolution leading from the protozoan to man."

Before beginning this paper, I knew what its beginning and end would be, that Amherst, initially hostile to Darwin's theory, would in time accept it. I was searching for the middle, the steps by which the college moved toward accepting Darwin, and how, and why, since these were detailed nowhere else. But by restricting this study to the college, I do not imply that Amherst's experiences can serve as an archetype for America as a whole, or even part of it, although the broad outline was the same. Amherst, as the college brochure "This Is Amherst" is fond of describing, is a small, liberal arts college in a small New England town, with an unusually influential religious and intellectual background. The factors at work here were either different or had a different degree of importance from those at work elsewhere.

Probably the most notable trend in America in the period from the Civil War in 1900 was urbanization and industrialization, with a corresponding movement from a religious to a secular culture. But the first affected Amherst College only indirectly, in the changing backgrounds of her students and an awareness of the problems that urbanization and industrialization brought. By studying a place where purposes and environment remained largely the same, we can better examine the importance of one factor, Darwinism, which Charles Garman in 1903 termed the most influential agent in causing the secularization of the country.

The college brought to Darwinism an intellectual tradition and policy of academic freedom which, although subordinate to concern for religion, were rarely threatened by it. Thus Darwinism was never dismissed out of hand as heretical and therefore undiscussable. Opponents of Darwinism did use logical arguments against it (arguments that were logical according to opponents' premises). Amherst had to remain an open-minded school for this to occur.

The debate necessarily strengthened the prestige of science, since Hitchcock, Stearns, and later attackers recognized the need to argue using the scientists' own tools. As Darwinism became accepted, the respect which science had been accorded increased. Science became a new way of answering questions which had previously been asked of religion. Two bases of authority existed, instead of the one which had dominated Amherst since its founding. We see in this the move from unity to multiplicity which for Henry Adams characterized the 19<sup>th</sup> century. The trend was emphasized by the nature of Darwinism, which placed man not at the top of an ordered, designed world but somewhere in the middle of a changing, evolving world. The certainty which man had had about his place in the world was lost; the confidence he had had in the theology which had ordered his life degenerated; conclusions he had accepted were questioned, and new explanations were substituted.

Darwinism was certainly not the sole cause of secularization at Amherst. The college could have fallen back on the reconciliation offered by J.W. Tyler if it were not for other forces at work on the students and faculty. But Darwinism was important at Amherst in one fundamental way: for the first time in its history, the college was forced to accept a theory it had opposed strenuously, which its leaders had not encouraged, which had been discussed surreptitiously at first, and on which the college had to change its policy to fit prevailing opinion instead of dictating what that opinion should be.

After Darwinism, the college could not take a position on what was the absolute truth. By this change from the certainty of 1821 to the questioning of 1900, Amherst College moved into the modern era.