O'FALLON

POLYTECHNIC INSTITUTE;

ITS OBJECTS AND PRESENT CONDITION.

ST. LOUIS, MO.

PRINTED AT THE MISSOURI DEMOCRAT OFFICE.

1858.
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ORIGIN.

On the 22d of February, 1853, a very liberal charter for educational purposes was passed by the General Assembly of Missouri, and under it a University was duly organized on the 22d of February, 1854. The plan of that University organization is more extensive in its range than any before adopted in the United States. It embraces, in addition to the ordinary courses of study in American Colleges, a Scientific Department in which the physical and abstract sciences are to be thoroughly taught, not theoretically only, but with direct reference to their useful application in the various industrial pursuits; and, also, a Practical or Industrial Department, in which are to be centered the more immediate and necessary facilities for practical information, interchange of thought, diffusion of scientific truths, proper development of mechanical and manufacturing skill, and whatever, in short, will in any manner promote the useful arts and give to them their proper educational position. The old view was discarded, that only a few callings are to be educated professions and all others mere trades, requiring but little beyond the training of the muscular system to a proper degree of physical skill—that the mechanical, manufacturing and other industrial pursuits are mere handicrafts, without the need of a full mastery of the various departments of abstract and applied science. Taking a wiser and grander view of the pressing wants of the age, and especially of the Mississippi Valley; recognizing the wonderful achievements of conjoined art and science during the last half century, whereby the industrial pursuits of the civilized world have undergone an almost complete revolution; knowing that a thorough knowledge of the immutable laws of nature which each mechanic, miner, manufacturer,
engineer or artisan daily applies, is essential to a full and economical development of his department of industry; conscious that new combinations, analyses and applications of primary truths will lead to even greater than the present wonderful inventions, and open still larger fields for human enterprise; considering too, that the central position of St. Louis, particularly with reference to its mineral and commercial facilities, renders it the proper point at which to begin an educational enterprise for placing in possession of those who daily use the great agencies of nature, the proffered means of compelling those agencies to work for man the result for which he is daily striving; fully aware, also, that the amount of practical information in the workshops of the country, never yet recorded in books, could be more usefully distributed by bringing together for a free interchange of thought, those who have gained such useful information through tradition and experience in their workshops—in a word, that educational preparation is just as important for the useful arts as for the so-called learned professions, and that the greatest expectations of future progress and power spring from the daily use by intelligent workmen in their various callings, of those properties of matter and forces of nature which science has now clearly developed—that both science and art must alike profit by rendering each mine, workshop and factory a practical laboratory and school of research where new truths are to be discovered and new applications of elemental principles made—with such results in view, that University determined to add a Practical or Industrial Department, to its other means of usefulness.

With the liberality and forecast for which he has ever been distinguished, Col. John O'Fallon promptly came forward to aid this Department, and gave for its endowment two blocks of ground in Union Addition, which in the rapid growth of that part of the city will ultimately prove the source of a large revenue.

During the spring of 1855, a few gentlemen directly connected with the mechanical and manufacturing enterprises of St. Louis, determined to found a Library and Reading Room for the industrial classes. Their attention was at first directed to the charter of the old Mechanics' Institute, but an examination of its powers, and a wish to blend mechanical and other interests in its management, so as to make the connection mutually beneficial, influenced them to organize under the University Charter already referred to, as its Industrial or Practical Department, for which the amplyst powers existed. It was believed that the many advantages to be derived from such an organization could be procured so readily in no other way; as the Professors of its Scientific Department and the general educational advantages otherwise furnished, would contribute directly and largely to the advancement of the common design, and give greater strength and permanency to the undertaking. The University Board promptly granted the request, only requiring that an annual report should be made to it, and retaining the right to appoint four out of the twenty Managers to whom the control of the Department should be committed. Further than that the University has no immediate control over its management. The first four Managers appointed were Messrs. John How, Gerard B. Allen, Giles F. Filley and N. J. Eaton. They rented a large room on the corner of Fourth and St. Charles streets, in the Verandah building, fitted it up appropriately with book-cases, tables, reading-stands, and other furniture; bought six hundred volumes; received by donation about four hundred volumes; subscribed for the leading magazines and reviews; American and English, and many of the principal newspapers in the United States, and were furnished gratuitously with the Daily Republican, Democrat, Leader and Herald. The rooms were opened for use in the summer of 1855, after an expenditure of about three thousand dollars, generously contributed by a few persons interested in the enterprise.

Hardly had they succeeded in establishing the Library and Reading-room, before the want of free evening schools for apprentices, journeymen, clerks and other young men whose daily occupations gave them no other means of education, became so apparent, that they resolved to undertake that work also. It was, therefore, deemed advisable to give to their plan the full proportions which the Industrial Department of the University originally contemplated, and to shape its development towards the creation here of a full Polytechnic Institute, with the advantages, also, of the American Mechanic Institutes. In this direction the Board of Managers has been ever since steadily directing its efforts; and if its hopes are realized, the erection of the contemplated Hall will furnish immediate facilities for perfecting the general plan.
ORGANIZATION.

The first election for Managers was on the 7th of August, 1855, and the following gentlemen were constituted the first Board:

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At the first meeting of the Board, the Hon. John How was chosen President; Gerard B. Allen, Vice President; A. M. Anderson, Librarian and Secretary, and John Cavender, Treasurer.

In consequence of resignations and removals from the city, the Board for the second year was composed of the following gentlemen:


The third and present Board, from changes made at the instance of those unable to give the requisite time therefor, is constituted as follows:


W. R. Babcock is the Librarian and Secretary; and Henry Copp, Treasurer. Mr. Babcock was elected in March, 1857, on the resignation of Mr. A. M. Anderson.

At the first organization of the Board in 1855, the Institute adopted the name of "The O'Fallon Polytechnic Institute," as a becoming expression of respect for Col. O'Fallon, who had so liberally manifested his interest in the general purposes of the institution, and whose general worth in all that adorns the man and citizen entitles him to the highest regard of this whole community. The name "Polytechnic" is indicative of its design to embrace all the useful or industrial arts.

CONSTITUTION.

The constitution declares its object to be "the establishment of a library, of reading and conversation rooms, cabinet of models, etc., popular lectures on science and the mechanic and useful arts, an annual exhibition of Missouri manufactures, a school of design, a mathematical class, etc., etc." There is a Board of twenty Managers, sixteen of whom are annually elected by the members of the Institute. Any person may become a member by paying five dollars, annually; and if a journeyman mechanic or clerk, by paying three dollars annually, in advance. Any apprentice, or any person under eighteen years of age, can have the privileges of the Library and Reading Room on the payment of one dollar per year. A life membership is fifty dollars. The annual meeting is on the first Monday of November, each year; and the annual election on the second Monday of that month. The Board of Managers meets once in each month, and its members must be residents of St. Louis county. Ample provisions are made for the security of its property, and the proper conduct of its affairs.

LIBRARY AND READING ROOM.

The first movement of the Institute was the founding of a Library and Reading Room. By the contribution of a few gentlemen, six hundred volumes were bought, and about four hundred were donated, exclusive of two hundred which formerly belonged to the Apprentices' Association. The room, which is on the corner of Fourth and St. Charles, is open for members and subscribers from two to ten, p. m.
of each day, except Sundays. In less than a year from the date of its commencement the Library was increased about three hundred volumes, one hundred and seventy-seven of which (very valuable) were presented by Mr. BARNET WILLIAMS, and twenty-three, valued at one hundred dollars, by Mr. WM. H. BELCHER. The number of subscribers for the first eight months was two hundred and twenty-four, including one hundred and twenty-five members. The amount of money contributed was three thousand and seventy-two dollars. Books were given by Messrs. H. VINTON, W. G. ELIOT, WAYMAN CROW, WM. GLASGOW, JR., W. H. BELCHER, JOHN HOW, BARNET WILLIAMS, H. S. GEYER, T. H. BENTON, FRANK P. BLAIR, L. M. KENNEDY, J. M. KRUM, and others.

Present number of volumes, 2617; 6 American monthlies, 5 European periodicals, 8 daily newspapers, 1 monthly paper, 15 bound volumes of papers. In addition, there is in the present Library, philosophical apparatus, expressly selected for popular lectures, and purchased by the Institute for that purpose. The value of its books, apparatus and furniture is about six thousand dollars.

The publishers of the Republican, Democrat, Leader and Herald have deserved the thanks of the Institute for their liberality in furnishing their papers gratuitously, and for many favors in the way of advertising and editorial notices.

The present number of annual members is one hundred and sixty-five; of subscribers, under eighteen years of age, one hundred and forty-nine; of scholars on certificates, seventy-five; Professors and Teachers in the University, eleven; life members, eleven; making the total, four hundred and nine.

DONORS.

Besides the munificent donation in land by Col. J. O'FALLON, already mentioned, and the gift of books by the gentlemen named, the liberality of the following principal donors has enabled the Institute to reach its present prosperous condition, and maintain with unexpected success its evening schools: JOHN HOW, O. D. FELLEY, WAYMAN CROW, G. F. FELLEY, R. SELLEW, J. B. EADS, W. M. MORRISON, DOWELL, CARR & CO., H. AMES & CO., D. A. JANUARY, EADS & NELSON, JAMES HARRISON, B. W. ALEXANDER & CO., CLARK, RENFREW & CO., KINGSLAND & CUDDY, KINGSLAND & FERGUSON,

ROBERT HOLMES, JOHN H. GAY, CLARK, PLANT & NORM, HENRY P. BLOW, ROBERT COOK.

Col. O'FALLON has also announced that it is his design to donate to the Institute ten acres of ground near Grand Avenue, and an invested fund of seventeen thousand dollars, making the amount contributed by him for this purpose over one hundred thousand dollars, in value. The whole value of the property belonging to the Institute will thus be about one hundred and fifty thousand dollars.

EVENING SCHOOLS.

During the winter of 1854-5, the University opened a free evening school, at the Benton School House on Sixth street, at which two hundred and seventy pupils were registered. Their average age was nineteen years; many being over twenty-one and some over forty years old. About forty per cent. of the number were born in the United States. This was considered an experiment; and it was thought, if twenty-five or thirty attended, it would be a satisfactory beginning. The result demonstrated, not only that there were many needing such facilities for education, but that large numbers were anxious, despite the fatigues of their daily toil, to avail themselves of any opportunity within their reach for receiving useful instruction. The same winter familiar lectures, illustrated with the philosophical apparatus, were delivered by Prof. A. W. Sprague, of Boston, Mass., whose services had been obtained for the purpose. The total expense of the school that season was over thirteen hundred dollars.

The following winter, 1855-6, the Institute, as mentioned, took charge of this school enterprise. Four teachers were engaged for the purpose, it being supposed that one hundred and fifty scholars might be willing to attend. The design was not to make this a primary school for teaching rudiments, but a school for the instruction of apprentices, journeymen, clerks and others whose employments during the day gave them only the evenings for educational purposes—and for their instruction in more advanced studies, especially such as would be of constant use in their workshops, factories and counting rooms. The school was advertised to commence on the 15th of October, and public notice was given that applications would be received on the evenings of the 12th and 13th of the same month. On the night of the 12th, two hundred applicants were enrolled, and the number became so large on the evening of the 13th, that additional school
rooms and four additional teachers were needed. The largest number wished to be taught the simplest elements of a common school education, some of them being over thirty years of age, and most from sixteen to twenty-five. Although the Board did not contemplate the opening of schools for that class of pupils; yet the fact of such applications, and from so many adults, was too strong an appeal to be resisted. When hundreds of young men, after the severe labors of the day, asked the poor privilege of being permitted to come from their workshops to a crowded school-room, to learn to read and write, and were eager to forego the usual and too often frivolous excitements of their companions; and when they were thus ready to make the necessary sacrifice of old habits and often of personal pride in being classed with mere lads, it was too small a boon to be denied. It vindicated the opinion expressed by the Managers from the commencement, that there was no lack of desire among the industrial classes for intellectual improvement, but merely a lack of adequate facilities.

The whole number enrolled during that winter was six hundred and twenty-eight; and the average age, eighteen. Of those scholars two hundred and twenty-three were born in the United States, one hundred and twenty-four in Germany, one hundred and eight in Ireland, sixty-five in England, fourteen in Scotland, seven in Switzerland, seven in Canada, six in Holland. Mexico, Wales, Prussia, Austria, Sweden, Netherlands, Isle of Man and Malacca were also represented. About seventy per cent. of the number were apprentices and journeymen mechanics. They were taught Arithmetic, Algebra, Grammar, Geography, Reading, Spelling, Writing, etc. Through the liberality of Prof. Litton, they were permitted to attend, free of charge, his course of chemical lectures at the St. Louis Medical College. A similar favor was proffered by the other Professors of that College, with respect to the lectures delivered by them.

During the winter of 1856–7, five hundred and ninety-six scholars were admitted. They were divided into fourteen classes, under nine teachers. One fourth of the number learned to read and write. In addition to the common branches, as taught the previous years, the most advanced class was instructed at rooms in Washington University in Mechanical Drawing, the higher rules of Arithmetic, Algebra and Mensuration. A familiar course of lectures on Astronomy was given to that class by Prof. Reynolds, illustrated by the Planetarium at the High School. Mr. Schreiner gave the scholars many lessons in penmanship. Of that number, two hundred and twelve were born in the United States, one hundred and fifty-five in Germany, one hundred and fifteen in Ireland, sixty-four in England, eleven in Prussia, nine in Scotland, nine in France, five in Canada, two in the Isle of Man. The Isle of Jersey, Netherlands, Austria, Spain, Switzerland and Malacca were represented by one each. The average age was again eighteen — ranging generally from sixteen to twenty. About seventy per cent. were engaged in mechanical employments. That season the Board of Public Schools bore the whole expense. It has always furnished, free of cost, the rooms, light and fuel for these evening schools, and manifested a desire, so soon as the condition of its funds would justify, to provide for this growing educational want in St. Louis.

During the last winter, (1857–8,) the number of scholars registered, was seven hundred and sixty-eight. Eleven teachers were employed. An advanced class under the immediate instruction of Mr. N. D. TIBBETT, was taught at Washington University, Algebra, Geometry and Mensuration; also, Industrial Drawing, by Mr. Hochley. The studies taught were Reading, Writing, Arithmetic, Grammar, Geometry, Algebra, Mensuration, Physical Geography and Industrial Drawing. One school was opened at the Benton School House, and one at the South Freemans. Thirteen nationalities were represented, as follows: United States two hundred and fifty-four, Germany one hundred and sixty-four, Ireland one hundred and thirty-nine, England forty-nine, Scotland sixteen, Prussia seven, Canada seven, Holland three, France fourteen; also, Spain, Italy, Bohemia, Algiers and Switzerland. The average age was eighteen years and five months. Of the natives of the United States, fifty-seven were born in St. Louis. Of those who attended at the Benton School House, the following were their daily occupations.

Printers — 14 Paper Carriers — 7
Book Binders, — 1 Machinists — 27
Wire Workers, — 3 Locksmiths — 1
Bakers, — 5 Gas Fitters — 13
Carpenters, — 50 Clerks — 72
Saddlers, — 20 Safe Makers — 3
Brick Layers, — 7 Shoemakers — 11
Errand Boys, — 17 Pattern Makers — 4
Marketmen, — 3 Wagon Makers — 5
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Teamsters, 9 Copper Smiths, 8
Laborers, 2 Tobaccoists, 31
Barkeepers, 7 Porters, 6
Mathematical Ins't Maker, 1 Telegraph Operators, 1
Burnishers, 3 Marble Cutters, 1
Box Makers, 4 Sheet Iron Manufacturers, 4
Bill Posters, 1 Coopers, 3
Moulders, 10 Painters, 15
Lottery Ticket Dealers, 5 Plumbers, 4
Carriage Makers, 8 Tailors, 5
Tinners, 6 Butchers, 1
Car Builders, 2 Stone Cutters, 2
Jewelers, 2 Slaters, 1
Nailers, 1 Rope Makers, 2
Millwrights, 1 Confectioners, 6
Basket Makers, 1 Bell Hangers, 1
Organ Builders, 1 Brush Makers, 1
Dyers, 1 Cabinet Makers, 6
Millers, 1 Sawyers, 1
Ironmongers, 3 Silversmiths, 3
Blacksmiths, 18 Founders, 10
Pedlars, 1 Notion Dealers, 3
Plasterers, 5 Waiters, 3
Miners, 1 Watch Makers, 2
Soda Makers, 3 Finishers, 10
Turners, 2 Tallow Chandlers, 1
Chair Makers, 2 Upholsterers, 1
Boiler Makers, 3 Book Keepers, 1
Sugar Refiner, 1 Collectors, 1
Tanners, 1 Match Makers, 2
Unknown, 19

The following were the occupations of the Scholars at the South Freemens' School House:

Laborers, 100 Machinists, 15
Tobaccoists, 13 Shoemakers, 4
Printers, 7 Saddlers, 25
Carpenters, 17 Painters, 8
Blacksmiths, 10 Various Trades, 85

Seventy-eight industrial pursuits sent young men to these schools, during the last season, showing how widely extended their usefulness has been.

Thus, two thousand two hundred and sixty-two young men, whose ages average over eighteen years, have been enrolled in these free evening schools, during the past four years. The general expense for the first winter was borne by Washington University, and for the third winter the whole expense by the Board of Public Schools. During the other two winters, the schools have been maintained, at an expense to the Institute, of three thousand five hundred and thirty-nine dollars. From the beginning the immediate direction of these schools has been entrusted to Messrs. Low and Turrell, who have, by their energy, fidelity, experience and attainments,—assisted as they have been by other competent and faithful teachers,—advanced the pupils with a degree of accuracy and rapidity, alike unexpected and gratifying.

At the close of each session certificates were presented to a selected number of scholars, expressing the approbation of the Board and Teachers, of their diligence, gentlemanly deportment and progress. Those receiving certificates are thereby entitled to all the privileges of the Library and Reading Room for one year. The use made of those privileges evinces a desire for continued improvement. The paths of more extended culture and usefulness have thus been opened to many worthy young men, who, without this aid, would have been left destitute of that intellectual enjoyment, and of the surest means of self-progress, not in their respective pursuits alone, but in all the walks of society.

At the close of the evening schools for each season, appropriate addresses have been made, before the distribution of the diplomas, and generally by the Board of Managers. Among those who have thus addressed the students and the audiences present, are Messrs. How, Bates, Pope and Treat, of the Board; and Messrs. J. W. Tucker, H. E. Bridge and the Rev. Dr. Elliot.

The whole cost of these evening schools for the last four years has been about seven thousand dollars. As two thousand two hundred and sixty-two scholars have been enrolled, and the punctual attendance of more than half of that number secured, the average cost for each enrolled scholar was about three dollars, and reckoning only those who attended regularly during each winter, about five dollars. A large majority of these scholars have come from the mechanical
pursuits of the city; and in the ordinary course of business are destined to assume responsible positions in their respective callings; directing the labor of others, and giving tone and shape to many departments of St. Louis enterprise. The necessity for meeting the demand for primary instruction has lessened the intended efforts to secure full classes in the more advanced studies; yet the numbers who, during the last two years, have attended to the higher rules of Arithmetic, and to Algebra, Geometry, ordinary Mensuration and Industrial Drawing, and the still greater numbers now prepared for a more advanced course, indicate that the direction towards which educational effort should be applied by the Institute, is as originally contemplated. As has been stated, the design of the Institute includes classes in mathematics, mechanics, chemistry and other abstract and applied sciences, as well as industrial drawing, etc., so that journeymen and apprentices may have a clear knowledge of the fundamental principles they are daily applying; and thus work out, more intelligently, the results intended by their labor and skill. Nearly every mechanical art involves pure mathematics; and although fair progress in the workshops may be made under an ordinary knowledge of mathematical rules, yet a thorough acquaintance with the principles is essential to larger development, and the greatest skill. Mechanics, as a study, is applied mathematics. The manual skill and dexterity acquired in the workshop are indispensable to success; but, that they may be rightly and successfully applied, and especially in the new operations constantly demanded, both employer and employed should be masters of the principles on which successful results are based. The laws which govern forces in their action, the various modes of applying those forces so as to produce the maximum result with the least labor or expense, the mathematical certainty with which the various mechanical powers operate, the principles upon which the forms of materials depend for strength or power of resistance, in different direction or under different circumstances—in brief, the precisely accurate determination of the maximum of force or strength to be obtained, with the minimum expenditure of material, labor or cost, involve necessarily a thorough knowledge of mathematics. The application of that knowledge to the materials used, the processes adopted, the machines constructed, or daily employed, and to the preparations for working the same, makes the mechanic arts the most learned of human occupations, and gives to them a power of progress not dependent on mere chance experiments or accidental discoveries. A mathematical class, properly instructed, will have the means of unraveling many a perplexing difficulty, and what is of no less moment, acquire thereby complete mastery of the instruments or tools which are necessarily used from hour to hour, and without which the more important works can be neither accurately planned nor completed. Those instruments are made according to mathematical rules, and are shaped in accordance with fixed laws. The forces applied to or by machinery—no matter what the primary source—whether animal power, water, steam, coal, or the most subtle elements, act in rigid obedience to well established and known mechanical laws. Materials are not chosen at random, but for their peculiar chemical or mechanical properties. The modes of combining parts of the same or different materials, so as to give the requisite strength, or durability, or facility of motion, or direction of force, demand a knowledge of principles which lie behind mere muscular effort or manual skill. It is not meant, that every apprentice or journeyman must necessarily go through the elaborate and severe course of study for which provision is made only in the highest institutions of learning. The Washington University, for instance, in its College and Scientific Departments, is designed to give the highest instruction in every branch of knowledge; and while it is hoped, that many of our future farmers, mechanics, miners and manufacturers will come into business with all the intellectual resources to be thus procured, yet it is not to be expected that the mathematical and other classes in the Institute will, at first aspire to more than that essential degree of scientific knowledge which will enable them to comprehend and rightly use the principles of more frequent application in their business pursuits. In this way the needed information will also become more widely diffused. The character of the more advanced pupils in the evening schools—their maturity of judgment, habits of observation, daily handling of scientific and mathematical rules and principles—demonstrate that they are of the right material from which to work out these higher ends. All occupations and nationalities are represented. The processes known to the workshops of nearly all civilized nations are used in the various workshops of our city. The elementary principles on which they are founded, or from which they spring are the same. It is but reasonable to suppose that a better knowledge of their multiform applications will prevail through the agency of the classes instructed in the Institute, and more particularly through the interchange of thought in the Conversation Rooms. The
general views presented in a subsequent part of this report will more fully illustrate the importance to proprietors, journeymen, apprentices—to all engaged directly or indirectly in industrial pursuits—of bringing together for free and full intercommunication of ideas the scientific and practical, the savant and operative, the theorist and the artisan. The evening classes to which reference is made, will prepare the less skilled and informed, to become better managers and more successful proprietors of large establishments—to be ready to plan their own work, and to either execute in person, or direct the execution by others, of those diversified operations going on wherever a large working establishment exists. Surely, if the comparatively small sum expended on each scholar in the evening schools of the last four years, whilst their instruction was mostly primary, has been productive of so beneficial a result as that already witnessed, it is not unreasonable to anticipate the largest and best consequences, from the future classes in pure and applied mathematics, in industrial drawing, in theoretical and practical chemistry, in the various physical sciences and their useful applications—in a word, in every department of technology, when assisted with the necessary apparatus and appliances for making the students familiar with their details, and when instructed by competent scientific and practical men.

SCHOLARSHIPS.

Among the many advantages derived from the mode of organization already considered, not the smallest is the endowment of eight scholarships, in Washington University, the appointments of which are conferred on the Institute. As the University course is intended to embrace four years of preparation, four years of collegiate study and three years in scientific instruction, each of the eight students appointed by the Institute has an unawonted opportunity for a thorough collegiate, scientific education—such as will qualify him for a proper discharge of his duties in any subsequent pursuit. It has been the desire of the Board in filling these scholarships, to secure as far as practicable, the main object designated, viz: the highest culture for the mechanical, manufacturing and other industrial callings. Hence, in each case, it has been the wish to select from the various applicants, those whose moral and intellectual habits, and whose inclinations, lead them to continue at the University throughout the entire course of study, and subsequently to engage in some industrial vocation.

These scholarships were founded, and the right of appointment to them conferred upon the institute, by Messrs. Wayman Crow, Geo. Partridge, James Smith, John Cavender, Wm. H. Smith, John Tilden and Christopher Rhodes.

The following young gentlemen now fill the scholarships, some of them having been appointed at an early day: John Knight, George A. Dwelle, Joseph M. Pettus, Charles Krutzinger, Wilbur F. Barrell, Edward M. Dunn, Gustavus Hostis and John H. Dell.

The new Laboratory just completed by the University and furnished with the best apparatus that could be procured in Europe, and the selection of Prof. A. Litton to fill the chair of Analytical and Industrial Chemistry, also the procurement of Prof. J. J. Reynolds’ services for the chair of Mathematics, Mechanics, and Civil Engineering, together with the establishment of Professorships of Geology and Mineralogy, Agriculture and Physical Geography, Mining and Metallurgy, to be filled hereafter, as the wants of the students may require; also the chairs of Natural History and Botany, and of Comparative Anatomy now filled by Profs. Engelman and Pope—give assurance that full intellectual training can be had for any industrial or business occupation; that the Institute will be able to call to its aid when needed, the highest order of scientific attainment and research, and the pupils appointed to the foregoing scholarships have advantages, which, if properly used, will place them at the head of their respective pursuits. On those pupils, reliance is had to vindicate the correctness of the views entertained with regard to the influence of the highest intellectual culture upon the industrial arts.

LECTURES.

The plan of the Institute contemplates regular courses of lectures on the sciences, arts and other useful subjects. In the future development of its design, it is expected ample provision will be made for that purpose. It was intended during the last winter to commence a course upon more general, yet instructive subjects, with a view of inaugurating that leading feature of the Institute; but the unexpected financial difficulties during the fall and winter, led to their postpone-