Only in the latter part of the nineteenth century did the colleges and universities of the country begin to assume forms that are at all recognizable today.... The determination to make available a higher education in America no less distinguished than any in Europe provided some of the impulse for reform; there was, however, much that was indigenous to the country itself that did not depend on European example. Major steps were taken to provide for the education of women; important measures were elaborated for the education of the newly-liberated blacks; curricula were largely transformed, losing their earlier bias in favor of the classics and gaining new emphases, sometimes practical or technological; a whole system of instruction, recitation, and examination, characteristic of pre-Civil War days, was gradually obliterated.

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American Academy of Arts and Sciences
The Assembly on University Goals and Governance
Martin Meyerson, Chairman
Stephen R. Graubard, Director of Studies
Charles Janeway Stillé (1819–1899)
Student caricature as the University peacock in The Record, 1880
Graduate of the Academy, A.B. Yale (1839), professor of belles-lettres and English literature at the University of Pennsylvania and provost (1868–1880). Called the "Moses of the Exodus" to West Philadelphia. During his tenure, the University established the dental and Towne schools, adopted the elective system, and admitted its first women students. Opinionated and proud—qualities which were evidently recognized by his students—Stillé was limited in power by the structure of the University, but many of his proposals were implemented by his successor, William Pepper.
Charles Janeway Stillé and William Pepper: Creating the Modern University

The period around 1870 has been described as “almost the ‘Anno Domini of educational history’ in the United States.” After the Civil War, the colleges found themselves in a precarious plight financially, with traditional education increasingly coming to be regarded as superfluous by growing numbers of practical, self-made men. By the turn of the century, however, the transformation which had taken place “made the former college seem like a boys’ school in contrast.” The University of Pennsylvania did not benefit from the Morrill Act of 1862 by which the federal government granted aid to states for the provision of instruction in agriculture and the mechanical skills. But the forces of change were clearly at work during the last third of the nineteenth century at the small private institution in Philadelphia. Between 1868, when Charles Stillé became provost, through the tenure of William Pepper and his classmate Charles C. Harrison, the progress of the university movement in the United States was reflected at the University of Pennsylvania in the reforms, the expansion, and the physical growth of the campus in its new location west of the Schuylkill.

There had been attempts earlier in the century to introduce graduate studies at American colleges as educators looked to Germany for examples of research-oriented institutions catering to advanced students. There were, however, strong feelings about the attempt to “‘Germanize’ our American colleges.” At the University of Pennsylvania, the response to proposals put forward by Bishop Alonzo Potter, a trustee who had been a professor at Union College, epitomizes the opposition in the country at large. The argument used to counter his demands in 1852 for a more distinctive course of education for mature students at the college level was typical of those being heard at other institutions: that there was no present demand for any expansion in higher education. At the University of Pennsylvania opposition came from Henry Vethake, the mathematician who was to become provost in 1854. One of the first political economists in the United States, he had been a zealous reformer in his youth. At the age of sixty, however, he took the view that the average American expected to be earning a comfortable living as head of a family by his middle twenties, not occupying a subordinate position as a student. It was a mistake, he

William Pepper (1843–1898)

Student caricature,
The Record, 1883
Lecturer on morbid anatomy, professor first of clinical medicine and then of theory and practice of medicine (1868–1894), provost of the University (1880–1894) where he had been educated (A.B. 1862, M.D. 1864). Pepper instituted curricular reforms, encouraged new academic programs, and secured lands and funds for expansion. One of the forces behind the first university-owned teaching hospital in the country as well as a founder of the University Museum, he continued his research and practice in medicine throughout his career as an administrator and was prominent in medical circles in this country and abroad.
declared, "to think men want to be taught literature or science." Another professor, George Allen, later helped Stillé extend the curriculum by finding instructors in modern languages, but he also opposed what he saw as a transplanting of a European plan of education to America. "It is not unreasonable to presume," he declared, "that if we are ever to have an American University, it must be the development and modification of the American College—it must be a supply, naturally shaping itself to meet a real (and not factitious) demand."

To these objections was added the very real problem of lack of endowment at the time of the attempted reforms. Although his proposal was shelved, Bishop Potter made a contribution to the future of graduate education in the United States by adopting a position somewhere between those men who rejected such education on the grounds that there was no demand for it and those who ignored this lack as a matter of no account. In Potter’s view, the demand could and should be deliberately stimulated by inducements such as prizes and other distinctions. With his moderate opinion he paved the way for developments in the future when men of influence came to recognize that the time was right to promote education on a graduate level.

At a later date, the ideas and efforts of Charles Janeway Stillé similarly provided the impetus for the reforms of his successor, William Pepper. Moreover, if the West Philadelphia campus assumed its recognizably modern form under Charles C. Harrison, this was possible because of the earlier provost’s decision to relocate the institution. In general, however, Stillé tends to be overshadowed by the more obvious successes of the men who followed him. In light of the changes taking place in higher education in the last decades of the nineteenth century, Stillé should receive credit for being the first provost at the University of Pennsylvania to take an accurate reading of the times.

Writing of William Pepper who figures so prominently in any account of the expanding University, Sir William Osler gives a detailed account of the activities of his friend and colleague. Without actually mentioning him, Osler may also have had Stillé in mind as the reformer of the contrary type who provides something of a foil for the portrait of Pepper.

There are two great types of leaders: one, the great reformer, the dreamer of dreams—with aspirations completely in the van of his generation—lives often in wrath and disputations, passes through fiery ordeals, is misunderstood, and too often despised and rejected by his generation. The other, a very different type, is the leader who sees ahead of his generation, but who has the sense to walk and work in it. While not such a potent element in progress, he lives a happier life, and is more likely to see the fulfillment of his plans. Of this latter type the late Professor of Medicine at the University of Pennsylvania was a notable example—the most notable the profession of this country has offered to the world.
Pepper appears in Osler's account as the shrewd pragmatist, a "modern Machiavelli" to some sedate Philadelphians. Although not named by Osler, Stillé might be gratified to be cast in the role of the other leader—the man of vision more than a little responsible for the laurels of his successor.

When Charles Stille was elected professor of English and belles-lettres at the University in 1866, he had no experience as a teacher. A graduate of the Philadelphia Academy, he had studied at Yale and belonged to a well-established family which gave him ready access through its bonds and friendships to the trustees responsible for the governance of the University. During his years as a professor, followed by his appointment as provost in 1870, Stillé became aware that the board members who gathered at the sparsely attended monthly meetings resembled nothing so much as a body without a head. These men came to their position by virtue of family and social status, and most of them had little appreciation for the function of a university and small interest, Stillé thought, in furthering its ends. They nonetheless had absolute control over all the activities of the University, including the teaching programs, for which faculty opinion was not even consulted.

In a letter explaining his resignation in 1880, Stillé spelled out what he saw as the absurdity of the situation. "As well might you look for advice worth taking on matters of Banking and Insurance from our Professors," he complained, "as to suppose that the members of the Board could manage intelligently the details of our University work over which they now have full power." The provost himself had practically none. He was nominal head of only the faculty of arts while the departments of medicine and law were autonomous; he had no right to attend board meetings and, when he did make an appearance before the governing body for the purpose of imparting essential information to them, Stillé notes his anomalous position as "that strange nondescript, in college organization, 'an organ of communication.'" 7

Much pain and disillusion might have been avoided had Stillé been satisfied with the inertia of his predecessors. But he was not prepared to accept the answers he had received when, as a newly elected professor, he had questioned several prominent men about the role of the University. The Reverend Daniel R. Goodwin, who preceded him as provost, had assured him "that there were in this city about one hundred young men who were disposed to avail themselves of the opportunity of getting a College education." Goodwin seemed perfectly satisfied with the existing state of affairs and his accompanying prognosis that the number was unlikely to increase. The professor of English literature, Henry Coppée, whose departure to become president of Lehigh University had resulted in Stillé's first appointment, explained the stagnation at the University of Pennsylvania by informing the new young professor of the indifference of
the board to educational reforms and their lack of sympathy with any initiative stemming from the faculty. In what Stillé held, throughout his administrative tenure, to be its major function, the board was also a signal failure. "For more than eighty years previous to my election," writes Stillé, "it had received but one donation or legacy . . . the income of which was to be devoted to and in the instruction of drawing, an instruction, by the way, then not given in the university."8

In 1868, Provost Goodwin was forced to retire from the position in which he had served part time throughout the Civil War while also holding a chair at the Philadelphia Divinity School, an Episcopal institution unconnected with the nonsectarian university. Despite all warnings about the attitude of many trustees, Stillé viewed his election to succeed Goodwin as a vote in favor of reform. The elective system introduced by President Eliot at Harvard had been instituted at the University of Pennsylvania with good response from the students. Entering the perennial debate between ancient as opposed to modern languages on the side of Benjamin Franklin, Stillé engaged in procuring instructors in German, French, Spanish, and Italian, while using his personal influence to begin raising an endowment fund. He had already initiated the move which would lead to the foundation of a scientific school.

Immediately after becoming provost, Stillé proposed to the board that his position should be vested with actual executive power. The title he held was nominal, and since all other successful institutions were governed through a presidency, Stillé felt that precedent as well as common sense favored his suggestion that the provost should become ex officio chairman of the board of trustees and head of the other faculties of the University. When inaction by the board forced him to renew his appeal, he won the support of a committee appointed to consider his position. The motion was defeated, however, because of strong opposition from the medical faculty who feared that a legacy promised by a retiring physician would be jeopardized by any change in governance. When it came, the legacy in question amounted, in Stillé’s account, to "a remote interest in a cranberry patch in Jersey."9

With the move of the campus to West Philadelphia in 1872, Stillé found himself faced with animosity or indifference on the part of the city and of some members of the University community as well. There had been much opposition to the University’s original plan to acquire land on the Blockley Farm from the city at a nominal sum. In the final event, the University received less land at far greater cost than anticipated. Even so, the transferral was marked by suspicions on the part of men "utterly incapable of comprehending the grandeur of the scheme," who feared that selfish motivation was involved in the transaction. John Welsh, chief among the few trustees who actively engaged in fund-raising, appointed United States minister to Great Britain in 1877. On his return, he was
greatly surprised to learn that the money had not been raised during his absence to pay for the new buildings which had been constructed on the west bank of the Schuylkill. Through his exertions, the University's property at Ninth and Chestnut Streets was sold to the U.S. government for its post office, and it became possible to complete the buildings without further loans. The lack of endowment remained a problem, however, and the debts of the University continued to grow at an alarming rate.10

It was not the financial trials of the University which finally led to Charles Stillé's resignation in 1880. In an exercise of power which, in Stillé's opinion reduced the gentlemen of the faculty to mere "employees," the board overrode the faculty in a disciplinary question. Stillé felt that this action clearly represented a reversal of the provisions of the University's charter although the trustees chose not to understand that he was protesting an action of theirs. In his memoir, Reminiscences of a Provost, he later spelled out the causes for his dissatisfaction which, he believed, proceeded from the anomalous organization unique to the University of Pennsylvania, where there was no president or head executive and the trustees were either not involved at all or were engaged in endless detail.

Stillé's case is somewhat weakened by historian Edward Potts Cheyney, who draws upon his personal recollections of him, "white and glowering with anger at disorder in the college chapel." If Stillé points to the way the trustees tended to side with their relatives in the student body against the faculty, Cheyney detracts from the provost's position of righteous administrative anger by relating the rather minor act of insubordination at the root of "the Price case." He elaborates on the disciplinary problem and prints "the piece of doggerel which, sung in the basement of College Hall and overheard by the Provost, put Provost, College Faculty, and Trustees, by the ears and caused the expulsion of the composer:

Pomp and Stillé had a fight.
They fit all day and they fit all night,
And in the morning they were seen
A rollin' down the bowlin' green."11

Stillé's supposed adversary, Pomp, was the attractive steward of College Hall for many years. The composer and culprit, Eli K. Price, Jr., was the grandson of a trustee and went on to obtain the A.B., the LL.B., as well as a gift for the University from his family. He finally became a trustee on his own account.

Stillé was disappointed in some of his greatest hopes for the University, but he still saw his period of tenure as "the most important era in the annals of the University of Pennsylvania." The University had come a long way from its somnolent posture between the Civil War and the American Centennial, and his own contributions were considerable. He oversaw the removal of the campus to its present location, and during the
time that he was provost the first important benefactions were made to the University. The department of arts was reorganized, women were admitted to some of the lecture courses, and scholarships for students from Philadelphia were established in return for land given to the University of Pennsylvania by the city. A new scientific school was instituted, and the department of music and the school of dentistry were organized. These were tremendous achievements considering that, at the time Stillé became provost, "the course of study in the College Department was substantially that which had been introduced by Dr. Smith into the old College of Philadelphia in 1755." 12

The gains of his administration were the harbingers of further advances which would occur after he was succeeded by William Pepper. Towards the end of his memoir, Stillé points out that the formal adoption by the trustees of the improvements he had sought "was made by my successor an indispensable condition of his accepting the office of provost." 13 Indeed, the new provost's situation was facilitated by his success in gaining from the board of trustees all those prerogatives which, although "more or less an obsession with him," Stillé had not been granted. 14 As Stillé notes, the board "found no difficulty in providing by a simple by-law of the corporation in January, 1881, that 'the Provost shall be President pro tempore of the Board of Trustees, shall preside at the meetings, etc., appoint all committees, and generally perform all other duties which pertain to the powers and duties of a presiding officer.'" 15

Entertaining bold ambitions for the University he loved, Charles Janeway Stillé accomplished much but resigned because of his lack of true power and the seemingly insuperable indifference he faced in his attempts at reform. To carry on his work, a special kind of successor was necessary. As Horace H. Furness, the eminent Shakespearean scholar, rhetorically inquired: "Do you think such Provosts are as plenty as blackberries?" 16 The man who succeeded Stillé brought energy and determination to a situation which existed because the former provost had paved the way.

In reviewing the role which individuals have taken in the founding and reorganization of America's older colleges and universities, a former president of Western Reserve University remarks that no name is more significant in the shaping of a modern institution of higher learning than that of William Pepper. In another passage William Pepper is described as "the first really great university president [sic] of the land." The man who held the title of provost from 1881 to 1894 is quoted as saying: "After the days of Benjamin Franklin the University went to sleep. It slept in peace till I came one hundred years after. When I came it woke up and there was trouble—and there has been trouble ever since." 17

The name "William Pepper" was prominently associated with the University for many years, and the provost was the second of three
generations of the same name to serve the institution. In 1884, during his term as provost, he succeeded to the historic chair of theory and practice of medicine which had been held until 1864 by his father. Only shortly before his death, the first William Pepper had signed the medical diploma of his son, who, as provost, signed that of William Pepper III, professor of medicine and dean of the school of medicine for 33 years. He, in turn, signed the diploma of his son, D. Sergeant Pepper, who became a trustee. Not only were the Peppers famous in Philadelphia as a family of physicians: the provost's grandfather had been one of the richest entrepreneurs of the city in the early nineteenth century. In addition, his wife was descended from Franklin.

William Pepper exerted his energies in an effort to develop a university which could consider itself a fitting inheritor of the dreams of Benjamin Franklin. He used his professional and social weight to further his plans: eloquent in expressing ideals for higher education, he also persevered in searching out what Furness describes as “the exact location in every rich man's body of the pocket-book nerve... so as to excite the largest reflex action.” In benefactions to the University, William Pepper took the lead, making liberal donations out of his own pocket. He refused remuneration for his services as professor and provost and, in a letter to the board of trustees, dated December 1887, he writes: “I have scrupulously returned to your Treasury all and more than all that I have received either for teaching or for administration.” His ceaseless activity is epitomized in the anecdote about the four-year-old boy at a holiday resort who disturbed the sleep of all the staid Philadelphians by “marching down the hall, armed with two sticks, and alternately beating on the doors and shouting at the top of his lungs: 'No one shall sleep in this house this afternoon, I say, if I can help it!' It was William Pepper. Fifty years later the story was told to some friends, one of whom added: 'And no one has slept in Philadelphia for years because of that same William Pepper.'

Even before he became provost, Pepper had demonstrated his organizational acumen in a variety of ways. Chief among these was his role in establishing at the University of Pennsylvania the first hospital in the United States owned and operated by a university. The part he played while still a member of the medical faculty already indicated the devotion to his goals which would be characteristic of his career as provost. At the time when the idea of relocating the University campus to West Philadelphia had first come up, one of the principal objections to such a move had been the distance which would then separate the medical department from the Pennsylvania Hospital where the clinical lectures and demonstrations had always been given to students. In addition, Children's, Episcopal, Howard, and Wills Eye hospitals were all located in the east of the city. While the Philadelphia Hospital, formerly the Almshouse, was situated in Blockley Township to the west, instruction
Kenijiro Matsumoto (1870–1963)
President for many years of the University of Pennsylvania Alumni Association of Japan (1936–63), Matsumoto was a member of the Wharton School class of 1895. Born in Fukuoka, he returned home to head the Japanese Coal Mining Association. He was a member of the House of Peers, a director of the Meiji Technical College in Kyushu, and an owner of the Meiji Coal Mining Corporation. In 1930, he returned to the University for the fourth time and received from his classmate Owen J. Roberts a prize as the alumnus who had traveled the longest distance. He was awarded an honorary LL.D. by the University (1956).

there had more than once been ended as a result of political and personal dissension.

When the University purchased the land of the Almshouse farm in West Philadelphia, a proposal to build a hospital attached to the school of medicine became a serious consideration. The idea was unprecedented in the United States, and it was soon taken up by a trio of enthusiastic young graduates of the medical school with William Pepper the most vocal supporter of the plan. He had previously praised the medical department for having "the best and most complete system of dispensing clinical teaching in connection with any school," a situation that he believed would be jeopardized in the approaching move from Ninth Street. Nonetheless, by the following year, Pepper was enthusiastically pushing the idea of building a hospital as part of the new campus.

When the Pennsylvania Constitutional Convention met in Philadelphia in January 1872, Pepper persuaded the University trustees to invite the legislature and the convention to a reception at the newly erected College Hall. This provided an occasion to win many prominent men to the cause of the hospital. It is interesting to note that Stille, who was still provost at the time, opposed the plan which he saw as a competing attempt to raise $500,000, a sum badly needed for the endowment fund for the University. From his point of view, the trustees' sanction of the hospital plan was another blow to his hope of improving the other departments of the University.

Before setting out to gain the support of local philanthropy, Pepper first made an investigation of the situation in Philadelphia with regard to hospital beds. In comparison with New York which had over 6,000 free beds for a population of 900,000—a ratio of one bed for 1,500 people—Philadelphia, the principal city of a state which was becoming increasingly industrialized, had only one free bed for every 7,000 people. A campaign was mounted to gain the support of the state legislature. As the result of much persuasion on the part of Pepper and his colleagues, the Assembly voted a grant of $100,000 on the condition that the University should raise matching funds. Within a few years similar petitions were made by other institutions; in fact, the University later failed to obtain continued financial aid, because so many had followed its successful tactic in appealing for Commonwealth funds.

After considerable discussion as to location, the trustees finally purchased additional land from the city on Spruce Street in West Philadelphia. When two years later, in 1874, the first buildings were dedicated at ceremonies presided over by the governor of Pennsylvania, the structure consisted of a central unit for staff and students and a ward for 146 patients, the first of three projected wings. This was but the beginning of various projects for providing the University with major new facilities, but Pepper's interest and support for his first undertaking
continued unabated after he became provost. In 1883, the Gibson wing for chronic disease was added to the Hospital as a result of a benefaction, and, in one of a number of bequests to the University, Pepper's relative, Henry Seybert, willed $60,000 to the Hospital.

Personal experience of disease and suffering was in part responsible for Pepper's own financial contributions, particularly the grant of $50,000 he made toward a laboratory of pathology. Both his father and a brother, who "wore themselves out in the service of humanity and science," had fallen victims to pulmonary consumption. Friends of Pepper's, among the most promising young men in the medical school, had succumbed early in life to chronic disease. "You cannot wonder," wrote Pepper in 1895 to a new director of the University Hospital, "that I registered a vow to do what I could to secure the erection and endowment of a special department of the University Hospital for chronic disease of the lungs and heart, and a laboratory of clinical medicine to promote original research into the causes and the nature of disease." The William Pepper Laboratory of Clinical Medicine was named for Provost Pepper's father, a distinguished physician who had trained under Pierre Louis in Paris. The great Frenchman had also influenced another graduate of the medical department, William Wood Gerhard, who, on his return from studying abroad, had ushered in a new era of medicine based on clinical observation in place of didactic reasoning. Before his death, the younger Pepper had the satisfaction of seeing his initial project of raising a three-quarter-million-dollar endowment for the Hospital far exceeded by the public response.

An early demonstration of Pepper's abilities had taken place when he served as medical director of the international exhibition held in Fairmount Park for the American Centennial. Alive to any advantage to be gained from the correct handling of circumstances of dignity and pomp, Pepper made the most of this and similar events which occurred during his term as provost. In 1788, after New Hampshire became the ninth state to ratify the Constitution, the Fourth of July celebrations had been organized by a member of the first graduating class of the College of Philadelphia, "Signer" Francis Hopkinson. One hundred years later, Pepper played a major role in planning the festivities. At his suggestion, the parade and industrial display originally devised by Hopkinson in honor of the promulgation of the Constitution were recreated.

Not least among Pepper's motivations for promoting the centennial was the important role which Philadelphia's learned institutions had played in 1788 and the prominent place occupied by the University on that occasion. The official ceremonies held in 1888 assembled some of the most influential persons of the nation in Philadelphia and lasted three days, closing at a banquet given by the seven learned societies of the city. Pepper presided at the final dinner held at the Academy of Music "with President Cleveland on his right and ex-President Hayes on his left." A few years later, he

Eadweard Muybridge (1830–1904)

Pioneer of motion pictures, born Edward James Muggeridge in Kingston-on-Thames, England, he photographed animals in motion, first on Leland Stanford's stud farm, then under a grant at the University of Pennsylvania (1884–1886) where he perfected a timing mechanism. The pictures taken with his zoopraxiscope were published in Animal Locomotion: An Electrophotographic Investigation of Consecutive Phases of Animal Movements (1872–1885), eleven volumes.
saw an occasion to make the centennial of the union of the College with the University of the State of Pennsylvania an opportunity for a fund-raising drive aimed at the alumni who, were thus prominently brought into University affairs for the first time.

Despite his work as administrator and fund-raiser, Provost Pepper nonetheless also remained a highly successful medical practitioner throughout his life. At the height of his career, it was not uncommon for a special train to take him to attend his more distinguished patients elsewhere in the country—his care of General Sheridan, for which he refused remuneration, being a case in point. He was equally concerned with a large clientele of poor people, and his former colleague at the medical school, Sir William Osler, illustrates his habitual sympathy for the individual sufferer by describing how Pepper sent a former patient to him at the Johns Hopkins with a handwritten letter of introduction.

Frequently, Pepper was able to use his professional position in the service of the University. In 1893, when Pepper was elected president of the Pan-American Medical Congress held in Washington, he took charge of the minutest details to insure that this significant event of medical cooperation in the Western hemisphere should be a success. And equally typical of his modus operandi was his care to reap benefits for the University at the same time. In a letter describing his busy time in Washington, Pepper expresses a hope of using his South American ties to secure artifacts for the University’s growing archaeological collection. In concluding, he notes that he is making arrangements to entertain the prominent members of the international community at the University: “We go to Philadelphia, where I will give all the foreign delegates a big time at the University. It may do some good.”

The changes that took place during William Pepper’s tenure continue to affect the University of Pennsylvania. At the time of his inauguration, for example, the new provost was able to announce a gift of $100,000 from Joseph Wharton for the endowment of a department of finance and economy, thus establishing the oldest collegiate school of business in the United States. Wharton had expressed the hope that education at the University in “the principles underlying successful business management and civil government would greatly aid in producing a class of men likely to become most useful members of society, whether in private or public life.” In Wharton’s opinion, these ends were not being satisfactorily served by the so-called commercial colleges of the day; his foresight is demonstrated by the fact that similar schools were subsequently established at other institutions, assuring the place of management education at universities and leading, later on, to the creation of graduate schools of business administration. Foreign students, always a presence at the University, were increasingly attracted by such new departures. A
prominent Japanese graduate who remained active in University affairs as the long-time president of the alumni association of Japan was Kenjiro Matsumoto, who attended the Wharton School in the class of 1895 as well as being awarded an honorary L.L.D. in 1956.

In another new departure, James McKean Cattell established a Psychological Laboratory in 1887. Based on the German model, it was the first of its kind in the United States. Under his successor, Lightner Witmer, the Psychological Clinic was opened. Reorganized in 1909, it was viewed with great interest by Edwin S. Slosson during his researches at that time for his book on the great American universities. The early scientific bias of the College and the prominence of its department of medicine made it almost a foregone conclusion that other professional schools would follow its example. Both the school of veterinary medicine and the dental school, which conferred their first degrees in 1887 and 1879 respectively, were recognized by Slosson as leaders in their fields.

William Pepper's opinion that a university should not only teach students but support scientific projects which could not be financed by individual investigators appears in a grant made to Eadweard Muybridge, the pioneer photographer whose pictures of moving animals gave technological impetus to the development of motion pictures. This somewhat eccentric investigator, who was born Edward Muggeridge in Kingston-on-Thames, set up his equipment—including an instrument which he called a "zoopraxiscope"—in temporary buildings on Thirty-sixth and Spruce Streets. He had first photographed horses on the Leland Stanford ranch in California and, in addition to making pictures of animals, at the University of Pennsylvania, he went on to study normal and abnormal movement in human models. The funds for his early publication, Animal Locomotion, were provided by contributions from individual professors and administrators at the University. The impact of his series of stills on realistic painting was immediate. More recently, individual studies by Muybridge have inspired some remarkable paintings by the English artist Francis Bacon.

The most important change which took place during Pepper's administration, however, was in the area of graduate education. Thirty years after the debate initiated by Bishop Potter, William Pepper expressed current opinion when he remarked: "As the development of the American University system progresses, more and more importance attaches to the needs of advanced students." The University of Pennsylvania occupied an important place in satisfying these needs, for "advanced students and original investigators must still repair to the older seats of learning, whose rich collections and large corps of special teachers offer the needed facilities." For this reason, Pepper was pleased to note the direction recently taken by the Towne Scientific School as the offspring of Stille's administration came to be called after an unexpected bequest from John
John Stephens Durham (1861–1919) Educated at the Institute for Colored Youth before attending the Towne School of the University of Pennsylvania (B.S. 1886; C.E. 1888). During his college career, he supported himself by teaching and as a reporter. He was associate editor of the Pennsylvania and, after graduation, worked as associate editor of the Philadelphia Evening Bulletin. Appointed United States consul to Santo Domingo (1890), he followed Frederick Douglass as minister to Haiti (1893). Admitted to the bar (1895), he returned to Santo Domingo to manage a sugar plantation and practiced law there and in Cuba, where he was appointed counsel for the Spanish War Claims Commission by President Theodore Roosevelt. A fellowship was established in his honor for "the deserving young of various race groups" (1910) a few years before he died in London.

Henry Towne in 1875. "It would seem destined," said Pepper, to develop as "a strictly graduate school, with courses of practical training during two years based on . . . scientific courses preparatory to the subsequent advanced professional studies."

Pepper made an early move to establish a faculty of philosophy where advanced students could pursue a course leading to the degree of doctor of philosophy. The same year, in 1882, recognizing the restrictions to further study imposed on all but the prosperous, Pepper urged that scholarships and fellowships should be provided. Before the year was up, he was able to announce the endowment of three scholarships named in honor of Benjamin Franklin. Higher standards in the department of philosophy soon followed as it became more organized and encompassed a larger variety of subjects. Although there was no provision for the admission of female undergraduates in the older faculties of the University, women were admitted to the Ph.D. program and they were also successful in gaining access to certain non-degree courses. The first black students attended the University in the 1880s, with Canadian-born Nathan F. Mossell graduating from the department of medicine in 1882 and John Stephens Durham, who succeeded Frederick Douglass as minister to Haiti, obtaining a B.S. from the Towne School in 1886 and a degree in civil engineering two years later. After postgraduate studies at St. Thomas’ Hospital in London, Mossell returned to Philadelphia where he founded the Frederick Douglass Memorial Hospital at Sixteenth and Lombard Streets. He was a founder of the Philadelphia branch of the NAACP along with W. E. B. DuBois who served on the staff of the University in 1896–97. Mossell’s brother, Aaron A. Mossell, received the LL.B. from the Law School in 1887. Forty years later his daughter, Sadie Tanner Mossell Alexander, already the first black woman in the country to receive a Ph.D. (Wharton School, 1921), became the first to receive a law degree at the University.

Pepper was deeply concerned with raising standards at the University. Aspects of University policy urgently in need of reform were admissions and the length of time that medical students were expected to attend courses before qualifying for a degree. Pepper increased the requirements for admission to the University in a step towards uniformity of policy with the leading institutions in the country. His efforts were consistent with the critical observations which he had made as early as 1877 when he delivered an address on “Higher Medical Education” at the inaugural lecture of the revised medical school course. On this occasion, he had compared the low standards required for admission to medical school in America unfavorably with those of all other lands—not merely the old aristocratic territories of Europe, but even such places as Australia, Mexico, and the republics of South America. He pointed out that, in all these countries, “a student of medicine must, unless he has a degree from some literary college or analogous institution, pass a preliminary examination.”

In the United States, a young man could enter the medical profession...
with the greatest of ease before the turn of the century. Small wonder, Pepper declared, that there was a glut of physicians. Even more of a disgrace, in his opinion, was the nominal period of required instruction. After he became provost, Pepper succeeded in extending the medical term from October to April, and later to a full year. But it was only in 1893 that he was able to announce a compulsory four-year curriculum for medical students, a reform he had urged since 1887. That year, at the opening of a medical complex in New York, he had commented scathingly on the perennial views currently being aired again on the relative merits of Greek and German in the ordinary college curriculum; meanwhile, precious little attention was being paid to “the minimum amount of instruction which may qualify us to take in charge the sacred lives of our fellow men.”

An immediate result of the greater stringency of entrance requirements was a falling off in the number of applicants at both the college and medical department. In 1884, fewer students applied to the department of arts because admission to courses leading to the degrees of bachelor of science or philosophy involved writing a sample of English and taking an examination in French and German. The reduction in enrollments in the medical department had been fearfully anticipated all along by the professors who still drew their salaries from student fees. For this reason, they had been particularly adamant in opposing the measures needed to raise standards.

One consequence of raising the age of admission to the University was a lessening of the disciplinary problems which had plagued institutions of higher learning throughout the nineteenth century. Pepper believed that the

The University of Pennsylvania Football Team, 1878–79
Played under Rugby rules, intercollegiate football began at the University of Pennsylvania in 1876. The 1878–1879 team is shown in the first surviving photograph of the early years in a long tradition.
introduction of organized sports had also played a role in improving behavior. The first intercollegiate football game was played in 1869, and the sport was introduced at the University of Pennsylvania in 1876. The department of physical culture at the University was organized in 1883. The lingering prejudice against sport as “too frivolous to merit consideration” was finally overcome and measures were taken to give recognition to successful athletic exploits. It had taken institutions of learning in the United States many years to accept the classical adage: *mens sana in corpore sano.* Ever the physician, Pepper encouraged the development of organized sport with his remarks on the nefarious effects on the health of too much study with too little exercise. In a newspaper of 1887, he is reported to have congratulated a champion high-jumper and commented that the young man in question “has distinguished himself by his University career, while he has won the championship of the world in one branch of athletic work.”

In other developments as well, Pepper’s administration fulfilled his expressed opinions on the extent and the quality of the offerings at an institution of higher learning. “The essence of a University,” he said, “is a breadth of view embodied in its organization which makes it keep in touch with all the intellectual needs of the people, an atmosphere of freedom which encourages individuality and original thought; and a richness of equipment in library and museum and laboratory which stimulates research and investigation.” The University Library had been built to fulfill a need recognized by Pepper, although the project ran into opposition from former Provost Stillé. A full-time librarian came to the staff in 1892, a date by which, with the organization of the Wistar Institute of Anatomy and Biology, a total of fifteen new departments, schools, and divisions had been added along with two libraries, several laboratories, and plans for a University Museum.

On William Pepper’s retirement as provost, Horace Furness drew a comparison between the University of 1894 and what had been there thirteen years earlier. Pepper had found a “sedate, conservative, respectable” University, “quiescent in the belief that the methods of education which were wholesome for the fathers must be wholesome and all-sufficient for the sons and grandsons.” Since then there had sprung up, in addition to the “modest quartette” of buildings which made up Stillé’s new campus, a library, an electrical laboratory, a biological building, and a home for nurses. Again, according to Furness, “we see a Veterinary Building with its long row of pathetic hospital stalls.” The Wistar Institute of Biology, the Hygienic Laboratory, and the Chemistry Laboratory, and, last but not least, Franklin Field (its stands to be built in the next century), attested to Pepper’s achievement.

One further structure bearing witness to the advancing times deserves comment although the central light and heat station was only incidentally
a product of the Pepper administration. In the description of Horatio C.
Wood: “All of the lecture rooms and laboratories are heated by steam, and
are thoroughly ventilated by currents of air forced into the rooms in such
a way as to avoid drafts.” This must have been an improvement particu­
larly pleasing to Pepper, who had suffered from the inadequacies in this
respect in College Hall. On one occasion he writes: “At [Matthew]
Arnold’s lecture a good instance of retributive justice was seen: the room
was very crowded, and there is absolutely no ventilation, the architect
having been stupid enough to neglect it utterly. One woman fainted, and I
learned afterwards it was the wife of the architect.” Even the provision
for illuminating the library designed by architect Frank Furness had become
obsolescent since, as Wood proudly goes on to note of the buildings, “they
are also brilliantly illuminated by electricity.”

If William Pepper regarded the creation at the University of many new
departments, as well as libraries and laboratories, as only a partial fulfill­
ment of a greater design, these projects are in themselves only a part of
what he bequeathed to the City of Philadelphia. Much as he is identified
with the University at this crucial stage of its development, he worked
untiringly for civic improvements as well. The Commercial Museum and
the University extension courses which occupied him after his retirement
were a continuation of his idea of a university. He is also identified with
the movement for the Free Library of Philadelphia for which the will of his
uncle, George S. Pepper, had provided the impetus.

Pepper does not appear as an imitator of days past, but as a
leader whose ambitions were attuned to his times. “He dreamed of a city
greater than any Penn had planned, with nobler charities and vaster public
works than Franklin had fancied—a city richer in hospitals, in schools, in
institutions of learning, in libraries, in art, in commerce, and in public
works. . . . Into the comprehensive schemes of foresighted men he entered
with the ease of one accustomed to plans of magnitude.” In these words,
Hampton L. Carson, a colleague and representative of the General Alumni
Society, paid tribute to William Pepper at the time of his death. His
contributions are summed up by his biographer Francis Newton Thorpe:
“The University of Pennsylvania as it stands is his creation. The system of
museums which ornament Philadelphia are his monument and the higher
educational tone of the community is one of the results of his life. Art,
science, and education, each for its own sake, was the principle which
inspired his efforts.”