If the old saw about the darkest hour being just before the dawn has any meteorological defense, some justification may be found for the changes that took place in the University in the late twenties and the thirties. After the sudden removal of the Provost and dissolution of the Faculty in 1828, a committee of the Board of Trustees on new appointments, with Nicholas Biddle as chairman, proceeded to make a wide search for candidates for the provostship. Letters to distinguished Bostonians, among others to Edward Everett and George Ticknor, brought courteous but not very helpful replies. Harvard was looking for a new president; Everett was himself a candidate for the presidency and twenty years later was elected to it; he was in doubt where Pennsylvania might find a man sufficiently able who would be willing to come. He suggested Ticknor and Cogswell, later Librarian of the Astor Library and a prominent literary personage, and also some younger New England clergymen, but doubted whether any one of them was available.

The committee then looked, had always probably intended to look, into their own circle, and nominated a member of the Board, the Rev. William H. DeLancey. It was a good choice. He was a man of thirty-one, of a distinguished New York family, personable and intelligent, a graduate of Yale, who had recently come to Philadelphia as assistant to the Rector of Christ Church and St. Peter's. He had seen enough of the University to be willing to accept only upon conditions. He wrote July 15, 1828, "I conceive the present organization of the Collegiate
Department of the University to be so extremely defective that no individual would be willing to undertake the government of it," and he proceeded to enumerate the changes he considered ought to be made. A number of these were just those reforms that Provost Beasley, the Faculty, and the more progressive members of the Board had been long urging; now, as so often occurs, after protracted withholding, on some slight additional pressure they were given with both hands. The Provost was to teach only the senior class and that in only one subject, the bulk of his time left free for general supervision. Although he would not be a member of the Board, as he had at first stipulated, he would be called into attendance and participation in its discussions whenever matters concerning the Department of Arts were under consideration. There was to be an adjunct-professor or instructor to teach the lower classes those branches of moral philosophy no longer taught by the Provost. Dr. DeLancey would have preferred that there should be no Vice-Provost to share responsibility, but the charter required such an officer and Adrain had already been elected. A whole group of matters of an educational character, including discipline, were to be left to the professors.

Professor Adrain, recently elected, was reelected Professor of Mathematics and, as the oldest Professor in point of service, Vice-Provost.

The new Faculty was soon completed; Provost DeLancey, Vice-Provost Adrain, Dr. Samuel Brown Wylie, formerly at the head of the Academy, as Professor of the Classics, Alexander Dallas Bache, called from a professorship of Natural Science and Chemistry at West Point to a similar position at the University, and Rev. Edward Rutledge as Adjunct-Professor of Moral Science, formed a Faculty of five who, if not more learned or competent than their predecessors, had the freedom they had lacked and, through the privilege of the new Provost to attend meetings, were in closer relation with the Trustees. Clothed with the greater dignity now possessed by the office, and adding to it the impressiveness of his personal appearance, Dr. DeLancey gave to the provostship a distinction it had lacked since the time of Dr. Smith. He of course resigned from the Board
of Trustees, but his relations with his former colleagues remained more nearly on a basis of equality than had been those of his immediate predecessor; and long afterwards he returned to the Board. His anticipations and plans for the University and his appeal to the citizens of Philadelphia for their support "on the eve of its resuscitation," as he expressed it, were set forth in an inaugural address delivered when he took office as Provost in the fall of 1828, in the room set aside as the College Chapel. Both the inaugural and the chapel were old ideas of Dr. Beasley's.

The simplicity of college teaching in those days is indicated by the organization of this address. It arranges all college subjects under the four heads, ancient languages, moral philosophy, natural philosophy, and mathematics, and avers that, given a Faculty adequate to teach these, the student pursuing them with some degree of earnestness and subjection to discipline will be guaranteed preparation for the "pursuit of any professional engagement on which his eye may be fixed." College education is represented as primarily preparation for later professional studies, though its advantages "will not be thrown away" in any later career. It would be hard to find in the literature of the time a more attractive or more enlightened picture of the profit and pleasure of such an old-fashioned college course and one more gracefully and more appealingly expressed than that presented in this the first inaugural address by a Provost of the University. An echo of recent difficulties can be heard, however, in his kindly warning that "the cords of discipline are to be tightened," and in his statement that the higher disciplinary powers have been recently turned over by the Trustees to the Faculty and that they will not hesitate to separate a student from the college opportunities which he neglects, undervalues, or defies. On the other hand he assures students and their parents that the College "need not shrink from a comparison with any of her sister institutions" and that "the course of studies is as full and comprehensive as is deemed anywhere requisite for a college education," a fair enough statement, as the published curriculum shows. A final tribute to the distinction of his colleagues, the holders of the four professorships,
was also justified; they were all scholars. Nor does he fail to remind all concerned that “the venerable Franklin, the Father of American Philosophies . . . was among the founders of the collegiate institution with which we are connected.”

Professor Adrain, the Vice-Provost, was a natural born mathematician. A school teacher in the north of Ireland, he had taken part there in the rebellions of the early nineteenth century and had escaped with difficulty to the land of promise. He had taught in various academies in Pennsylvania until his contributions to mathematical magazines had attracted attention and led to calls, first to Rutgers, then to Columbia, then back to Rutgers, from which he had been persuaded with some difficulty to come to Pennsylvania early in 1828. He was the most ingenious American mathematician of his time. He edited mathematical works and established a new mathematical journal. But he had no bent for administration or for the elementary teaching to which he was restrained at the University.

However good a mathematician, he was a poor disciplinarian; in his room and in halls and chapel when he was in charge, the old disorders asserted themselves. For a while his colleagues stood by him loyally, and students were from time to time suspended and even expelled for acts of misbehavior which were always in some way connected with Professor Adrain. The disorders spread to other departments. Students and their parents appealed to the Faculty and then to the Trustees against what they considered unjustified or unduly severe sentences; but the Trustees refused to intervene, and referred them back to the Faculty. At last the other members of the Faculty performed what they asserted to be a painful duty and reported to the Board of Trustees that all the difficulty lay with one of their number. Professor Adrain then resigned. From among many competitors E. H. Courtenay, Professor of Mathematics at West Point, was appointed to the resulting vacancy. As he lacked the usual academic honors the University gave him the honorary degree of M.A., but he remained only two years; his successor, Henry Vethake, remained for more than twenty years.

In Alexander Dallas Bache, the new Professor of Natural
Philosophy and Chemistry, it might seem that Franklin himself had come back. He was Franklin's great-grandson, with the other substantial Philadelphia heritage indicated by his middle name. He was an army man; he had been admitted to West Point at fifteen and graduated in engineering at nineteen—a precocious academic career for that institution. After some general army experience he returned as Assistant Professor of Engineering, and it was from there he was called to a professorship in his native city, in the fall of 1828. He taught continuously at the University for ten years and then resigned to become the first President of Girard College. He was one of the most active and distinguished men of his time; his name is prominent in the history not only of these two institutions but of the Franklin Institute, the American Philosophical Society, the United States Coast Survey, the Smithsonian Institution, the National Academy of Sciences, and the Philadelphia public school system. He was in the service of the University again in 1843 and 1844. At the same time he was making observations in terrestrial magnetism and some other natural phenomena, much in the spirit of his great-grandfather. He wrote a number of valuable reports on educational and scientific subjects; and was besides an excellent teacher. Samuel Brown Wylie, Professor of Languages, was more the pedagogue; he was a well-trained classical scholar, promoted to the College in 1828 from the Academy, of which he had long been Principal.

A man more attractive in many ways than any of these, whose gifted mind is attested alike by tradition and his own literary remains, over whose memory a tragic death has left its shadow, was Henry Reed. He was not among the very first group appointed in 1828, but was added to the Faculty February 27, 1833. A native Philadelphian, trained in a local private school, a graduate of the College in the class of 1825, member of "Philo," son of a Trustee, connected by relationship, marriage, church, and habits with literary and refined city society, he was a typical Philadelphian of the upper class. Yet his intellectual relations and correspondence were almost entirely with men of his own interests in England. Prepared for the bar, like a well-known successor in our own time, he left the law
promptly when in 1831 a minor position was created for him in English literature at the University. For a while he was Assistant Professor of Moral Philosophy, supplementing the teaching of the Provost under the arrangement introduced in 1828, but in 1834 he became a full member of the Faculty as Professor of Rhetoric and Belles Lettres, a position to which he gave distinction for twenty years. Apart from his teaching he edited various standard works of English literature and made himself the special interpreter to the American people of the poet Wordsworth, with whom he had a long correspondence. His volumes on English history and literature, on the British poets and American history, published by his brother after his death, were special courses of popular lectures given at the University to general audiences rather than what he gave in the classroom. They must have had much the same effect in familiarizing Philadelphia with the best contemporary European literature as the appreciative literary commentaries Longfellow and Ticknor were at the same time giving to New England.

George Allen, who joined the Arts Faculty of the University only in 1845, can hardly be accounted a member of the group of professors who began giving distinction to the University at the opening of the period of revival, but he was a man so characteristic of the period, and left so strong an impress on the minds of other men in the middle of the century that he can hardly be omitted here. He was a New Englander, a Congregationalist, a graduate and for a while professor in the University of Vermont. He was a restless spirit; a student and eventually a distinguished scholar in Latin and Greek, he also studied law and was admitted to the bar, then he turned to theology and was ordained a clergyman in the Episcopal Church; soon after coming to Philadelphia, in 1847, under the general influence of the Oxford movement he became a Roman Catholic in the same year with Newman, and apparently remained in that faith the rest of his life. Throughout these intellectual and spiritual adventures he was an active writer on all the subjects brought up by them. He wrote several books on chess, following one of the many and varied interests of Franklin, and gathered a library in that field that included
about a thousand volumes. He wrote on military science and was interested in music. He was given the degree of LL.D. by the University in 1868. It was as a scholar in the classical languages, and especially in Greek, that he left his greatest impression on the University. During the thirty years of his service as Professor of Languages he was the most forceful personality in the Arts Faculty and was so much admired that his influence helped to continue the predominance of the classics in the College to that late date when they were finally forced to yield to the demands for equal attention of other subjects.

The line of professors of geology and mineralogy dates from 1835. The first of these, Henry D. Rogers, was in a position to offer his services as lecturer without salary, and the Faculty, attracted by an opportunity to expand their number without expense, petitioned the Trustees for his election.

High-water mark of this particular period of advance was soon reached. In 1830 Provost DeLancey gave a second annual address, this time in the new building, at the opening of the winter term. He was flushed with success. The number of students had risen from sixty at the opening of the fall term of 1828 to something over ninety at the corresponding time in 1829, and to one hundred and twenty-five in 1830; the Trustees passed resolutions of approval and coöperation; the problem of bad behavior seemed, if not settled, at least much improved; and there were evidences of appreciation on the part of the community. But things soon fell back. The old handicaps of a materialistic city, absence of denominational attraction, lack of community life in dormitories, had none of them been really overcome. Discipline exercised by the Faculty with a somewhat pedantic demand for absolute continuous attention and unquestioning submission was not effective. Faculty meetings were still largely devoted to the public rebuke of students for actions that might well have been overlooked. The facts were sometimes at issue, and an unfortunate number of the culprits had family connections with Trustees or influential citizens who were unwilling to accept Faculty judgment. The problems of discipline had evidently not yet been solved. They ranged from the expulsion of a South Carolina student for profane swearing in
chapel, to suspension of a Philadelphia student for having an egg in his possession, intending, it was charged, to throw it at one of the professors.

There was the same difficulty in imposing the new standards of scholarship. Students were frequently ill prepared and rebelled against the standards of thoroughness on which Dr. DeLancey and the new members of the Faculty tried to insist. Close watchfulness of their progress, application of rigorous requirements for entrance, promotion, and graduation, frequent reports to the Board of Trustees and their parents brought constant protest from the students. The professors insisted that they were requiring no more than was well within the power of the students, but new standards were incompatible with old slackness. It soon appeared that this Faculty rigidity in discipline and scholarship, under the conditions of the time, was reducing the number of students—fewer admissions and many withdrawals. Dr. DeLancey in the fall of 1832 deplored the fact that only twenty-seven new students were applying for admission where thirty-seven had applied the year before; that fourteen of last year's students had been withdrawn to be put in counting houses and offices, five had gone to other institutions, three had been dismissed for incompetency and four more were likely to be.

Since about one-half the College departments' total income was at this time derived from the fees of students, any diminution in their number affected the finances seriously, and in 1833 the Trustees found themselves again in money difficulties. For the year their expenses amounted to some $18,000, while their income could be estimated at only $16,000, a deficit of $2,000. As a slight saving they decided to abolish the assistant professorship created to provide for a part of the teaching previously done by the Provost; the incumbent, Rev. Mr. Crusé, thereupon resigned and no successor was appointed. There were some alleviations. In 1832 the state Assembly passed a law exempting the real estate owned by the University in Philadelphia from county and poor taxes. November 19, 1835, a meeting of citizens of Philadelphia was called by a committee of the Trustees for the support of a general appeal to their fellow citi-
zens for an endowment fund of $100,000 for the University. Cordial resolutions of approval were passed but we have no record of returns.

In 1833 and 1834 Dr. DeLancey had a long spell of illness which kept him away from the University for some months. He was discouraged by the cessation of the rapid advance that had shown itself in the early period of his provostship. He therefore resigned, and was reëlected a member of the Board of Trustees. The golden promise of the beginning of his administration had faded away. Five years later he was made Bishop of Western New York; he became one of the founders of Hobart College at Geneva.

Albert Gallatin, James Fenimore Cooper, and other influential New York men, as soon as they heard of Dr. DeLancey's resignation, sent letters to the Trustees recommending for the vacant provostship Dr. John Augustus Smith, formerly President of the College of William and Mary, lately of Columbia Medical School. He had just lost his position in New York because of a long and embittered political quarrel. This record of contentiousness did not appeal to the Trustees and they offered the provostship to Dr. Wayland, President of Brown University. He declined, and they then made the same offer to Dr. John Ludlow, a prominent clergyman then in charge of a church in Albany. He was a graduate of Union College, had been given two honorary degrees there, and had taught in the Theological Seminary in New Brunswick, N.J. He came to Philadelphia to meet the committee of the Board of Trustees, made a good impression, and in October 1834 was elected seventh Provost. In December he delivered an eloquent inaugural address. He was as much a preacher as a teacher; spoke repeatedly in many pulpits in Philadelphia and elsewhere and lectured widely, but in spite of the twenty years of his provostship left little personal impress on the University.

Notwithstanding the slowing up of the process of improvement that began with the late twenties, the accession of a Provost of less vigor and ambition than Dr. DeLancey, and the persistence of many old problems, the University approached the close of its first century with a better internal organization, a more
distinguished Faculty, a larger body of students, and higher hopes than in its long period of partial paralysis.

THE NEW BUILDINGS

In the matter of its buildings the hand of the University was forced by the Medical School, as it has so often been since by one or another department. The use by some of the medical professors of Anatomical Hall on Fifth Street, the grant to them of rooms in the President's House on Ninth Street in 1801, the erection of a separate building attached to it for the Medical School in 1807 and its enlargement in 1817, have already been reported. The number of the students still continued to increase. There were seldom fewer than four hundred in attendance, in 1825 there were four hundred and eighty-seven. The medical professors therefore still sought better accommodations, which their large income from fees enabled them to pay for. In 1828, therefore, at their request and on their offer to pay six per cent interest on an estimated cost of $25,000, the Trustees agreed to erect an entirely new and adequate building detached from those already there.

In order that the College, which though less prosperous lay closer to the hearts of many, should not be outdone, the Trustees decided to go further, to raze the old President's House and attached buildings and provide for the erection of two buildings, one for the College on the Market Street side of the quadrangle, the other for the Medical School on the Chestnut Street side. They had no difficulty in convincing themselves, what was very obvious, that the President's House, even with its additions, had never been suited to its educational uses. As their spokesman declared in terms somewhat lacking in the classic simplicity he advocated, "Its spacious corridors and lofty halls were ill-adapted to the abiding place of the Muses. . . . It is now to become the site of an edifice . . . not unworthy of the classic feeling which it is its main object to instil." It was calculated that the materials from the old buildings might be made use of in the construction of the new, which made it possible to put up for the Medical
School, and consequently for its twin, a building costing much more than the $25,000 agreed upon. The corner stone of the Medical building was laid as part of Commencement exercises, March 21, 1829, that of the College building at its Commencement, July 31. Deposited in the corner stone of the former, along with other records, including in a Masonic spirit the names of the architect, the stonemason, the master bricklayer, and master carpenter, was the statement that up to that date the Medical School had granted medical degrees to more than two thousand "gentlemen educated within its walls," who, through their dispersal and the establishment of new schools of medicine, "had made the University of Pennsylvania the Parent of Medical Science in the United States." 1 The corner stone of the College building was laid by Bishop White, of the class of 1765, more than half a century a Trustee and now eighty-two years of age. It contained much the same material as that of the Medical building, but expressed largely in Latin and necessarily with a shorter roster of graduates.

From a purely artistic point of view these two buildings were the most satisfactory of all the outward forms the University has taken. Plain, but of the classic style then dominant, the two buildings were visibly, as they were really, more fitted for their purpose than either of the former buildings, which had been makeshift at best. They had a simplicity and a unity that have been impossible of attainment in the later rapid and diversified growth. The space of ninety feet between the two buildings the Trustees planned, in the hopefulness of the time, to fill in with other structures to accommodate new departments or extensions of the University they then anticipated would soon come into being. In the meantime they ordered some new philosophical apparatus from Paris, and in the College building a laboratory was set up for chemical lectures at a cost of something over $2,000. An address by one of the Trustees at the corner-stone laying, the congratulatory address of Provost DeLancey at his second Commencement, and a special catalogue and description of the College Department of the University, along with the address of the

1 Hazard's Register, VI, 202.
Provost, all filled with belief that the University was entering a new era, were issued for general distribution, in a thousand copies, by the Board of Trustees in September 1830.

It was in the two buildings of 1829, unchanged till they were abandoned almost half a century later for West Philadelphia, that the awakening life of the new period showed itself.

APPEARANCE OF THE ALUMNI ON THE SCENE

The general spirit of advance communicated itself to the alumni—or perhaps it was initiated by them. On the afternoon of November 19, 1835, a number of former students of the College gathered in the chapel of the new building. They had come on the call of a committee of eighteen prominent alumni, members of classes from 1765 to 1834. At that and adjourned meetings an alumni association was formed, a constitution adopted, officers elected, and an orator chosen for a meeting to be held on the day before the next Commencement. The first President of the society was Bishop White, and its executive committee was made up of prominent clergymen, lawyers, and others. Professor Henry Reed of the class of 1825 was Secretary. The alumni address was given July 14, 1836, by Thomas Wharton of the class of 1807, a prominent lawyer, a soldier and writer, elected a Trustee the next year. The annals of alumni activity are then silent for fourteen years.

In 1848 the society was reorganized, or perhaps again became active. Professor Henry Reed of the class of 1825 was now President. Seizing upon the most conspicuous of the possible dates for the origin of the University, and obtaining from the Trustees permission to use College Hall, they celebrated with much éclat, on the thirteenth and fourteenth of November 1849, the centennial of the organization of the Board of Trustees in 1749. The celebration opened with a notable address by William B. Reed of the class of 1822. He was a Pennsylvanian in all his connections, though diplomatic appointments had carried him to Mexico and were to take him later to China. His legal career made him District Attorney of the city and Attorney-General of the state. At present he was an active practising lawyer in Phila-
BEGINNING OF EXPANSION

delphia. He was grandson of the Joseph Reed who, although an
M.A. of the old colonial College, had been instrumental as Presi­
dent of the Executive Council of Pennsylvania in transferring
the powers conferred by its charter from the old Trustees to the
new University of the State. He was an older brother of Professor
Henry Reed and like him a man of literary interests, habits, and
connections. His address therefore was "as the wounds of a
friend" and "precious." Ten years before, in an address before
"Philo," Mr. Reed had appealed for a deeper interest in Ameri­
can history, and had illustrated his appeal by a brilliant interpr­
etation of the early steps of the Revolution. He represented a
liberal and progressive spirit among the alumni in the com­
munity that was now knocking at the door of the none too respon­
sive Board of Trustees. His address deserves therefore a some­
what detailed analysis.

He took as his text that one of Franklin's rather infrequent
outbursts of sentiment called forth when, returning in 1785 from
his long exile in England and France, his vessel rounded Glouces­
ter Point, "and then we saw Dear Philadelphia." Reed acknow­
edges that among Philadelphians "detraction or at least dispar­
agement of one another hangs over us like a dark and chilly
vapor." His wish is, that of many a later speaker before the
alumni, "to arouse a new, bolder and more mutually generous
spirit of pride in ourselves, in our institutions, and in no one
more so than in this now ancient seat of learning whose first cen­
tury of existence has today expired, within whose walls we gained,
with all its imperfections, our college training." He is able to
find great names among its graduates, and he pays them due
honor; but he hastens on to an appeal for the University's im­
mediate future, for a law school, for a school of engineering and
practical science, for a professorship of American history. The
last desideratum was made none the less apposite by the fact that
Henry Clay was an interested listener in his audience. It was a
repetition of his argument of ten years before. He closes with
old-fashioned eloquence:

My appeal has been for Philadelphia, "dear Philadelphia." It is an
appeal which I hope may reach the ancient heart of this University,
the guardian after all of high education amongst us. It and its kindred
institutions hereabouts ought to feel they are fit for something more than respectable decrepitude. There ought to be immortal youth always coursing in its veins, though a century's snows are upon its brow.

Much the same note of growth and progress was struck the next night when an alumni dinner was held at one of the city's hotels. Its organizers were able to get together a goodly group: Provost and Faculty; the oldest living graduate, Thomas Biddle of the class of 1791; the most distinguished living graduate, Robert J. Walker of the class of 1819, Secretary of the Treasury of the United States; Judges and Philadelphia lawyers galore, bishops and other clergymen, physicians of standing, prominent citizens. Reminiscence of course bulked large in the thirty-two toasts and the replies to them. But some looked to the future: "Our Alma Mater, may each succeeding century of her existence add to her fame and increase the number of children of whom she need not be ashamed"; "The Trustees of the University, may they remember the Greek orators' precept, 'action, action, action'"; "The future Law School of the University of Pennsylvania, may she . . . become as eminent in her peculiar branch as the Medical Department has long since been." This last toast was offered by John B. Gest, a young graduate of the class of 1844, who became a member of the first class in the Law School, a Trustee, and whose name through his sons adorns the annals of the University for two generations.

The next few years saw a vigorous response to these appeals or to the spirit which they represented. A rapidly flowing current brought the final establishment of the long-delayed Law School and the beginnings of a scientific school, the introduction of two new degrees, Bachelor of Laws and Bachelor of Science, and the inauguration if not the permanent establishment of professorships of American history and the modern languages. The course in Arts was reorganized in 1849, and a complete transformation was proposed in 1852 and discussed with animation till 1856; in 1854 the erection of an observatory was proposed, and in the same year was founded the University Barge Club.

This trend toward expansion was characteristic of American college life in the middle of the century. At Union, at Brown, at
BEGINNING OF EXPANSION

Harvard, at Yale, at Pittsburgh, alumni activity, faculty reorganization, and the undertaking of new ventures were the order of the day. President Wayland of Brown issued in 1842 his *Thoughts on the Present Collegiate System*, which advocated the elective system in American colleges. Harvard's Alumni Society was formed in 1842, the Lawrence Scientific School was established in 1847; and she gave her first B.S. degree in 1851. Corresponding developments took place elsewhere.

It will be a large part of the task of this volume in the record of the second century of Pennsylvania's history to describe the establishment of one new department after another. It will not be possible, unfortunately, to follow the later development of each. Once established, its later career must be considered to have been merged in the general life of the University, to be mentioned only when it is characteristic of that general life. If occasionally the narrative of the establishment of some department carries its history somewhat further, so much the better for the department. Each school should eventually have its own history written. This is a history of the University as a whole. There are always numberless divergent paths through a wilderness. This book follows the main trail.1

THE ESTABLISHMENT OF THE LAW SCHOOL

The Law School of the University of Pennsylvania had its roots deep in eighteenth-century soil. The short history of its early days has already been told. Born, doubtless prematurely, in 1790, it was, like the Medical School, the first in America, unless Jefferson's proposed professorship of law and police at William and Mary be considered to have preceded it. But it did not, like the Medical School, "fill a long-felt want." It was still quite possible for a young man to become a lawyer, even a famous lawyer, by unaided study supplemented by practice in drawing up legal forms as an apprentice in an older lawyer's office. His training might well be broadened by reading, listening to legal proceedings, hearing occasional lectures on legal subjects, and the use of

1 Much material concerning the separate departments will be found in *The University of Pennsylvania Today*, Cornell M. Dowlin, ed. Phila., 1940.
his native intellectual powers. The older lawyers generally approved of this system, charged fees to those who entered their offices, valued the free aid furnished by apprentices and found their unremunerated service as copyists convenient. The practising attorney frequently, when he had time, prescribed reading and discussed actual cases with his pupils, and to those in whom he was interested gave invaluable aid and advice. The well-established conservatism of the law operated here as elsewhere. Therefore, although catalogues of the University subsequent to 1791 stated at various times that it included a Law School as well as a Department of Arts and a Medical School, after that year the third department existed in name only, without teachers or scholars.

On the other hand there were ambitious students and enlightened practitioners who felt the lack of systematic training in the law, and urged the University to provide it. Therefore in the second decade of the nineteenth century the Law School became again for a time a reality; a brilliant lawyer of the city, son of Robert Hare the friend of Franklin, and brother of Robert Hare the chemist, was elected March 20, 1817. He announced a series of three courses to be given in successive years. They were intended rather to present the philosophy of the law than to provide legal information and training, such as were the lectures given to the medical students, which were of direct use in their practice. The three courses announced were, first, "natural jurisprudence, second, international law, third, constitutional law of the United States and Pennsylvania, with a comparative study of these and the English common law." Unfortunately, after the first course had been given, in the winter of 1817–18, Professor Hare became ill, ultimately losing his mind, and the professorship again remained vacant.

In 1832 the Philadelphia Law Association sent to the Board of Trustees a vigorously worded petition for the appointment of a professor of law, comparing the University unfavorably in this respect with Harvard, Yale, and the University of Virginia, all of which now provided facilities for the study of the law which Pennsylvania no longer offered, though she had been first in the field. Philadelphia, the petition noted, was famous, or
had been, for her judges and lawyers, and was the seat of many courts. In response to the possible objection that a young lawyer could not learn his profession from lectures it was pointed out that Blackstone was a professor in a university and his Commentaries were lectures to students. To the objection that established lawyers might lose their fees from student apprentices and could no longer get their formal papers copied without cost, it was answered that there was no expectation of making a law school take the place of apprenticeship.

No action was taken on this petition, and it remained for Mr. Reed in his address of 1849 to repeat the same appeal. He speaks of the difficulty of carrying on the study of law in "the din and distraction of a practising lawyer's office," and makes merry over the picture, no doubt a reminiscent one, of young law students, after they are through running errands and copying legal papers, sitting with their feet on the table in the front room of the office exchanging the gossip of the day. He thinks they may as well spend their time in listening to a lecture that will suggest to them that the law they are trying to master is a science.

The old lethargy was at last overcome. This appeal brought results, and a committee of the Board which was at the time occupied with the possibility of introducing new courses into the University recommended that the old professorship of law be revived. This was done April 2, 1850, by the election to this office of Hon. George Sharswood of the class of 1828, a Judge of the Philadelphia District Court. In the fall began the series of law courses which have "broadened down from precedent to precedent" till they have developed into the great Law School, housed in its noble building, which is now so distinguished a part of the University.

Professor Sharswood began giving courses on much more practical lines than those of his predecessors, devoting the first course to institutions of the law of Pennsylvania. There were two classes for beginners, each meeting twice a week, using Blackstone and Kent as textbooks, with formal lectures, informal recitations, and occasional moot courts. Before the second year was over the usefulness and popularity of the system were so manifest that on
May 4, 1852, a complete Law Faculty was established. It consisted of three professors, respectively of the institutes of law; practice, pleading and evidence; and the law of real estate. Judge Sharswood, who held the first of these professorships, became Dean of the Faculty; Peter McCall was elected to the professorship of practice and E. Spencer Miller to that of real estate, to which the study of equity was attached.

The degree of Bachelor of Laws was given at Commencement in 1852 to some thirty men, some of them already members of the bar, who had attended the first course of lectures of Judge Sharswood. Afterwards the degree was given only to students who attended and passed examinations in the lectures of all three professors for two years. Certificates of proficiency were offered to those who attended a smaller number of courses. The law courses, notwithstanding their known difficulty, were popular with the students from the beginning, though some of the older lawyers and the courts looked at the school somewhat askance. The District Court, the Courts of Common Pleas, and the State Supreme Court gave but slight and grudging recognition to the value of the Law School degrees and certificates in their regulations for admission to practice. They long required registry with a regular office preceptor much as the Medical Faculty did with its students. This requirement, however, gradually faded away.

The Law School never had a large number of students, due no doubt to the lack of absorptive power of the profession. It seldom during the early years had more than thirty enrolled. The average yearly number of graduates from its beginning to 1881 was fifteen. By 1861, however, the graduates felt themselves numerous enough to establish an alumni society of their own, and they have always shown a corporate unity as a group perhaps stronger than any other department.

As to location the Law School was long a peripatetic body. The lectures of Judge Sharswood were given in College Hall on Ninth Street, but as the lectures on law became a school rather than a single professorship, the department occupied two successive sets of rented rooms. At one time, in 1867, the Faculty asked to be allowed to establish themselves in the old building belonging to the University on Fifth Street above Walnut, for-
merly known as Surgeons' Hall and used for medical teaching, now in the midst of lawyers' offices, but this was refused by the Trustees. To pass for the moment beyond the limits of this chapter, after the University moved to West Philadelphia the Law School occupied for a time the large room on the third floor of the new College Hall. Once more it moved to rented rooms, now on the sixth floor of the Girard Building at Broad and Chestnut streets, and again for a while to the vacated old county court rooms at Fifth and Chestnut, before finally settling in its own dignified building.

This migratory habit was due in large part to an almost unavoidable divergence between two tendencies, one which drew the school toward the courts and ordinary practice in law offices, the other which drew it to the University as a center. This divergence was reflected in the attitudes of successive professors: P. Pemberton Morris, J. I. Clarke Hare, E. Coppee Mitchell, James Parsons, George Fisher Bispham, and C. Stuart Patterson—a small and distinguished group; the nature of the Law School work has never required a large faculty. All of these continued their practice of the law after their election to their professorships, in fact were chosen largely because of their eminence in actual practice. Ultimately the Law School, under professors who gave themselves up to the task of instruction, became much more clearly an integral part of the University.

THE SECOND SCIENTIFIC SCHOOL

The attempt to establish a school of pure science in 1816 had been abandoned in 1828 and left only a tradition of such an interest embodied in a series of capable but unappreciated appointees who held almost sinecure professorships. The names of these men do not appear on the Treasurer's books because they drew no salary, nor on the Faculty minutes because they were not members of any Faculty. Their positions were honorary and their lecture courses mostly voluntary. Such were Thomas Say, Solomon W. Conard, Professor of Botany, and others.

But there was another sense of the term "Science," in which it meant a kind of education by which a young man was prepared
to make a living. A recognition of utilitarian values is by no means foreign to the Philadelphia spirit, which has never undervalued the practical or the materially profitable. The main question was whether science in this sense could be brought within the bounds of University teaching. Were there students willing to pay for systematic instruction in the mechanical professions? If so, there might well be introduced into the University a fourth school, analogous to Arts, Medicine, and Law. Science in this sense may be said to have entered the University with the election in 1851 of James C. Booth as "Professor of Chemistry as applied to the Arts." Professor Booth was a highly educated man and a thoroughly trained chemist. He was graduated A.B. at Pennsylvania in 1829 and studied for some years in Germany, probably the first American to go to Germany to study chemistry. On his return to Philadelphia in 1836 he had established a sort of student laboratory where he gave instruction and supervised the work of a number of students and at the same time carried on assays and other commercial work. He was also smelter and refiner of the United States mint, wrote and published various chemical works and gave lectures at the Franklin Institute and at the Philadelphia High School in its early days, in addition to his almost nominal connection with the University.

At the University at the same time was John F. Frazer of the class of 1830, who had been appointed Professor of Natural History and Chemistry in the College to succeed his old preceptor, Alexander Dallas Bache, in 1844. It will be observed that the men whose names must be mentioned in connection with the establishment of these early courses in science at the University, as so often happens in the history of new departments, were men of marked individuality. Professor Frazer was son of a graduate of the class of 1789, and grandson of General Persifor Frazer of Revolutionary fame. Although he specialized in chemistry, he had studied both medicine and law and was in fact admitted to the bar. He was editor of the Journal of the Franklin Institute for many years, and was one of the rather remarkable group of young scholars who became teachers at the Philadelphia High School at its origin. He was appointed to a scientific professorship at the University in 1844; yet he retained his old taste for
the classics, kept up with modern French literature, and entertained at his home artists, literary Americans, and foreigners. He received the degree of LL.D. from Harvard in 1857.

In a letter to J. R. Ingersoll, one of the most active and interested of the Board of Trustees, Professor Frazer suggested an extension and development of such practical scientific courses as Professor Booth and he were prepared to give. His proposal led to the establishment by vote of the Trustees in June 1852 of a School of Mines, Arts and Manufactures, and in the election of J. W. Alexander of Baltimore as Professor of Engineering and Mining, and Charles B. Trego as Professor of Geology. The next year three assistants were provided in chemistry. All these appointees were to serve without salary, receiving only such remuneration as should come from the fees of their students.

This project was forwarded by sympathetic resolutions adopted by the American Iron Association, an enlightened industrial organization just then meeting in Philadelphia. Their resolutions, sent to the Trustees, expressed strong approval of the announced intention of opening a school of the practical arts and mines and promised it their hearty support. They declared it was one of the objects of the Association to encourage all efforts "to give the young iron-master a proper and scientific training preparatory to his engaging in practical operations." So often has the possibility of creating a strong school of mines come within the orbit of the University, and so obvious is the interest of the state of Pennsylvania in its mineral resources that it remains a constant source of wonder that she did not then nor has she at any time before or since established such a department on a strong basis. The group of professors appointed in 1852 took as little interest in their unpaid services as had those in the School of Natural Science twenty-five years before. So 1853 and 1854 passed away with no evidence of activity on their part. The communication from the Iron Association, however, led the committee of the Trustees on the new school to demand that the professors in these scientific subjects either begin teaching or resign. Professor Alexander and Professor Booth resigned, the former October 16, 1855, the latter February 5, 1856. Professor Trego chose to remain.
Fairman Rogers, a young graduate of the class of 1853, was elected in the place of Professor Alexander, with the new and portentous title, "Professor of Civil Engineering, Geology, Mining, Surveying, Art of Mining and Mining Machinery." His career had somewhat the same variety and comprehensiveness as his title, for he occupied himself with subjects as far apart as magnetism and polo, and held prominent membership in societies as different as the American Philosophical Society and the Philadelphia Coaching Club. Of the latter he was the founder. He was also a well-known and daring rider to hounds. He was an officer in the Civil War and later a Trustee of the University. He was already, when elected to the University, a lecturer on civil engineering at the Franklin Institute.

His piece of writing that especially interests the present historian is the minute book and somewhat pathetic record of the Department of Mines, Arts and Manufactures from its reorganization under his deanship in 1855 to its suspension in the confusions of the Civil War in 1861, all written by his own hand, accompanied with financial statements and illustrated with plans and printed materials in a way to delight the heart of any chronicler. Professor Rogers gave his first course of twenty-eight lectures in civil engineering, for which he printed a syllabus, in the winter of 1855-56. He lectured three times a week, at first at one in the afternoon, afterward from four to six, the late afternoon becoming the regular teaching period of this department, presumably because other work for the day was over. He had five pupils. In the fall of 1856 the department was reorganized, or rather organized for the first time, with a Dean and regular Faculty meetings. To the three professors, Frazer, Rogers, and Trego, respectively of mechanics and chemistry, of civil engineering, and of geology and mineralogy, was added a Professor of Applied Mathematics, "Old Kendall," then very young Kendall, previously a teacher in the High School, afterwards the object of affection to at least two generations of University students and colleagues.

In the first year of the school, 1856-57, the four professors gave lectures, each twice a week, to twenty-two students, each receiving net emoluments ranging from $37.50, the share of
Professor Kendall, to $62.50 each, received by Professors Rogers and Trego. So the school continued with numbers between one and two score each year. Attendance was purely voluntary; any course might be taken; there were no requirements for entrance or pressure to take instruction in ordinary college subjects. Students who had completed any subject and had passed an examination were entitled to a diploma or certificate in that subject, but not to a degree. The charge for each course was five dollars, or all four might be taken for fifteen dollars. Tickets for the course were bought, like those for the medical courses, from the janitor, who collected a substantial sum for his business enterprise.

In 1859 J. Peter Lesley of the class of 1838 was elected Professor of Mining, and relieved Professor Rogers of at least one of his subjects. The career of Professor Lesley had certainly not lacked variety in the past, nor was it to be in future the monotonous one usually ascribed to the college professor. A graduate of the University in 1838, he studied and graduated in theology at Princeton in 1844, spent a year in scientific study at Halle in Germany, acted as colporteur for the American Tract Society in the backward parts of Pennsylvania for two years, and as pastor of a Congregational church in New England for three. Among his early activities he had been Assistant State Geologist of Pennsylvania, and in 1851 he resumed pursuit of that subject. Among a score of books on geological subjects he took time to write one on Man's Origin and Destiny. He became in 1859, as has been said, Professor of Mining at the University, and for more than forty years, down to within the memory of men now living, he was a conspicuous figure in local, national, and foreign scientific societies and in various capacities at the University. He was given the degree of LL.D. by Trinity College, Dublin, in 1878.

There is no reason to doubt the excellence of the training given by the School of Mines, Arts and Manufactures; there were no difficulties of attendance or discipline and the costs were certainly not high; but the students remained few. The labor of the professors was largely a labor of love, and their living, except for the two who were wealthy, had to be made in other ways
concurrently with their teaching. Nevertheless, early in 1861 an optimistic announcement of the next year’s courses was published; a favorable comparison was made of the opportunities at Pennsylvania with those at other engineering schools in this country and even in Europe. But the promises could not be fulfilled; there were other calls made on industrial ability and training. The curtain of war fell on the scene, and this particular University play was swept from the stage. The activities of the school were suspended for twelve years, and when they were resumed it was in so different a form and in such different surroundings that their description may fairly be left to the later period.

HISTORY AND ENGLISH

It will be remembered that among his criticisms and proposals of new subjects of teaching in his alumni address of 1849 Mr. W. B. Reed had referred to what he considered the University’s neglect of history, especially American history.

Ignorance of History, deep, dark ignorance of our own history is the crying intellectual defect of our country, and especially so of this community . . . American history has students and teachers and patrons in New England—why not in Pennsylvania? In Pennsylvania, one page of whose Revolutionary history has more interest in all that should warm an American heart, than volumes of New England!

A year later the Trustees responded to this outburst of national and local patriotism by electing Mr. Reed himself Professor of American History, with the understanding that he give half his time to lectures on the subject and that he should serve without salary. For the next five years history had an unwonted prominence in the curriculum. Either given by him or by his brother, Professor Henry Reed, courses appear on history or constitutional or international law in each of the four years of the curriculum. In 1856 Mr. W. B. Reed was appointed United States Minister to China and his teaching came suddenly and permanently to an end.

It was thirty years from the suspension of Mr. Reed’s course be-
fore American history was again taken up as a separate branch of teaching. Other forms of history fared hardly better, but literature, of which history was often considered only a form, remained a subject of constant interest. Both subjects suffered a grievous loss in the tragic death of Henry Reed. His influence had been deep and beneficial for more than twenty years. He was one of the few University teachers whose public lectures in Philadelphia drew large and interested audiences.

It is a pleasure to record his enjoyment of his last literary adventure, notwithstanding its sad close. Disappointed at not receiving the appointment of the professorship of Moral Philosophy made vacant by the resignation of Provost Ludlow in 1853, to which he thought he had valid claims, and which traditionally carried with it the provostship, he obtained in 1854 leave of absence for the journey to Europe he had long planned. The greater part of this summer he spent in England, and nothing could have exceeded the friendliness shown him, the interest of the group of intellectual people with whom he was thrown, and all that simple, warm-hearted kindness English people can offer to those with whom they discern some internal bond of natural cohesion. Wordsworth, the poet whose works he had edited for the first time in America, and had popularized in his writing, lecturing, and teaching, with whom he had corresponded intimately for eighteen years, was now dead; but in the households of his widow, his son, and other relatives and friends Reed and his sister-in-law, who accompanied him, were frequent and welcome guests. The portrait of the poet, which Reed engaged Inman to paint, and the accompanying sketch of the poet's home at Rydal Mount still hang in the room of one of his successors at the University.

On September 20, 1854, Professor Reed and his sister-in-law sailed from Southampton for home; seven days later their vessel, the steamship Arctic, collided with another ship in the fog and, along with some two hundred others, they were lost. The mourning for him at the University and in Philadelphia was prolonged and sincere. His brother provided, during the next two or three years, for the publication of five volumes of his lectures on Eng-
lish literature and English and American history; some others were published later and there are still some unpublished manuscript writings by him in the University Library.

Occasion was taken on Professor Reed's death by some members of the Faculty and Trustees who wished to see still more attention paid to the classics in the curriculum to propose the suppression of the chair of English literature, giving part of the salary attached to it to an additional teacher of Latin and Greek and dividing the work in English among two or more other members of the Faculty. There was much discussion and many successive reports during the years 1854 and 1855, too detailed to discuss here, but the final result was the retention of the English chair and the appearance on the scene of Francis A. Jackson of the class of 1848 as Professor of Greek and Latin, afterwards of Latin alone, for many years the most influential though not perhaps the most popular member of the College Faculty.

For the successor of Professor Reed the University turned, as it so often did in this period, to the government academies. At Annapolis it found Henry Coppée, graduate of West Point, a soldier, an engineer, a student, and now a teacher of English. He was elected May 4, 1855, and received the title that had become well established under Reed, Professor of Belles Lettres and English Literature. He carried the curious combination of literary and military interests and writings through the Civil War, until he resigned in 1866 to become the first President of Lehigh University. Here he combined literature with engineering and added to them the teaching of international law and the philosophy of history.

**BISHOP POTTER'S PLAN**

In the midst of all the discussion of law and science and the organization of the Faculty that marked the early years of the second century, one of the Trustees, Bishop Alonzo Potter, threw a bomb into the camp by bringing before the Board a proposal for the transformation of the University into a postgraduate school—a "free University," as he called it. He explained that he meant it to be superimposed upon the existing University.
sity much as this had been originally superimposed upon the Academy; but in all the discussion it was taken for granted that this new postgraduate department should predominate. Bishop Potter had been, before his election to ecclesiastical office, for twenty years Professor of Mathematics and Natural Theology and later of Moral Philosophy and Political Economy at Union, and still later was President of Geneva College, New York. He was therefore primarily a college man and had an unusually deep interest in advanced education.

At the first session of the American Association for the Advancement of Education, of which he was President, held at Cleveland, Ohio, in 1851, he had expressed dissatisfaction with the existing condition of college education in this country and appealed to "the inquiring and manly habit of mind" which he conceded had been developed by it in America, to seek for its further improvement. As to the University of Pennsylvania, he became convinced after he had been a Trustee eight years that it was unfavorably situated for attracting any large number of students to its College department, since Philadelphia had many good private schools which gave much the same training in the classics as did the University; it had a newly established high school which also gave the degree of A.B., and was surrounded by colleges to which many parents, influenced by personal or religious attachment, sent their sons. In 1854, the year in which his proposal was made, there were fourteen Philadelphia boys at Princeton, and out of 443 students enrolled in four outside colleges, forty-two were from Philadelphia. Under these circumstances and with what he believed to be a decreasing demand for collegiate education throughout the United States as a whole, it was not to be anticipated that the number of students in Arts at the University would increase much beyond the eighty to a hundred which had been the average number of students for the last thirty years. At one time it is true it had risen to 125, but in 1854 it was but eighty.

He was a loyal Trustee, for he remarks that "there is nothing to distinguish our institution from one hundred and thirty or forty others save that we teach better than most of them, a comparison of which few will know, fewer still acknowledge and
very few appreciate." So long as this is so, "we shall continue to be what most of the one hundred and thirty or forty undeniably are, i. e., small in numbers and limited in influence." He therefore proposes that Pennsylvania shall offer something entirely new and distinctive: an opportunity for those who have already passed through their college years, or who have ambitions and qualifications, and "a strong bent toward specific studies"—young men presumably from twenty to twenty-five years of age—"to pursue these studies much further than any college now takes them. . . . I have a deep conviction that we need the open university, where young men, older and better trained than our ordinary collegians, with more active desire for improvement can be sent." There was at present room for only one such institution in the United States; there were rumors of such a university being established at Albany under the aegis of the state of New York. "At Albany, or at Philadelphia? It seems to me that the ashes of Franklin would hardly sleep if we suffered Albany to have the honor and happiness of such an establishment."

This sagacious and far-reaching but somewhat inchoate plan for establishing such a graduate school laid by him before the Board of Trustees was accompanied with a proposed by-law providing for its introduction. It was referred, as usual, to a committee, but with the additional proviso that it be printed and communicated to the members of the Faculty with a request for an expression of their opinion. There was no Provost at the time, but all members of the Faculty—Reed, Vethake, Allen, Frazer—gave written opinions, subsequently printed, often of considerable length, which with the possible exception of the Professor of Chemistry, were strongly adverse to the proposition. There was in these opinions much misunderstanding of the proposal and unfortunately a tone of unnecessary hostility, academic claims of superiority, and occasionally quite misplaced sarcasm, along, of course, with evidences of a very real perception of the difficulties and involvements of such a transformation.

This was not a case of conflict between Trustees and Faculty; we have little record of the views of the former on the proposal, but it is evident that the Faculty were beyond their depth. They

were primarily teachers, each with knowledge of the secondary sources for his subject and most of them familiar with the classics; they had little conception of that investigative spirit, that dealing with the products of research that marks the attitude of both professors and students in a graduate school. This was a general characteristic of all American educational institutions. Twenty years later many of the best men from the best American universities have recorded their delight and exhilaration when in Europe they came in contact for the first time with men who drew their own knowledge from its raw materials; in America investigation existed, generally speaking, only in the natural sciences.

Nettled at the tone of the professors' replies and convinced of the fact that they were standing in their own light and in opposition to the best interests of the University by their narrow view and unresponsive attitude, Bishop Potter answered, in a second letter, written between eight and nine months after the first, the misapprehensions concerning the proposed plan, defended his fundamental position, and justified many of his original statements from a much wider knowledge of educational conditions than that of his critics. He asserted further that there existed at the time in the United States "a great and rapidly growing class of young men, not graduates, who are active, ingenuous, aspiring, the offspring of our improved public schools, of our indefatigable press, of our industrial emergence and of our free institutions." He expressed freely and somewhat fantastically his resentment at the depreciatory tone of the academic references to them. "The alliance between science and industry, one of the more notable facts of our time, is ignored among the sybarites of a cloistered literature who would scourge back to mindless drudgery or random adventure those whose lot indeed may be labor, but who hunger and thirst for knowledge with an appetite which rebukes many a child of affluence." It might seem that the Bishop had some prevision of the Wharton School, schools of architecture and education and biology and engineering, and all such opportunities as a new nation and a new age, thrilling with life, might still demand. He had evidently a new type of student in mind, as well as those of the old type who
wished to carry their education further. But it is hard to recognize the old Faculty as "sybarites of a cloistered literature." Discouraged by "the disfavor with which the proposition is regarded by those whose cordial cooperation would be essential to its success," Bishop Potter dropped the plan. In the Board of Trustees appointment after appointment was made for a report from the committee when there might be a full and free discussion of the proposal. But each time the matter was postponed, till the whole subject seems to have been forgotten. And so we were again the first to consider a great step forward, the foundation of an organized graduate school in the United States, but for want of imagination, boldness of conception, or financial support, lost the opportunity. Just thirty years later the idea was taken up again and the Graduate School founded.

As a matter of fact a little group of undergraduate students were engaged at this time in a project, if not of research yet of equal dignity with most advanced study. This was the reproduction of the Rosetta Stone published by a committee of the Philomathean Society. A member procured and presented to the Society in 1856 a plaster cast of the well-known monument in the British Museum with its trilingual inscription in Hieroglyphics, Demotic, and Greek. It had lately attracted much attention and been described and translated by the French scholar Champollion. A little group of interested members of "Phil," Henry Morton, afterward President of Stevens Institute of Technology, then a junior; Charles R. Hale, a sophomore, and Huntingdon Jones of '57, then Moderator, had themselves appointed a committee to report upon it. With what one of the afterwards called "the happy temerity of youth and inexperience," and feeling "that nothing possible to man ought to trouble a graduate of the University of Pennsylvania and of the Philomathean Society," by the time they had graduated, two years later, they had produced the report in two successive editions in book form. Printed in colors by a lithographic process, with appropriate illustration and ornament, it gave a textual reproduction of the inscription in its three languages, collated wi

1 An interesting account of early graduate schools is, W. C. Ryan, Studies in Early Graduate Education. Pub. by the Carnegie Foundation, N.Y., 1939.
the Lepsian text of the corresponding inscription on the wall of the temple at Philae.

It was a work of genuine scholarship, of ingenuity, boldness, industry, and good taste. It drew a complimentary letter from Baron von Humboldt, who was doubtless unaware of the youth and lack of training, as he was certainly unfamiliar with American learning, of the producers of what he calls "the first essay at independent investigation offered by the littérateurs of the New Continent." The two editions of the Report were soon exhausted and have long since become rarities sought for by librarians.

THE CIVIL WAR

Fort Sumter was fired on, April 12, 1861, and educational activities were again interrupted by war, as they had been at the time of the Revolution. The proximity of Philadelphia to the South brought the conflict close home to her people and institutions. Almost immediately, in September 1862, the Trustees in accordance with the state law instructed the Faculty of the departments of Arts and Science to form the students into a military organization; no student, however, was to be forced to join against the wishes of his parents or against his own conscience.

The state government, in the law for creating a loan and for arming the state, had authorized any incorporated educational institution "to establish a military professorship for the educating of young men in military discipline and the art of war." This meant little change at the University, for a director of military training was ready to their hand in Henry Coppée, Professor of English Literature. It will be remembered that he had graduated at West Point, seen service in Mexico, and taught at the Naval Academy. Notwithstanding his Southern birth he was an enthusiastic supporter of the national cause. However, a department of military science was formally established.

As the students of Arts at that time were scarcely more than fourteen or fifteen when they entered, and eighteen or nineteen when they were graduated, they could be little more than a cadet corps. Nevertheless they were regularly organized, with
captains selected from the senior class. These were successively through three years Chester D. Hartranft '61, later captain of a militia regiment, Richard S. Hayes '64, and William W. Montgomery '65. They were above the average age of students, Hartranft being twenty, Hayes nineteen, and Montgomery twenty in the years of their captaincy. At first the corps was known as the University Light Infantry, then, after 1864, when they had been provided with six cannon, as the Pennsylvania Light Artillery. They were given the old hall at Fourth and Arch streets as an armory, and the bricked open space in front of the building as a drill ground, the “College Yard” in which, almost a century before, their predecessors, the troops of the Revolutionary army, had gathered and so much disturbed the college exercises of that time. They marched also to various parts of the city for exercise, training, and show. At first they had “ugly yellowish-gray” cadet cloth uniforms, but in 1864 they were given the dark blue uniforms trimmed with red provided by the state, and standard arms and equipment. They were given a silk standard of the state and national colors by the ladies of Philadelphia. Several members of the Faculty besides Professor Coppée were particularly interested in military affairs, and Professor Allen and Professor Jackson took special pains to call the attention of the students to passages in their Greek and Roman authors descriptive of military events.

No attempt was made to organize the medical and law students. Their greater age made it proper that they should act or their own initiative. Besides, the large number of Southern students in the Medical School made it probable that there would be, as actually occurred, a large defection to join the Southern armies. A member of the class of '63 remembers how a hot headed, excitable classmate from Georgia on the day the news of the attack on Fort Sumter came, shouted, “I am going to leave for home at once to fight for my own state and to have it out with you fellows!” His name was Bullock, and as a matter of fact he served in the Confederate navy and was lieutenant of the Alabama when she was destroyed by the Kearsarge off Cherbourg.

Those students who left college to join the actual forces o
one side or the other were more important than the local undergraduate corps. On August 5, 1862, when it had become evident that more and more recruits would be required, and the first draft law had been passed, the Trustees made enlistment easy by promising that undergraduates who should volunteer "to serve their country in her present noble efforts to crush a wicked rebellion," and those who were drafted, might graduate with their classes if they were not absent for more than a year from the University and could get the approval of the Faculty. Many did so. Names familiar in later national, state, or University history appear as serving for a longer or shorter period on these conditions. After the calamitous campaign of 1862, when in 1863 Pennsylvania itself was invaded and the Battle of Gettysburg was imminent, Philadelphia was almost in a panic. Earthworks were thrown up to the south and west of the city. They lay just outside the present botanical grounds and veterinary hospital. Many families left the city. It became doubtful whether a Commencement should be held in 1863. However, it was decided to go on, and the usual degrees were bestowed on twenty-one candidates on the third of July while the guns of Gettysburg could almost be heard. The program explains the absence of one of the appointed speakers, George Strawbridge, by the annotation "Excused,—gone for defense of the State." Another, James W. Ashton, on leave from the army for the day, gives his oration in an old scholar's gown borrowed from the Rev. Phillips Brooks, over the uniform of a lieutenant in the service of the United States. Another, William Brooke Rawle, recently enlisted in the Third Pennsylvania Cavalry, unknown to classmates and Faculty, was taking part in the cavalry charges at Gettysburg and speculating whether he was "an idiot for permitting myself to be just where I was" while his classmates were peacefully receiving their degrees, or whether he "would rather give up half his lifetime than to have missed having a hand in it."

In 1865 some students petitioned the Trustees to make military training compulsory, but the sad accident to two of the students on April 22, 1865, when they were discharging a cannon in Penn Square, as a salute at the funeral services of President Lincoln, turned discussion to the expediency of discontinuing
military training altogether. This was the more natural because of the departure of Professor Coppée that year to take the presidency of Lehigh. There remained for a few years a nominal Department of Military Art and Tactics, but in fact military training at Pennsylvania slept for another half-century.

It is of greater interest to note the large number of graduate and former students of the University who entered one branch or another of the military service. Shortly after the war a marble tablet was erected in College Chapel which many alumni will remember with its Greek inscription of the couplet from Semonides commemorating the Greeks who died at Thermopylae:

"O stranger go tell the Lacedemonians that here we fell in obedience to their laws," with the names of nineteen men, "Sons of the University who died to uphold the laws of their country in the war of the Great Rebellion." Some years later the industrious alumnus was able to find the names and particulars of 431 men who had been connected with the College. Of these 399 were in the service of the United States, 32 of the Confederacy. The statistics of medical men are less complete, but they add up, so far as they have been compiled, to 448 in the National, 98 in the Confederacy service. The number was doubtless far greater than these complete statistics indicate. The greater proportion of medical men in the Southern service is the natural result of the practice of Southerners coming to Philadelphia for their medical training.

Of those who served, many were prominent. The most conspicuous and the most popular was undoubtedly George B. McClellan. He spent only two years at the University, leaving at the end of his sophomore year to enter West Point, but his family was from Philadelphia and the widespread sympathy with his great work of gradual military preparation policy which he was not allowed to complete, along with interesting personality, has kept the remembrance of him great at his early College. Major General Parke, who like McClellan transferred at the end of his sophomore year to West Point, was long commander of an important corps of the Army of Potomac, Brigadier General Morton, killed before Peterss-
General Samuel W. Crawford, of the class of '46, who served from Sumter to Petersburg, Quartermaster General Montgomery C. Meigs '35, who equipped and supplied all the armies of the North, fifteen brigadier generals and scores of colonels and lower officers, besides the Surgeon General of the United States Army, two fleet surgeons and some eight hundred surgeons of various ranks, were University men, as was Lieutenant General John Clifford Pembroke '34, who commanded the Confederate forces at Vicksburg, and more than one of the officers who, in the rough reversals of war, invaded the state in which they had studied and won their degrees. Whether University men were as prominent in the War of the Rebellion as the College men had been in the Revolution may be doubted; the stage was larger, those who crowded upon it were more numerous, and distinction was with more difficulty obtained, but there is reason to believe that in both cases men connected with the University played a larger part in proportion to their numbers than those connected with any other American college. It came closer home to them.¹

THE LOSS OF THE FEDERAL GRANT

The last year of the Civil War saw a great disappointment for the University. Like other institutions it has frequently seen apparently well-founded hopes fade away like the mist. But this was a loss that in the light of subsequent events was probably the greatest the University has ever suffered in the financial and even in the educational field. The great resources and popular prestige that have been the lot of State College, the favorite subject, as it has now long been, of state support in the field of higher education, might, it seemed at one time, have been combined with the antiquity, the scholarship, and the reputation of the professional schools that would have been the contribution of the University if the two should have been united in the formative period of the State College. Such an institution might in 1864 have justified the old ideal of the men of 1791,

¹ See "Reminiscences of Men in the Civil War" and statistics in the Alumni Register, May 1915 and June 1917.
"the foundation of one great seminary worthy of the capital of the Commonwealth . . . calculated to diffuse the rays of knowledge through the western world."

This opportunity was offered by the Morrill Act of July 2, 1862. In this act the Federal government made a munificent land grant to the states for the purposes of education. Pennsylvania's share amounted to 780,000 acres of public land, or its money value. The gift was accepted by act of the state Legislature in April 1863. The only condition attached by the Federal government was that in one or more colleges or universities in each state instruction should be given both in general cultural subjects and agriculture and the mechanic arts, "for the promotion of the liberal and practical education of the industrial classes." Military tactics should also be taught, a natural requirement in war time.

The University saw its opportunity to increase its funds and broaden its services, and in February 1864 appointed a committee to apply for this grant or a part of it, to be used for the purposes described in the act. At the same time, in order to meet all its requirements, the Trustees expanded the name and functions of the existing if nearly dormant Department of Mines, Arts and Manufactures, renaming it the "College of Agriculture, Mines, Manufactures and the Mechanic Arts." They added to its existing faculty a Professor of Agricultural Chemistry and Scientific Agriculture, an Instructor in Practical Agriculture, a Professor of Military Tactics, and a Professor of Botany. It was also resolved to purchase a tract of fifty acres of land near the city on which to experiment and to give instruction in practical agriculture. The Federal law allowed ten per cent of the appropriation to be applied to the purchase of land but none for buildings; these the University conceived it already possessed.

A committee drew up a dignified if somewhat specious appeal to the Legislature which was printed and widely circulated pointing out that the University already possessed the necessary equipment, that it had always been interested in useful arts and had within the last decade added to the Classical Department, Medical and Law schools, a School of Engineering and the Practical Arts, which had been active till disorganized by the Civ
War. In 1862 they had established a Department of Military Art and Tactics, according to the state law of 1861, and this had now been made a part of their regular curriculum. In addition voluntary courses were given in French, Italian, and German, and in drawing and sketching from nature. Philadelphia was adjacent to eleven counties which possessed more than half the population of the state and every variety of soil and industrial enterprise. The petitioners drew an attractive picture of students who would at the same time be mechanics or farmers, and after two or three hours of daily recitation and study in the classroom, return to the workshop, factory, mine, or furnace at which they were employed, where they would not only receive wages but be able to compare theory with practice.

With such advantages and so ready an inclination to carry out the requirements of the Federal law the University seemed to have overwhelming claims to all or a large part of the grant. Their appeal to the Legislature for the passage of an act turning the funds over to them was presented in both houses March 6, 1864. It was referred to the respective committees on education where apparently it lay indefinitely, for there were other claimants. Ten years before, in 1854, the State Agricultural Association had secured from the Legislature a charter for a "Farmers School." By 1862, the date of the Federal grant, this institution had been organized under Trustees and Faculty, had received extensive grants from the state government, purchased ground in Centre County, had opened its doors to students, and in 1862 had its name changed to the "Agricultural College of Pennsylvania." From 1862 to 1864 its doors were closed because of the enlistment of its whole student body in the Pennsylvania Volunteers, but in 1864 it signalized its reopening by applying for the Federal land grant. There were still other applicants. Next year March 8, 1865, in the State Senate, "Mr. Connell read . . . and presented to the chair a bill entitled 'an Act to appropriate part of the land scrip given to the State by the Act of Congress of July 2, 1862, to the University of Pennsylvania.'" But again this got no further than a reference to the committee on education. The University had already given up hope, for in December 1864 the Trustees had taken action to dispose of the land they
had bought in anticipation of an agricultural department, the
produce of its sale to be added to general endowment. There
was much delay, but finally in February 1867, the Federal en-
dowment was turned over to the Agricultural College of Penn-
sylvania. If a later Provost, well-beloved of the Legislature, had
been in charge of the matter, the result might possibly have been
different, as would in that case have been the whole later history
of the University. Meanwhile the ambitious program of indus-
trial education to which the University had committed itself re-
mained to be worked out without either Federal or state aid.