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To my
much esteemed friend
Ezra L. Hillis
with sincere appreciation
James K. Patterson

Lexington Kentucky
July 27 1918

SPEECHES OF JAMES K. PATTERSON

1. √ Report to the International Congress of Geographical Sciences Aug., 1875

2. √ Address in the hall of the House of Representatives, Jan. ?, 1882

3. √ Constitutionality of the tax for the state college. To committee on the A. & M. College and General Assembly Jan 30, 1882
Note: this was reprinted in 1909.

4. ? Observations on Judge Lindsay's answer, Feb., 1882 ?

5. √ Address delivered before the State Grange, Dec., 1883 √

6. √ Address on commencement day June 2, 1886 (2 copies)

7. √ Address of welcome delivered at the Kentucky Chautauqua Assembly, June, 1887

8. √ Speech before Circuit Judge Stout holding court in Frankfort, Sept. ?, 1908

9 Constitutionality of the tax for the State College

10. √ Argument made before The Senate Committee, Feb. 15, on the proposed change of name from A. & M. College to State University [1908]

11 √ General Drift of Education at the Land-Grant Colleges (from proceedings of the 14th annual convention of the Assoc. of Amer. Agricultural Colleges and Experiment Stations) [1908]

12 √ Commencement Address, State University of Kentucky, 1908

13 √ Commencement Address to the faculty and students of Hanover College, Indiana June 7, 1911

14 √ Commencement Address to the graduating class of Clemson Agridultural College, June 13, 1911

Same - slightly different

REPORT

OF

PROF. JAMES K. PATTERSON, PH. D.

COMMISSIONER OF KENTUCKY TO THE

INTERNATIONAL CONGRESS OF GEOGRAPHICAL SCIENCES,

HELD AT

PARIS, FRANCE, AUGUST 1ST TO 13TH, 1875.

FRANKFORT, KY.:
PRINTED AT THE KENTUCKY YEOMAN OFFICE.
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1876.

256

IN HOUSE OF REPRESENTATIVES,

MONDAY, FEBRUARY 7th, 1876.

MR. PRESTON offered the following resolution, which was adopted, viz:

Resolved, That 1,000 copies of the report of Prof. James K. Patterson, who was appointed by Gov. Leslie to attend the International Congress of Geographical Sciences, at Paris, in the year 1875, be printed for the use of this House.

IN SENATE,

TUESDAY, FEBRUARY 8th, 1876.

MR. LINDSAY offered the following joint resolution, which was adopted, viz:

WHEREAS, The Governor of this Commonwealth appointed James K. Patterson, President of the Agricultural and Mechanical College of Kentucky University, Commissioner to represent this State in the International Congress of Geographical Sciences, held in the city of Paris; and whereas, the Governor has received a report from President Patterson abounding in matter of interest and value to the people of this Commonwealth; therefore, be it

Resolved by the General Assembly of the Commonwealth of Kentucky, That the Public Printer be directed to print and furnish each member and officer of the General Assembly fifty copies of said report.

Adopted by House of Representatives February 9th, and approved by the Governor February 12th, 1876.

REPORT.

AGRICULTURAL AND MECHANICAL COLLEGE,
KENTUCKY UNIVERSITY,
LEXINGTON, KY., December 10, 1875.

To His Excellency JAMES B. MCCREARY, *Governor of Kentucky:*

DEAR SIR: I beg to submit to you, and through you to the Legislature, the following report:

About the last of May I received an appointment from your esteemed predecessor, Gov. P. H. Leslie, to represent the State of Kentucky in the International Congress of Geographical Sciences to be holden in Paris, France, about midsummer. In order to be present at its deliberations, as well as to attend the meeting of the "British Association for the Advancement of Science," to be holden at Bristol, England, I applied for leave of absence from my college duties till the middle of November. This obtained, I set out about the middle of June, and reached Paris in time for the opening session of the Congress.

The International Congress of Geographical Sciences met for the first time in 1874, at Antwerp, and was presided over by the distinguished Belgian, M. Charles d'Hane Steenhuyse. Its origin was due to MM. Charles Reulens, Elie de Beaumont, d'Avezac d'Halloy, and Francis Garnier, names representing the most advanced thought and scientific culture of Europe. Its object is to discuss all facts relating to Geography in its widest sense; to encourage discoverers, and promote discovery; to demonstrate by facts the great importance of scientific research; to encourage the nations to a generous emulation in promoting the diffusion of knowledge, by the dissemination of learning; by the development of their resources, and by the multiplication of such facilities for intercommunication as will bring distant people nearer and bind still more closely together those with whom we are already in most intimate relationship.

The Congress of Antwerp adjourned to hold its next meeting in the French Capital. At three o'clock on the first of August the first

sitting was opened by the President of the Congress of 1874, who, in a short speech, handed over the chair to Vice Admiral Baron de la Ronciere Le Noury, President of the Geographical Society of Paris. The great hall of the Tuileries, in which, during the empire, Napoleon III delivered the speech from the throne to the assembled Senate and Corps Legislatif, had been set apart by the government for the sittings of the Congress, together with as many government offices in the Tuileries as might be required for the sittings of the sections and for the exposition which formed an accompaniment of the Congress. Among the distinguished personages present were the President of the French Republic, the Grand Duchess Marie, of Russia, the Grand Duke Constantine, Sir Henry Rawlinson, President of the Royal Geographical Society of London, M. de Semenoff, of that of St Petersburg, M. de Beaumont, of that of Geneva, M. Correnti, who represented the Geographical Society of Rome, Hunfalvy of Pesth, and Weth of Amsterdam. Of the celebrated travelers whose names are more or less familiar to the general reader, there were present, MM. Rholfs, de Schlagintweit Sakünlunski, the Marquis de Compiegne, Pinart, and Doctors Nachtigal and Hamy. More than 400 of the most distinguished men of Europe were in attendance, many of whom were sent by the respective States whence they came. France contributed many of the more illustrious members of the Institute, easily discriminated from the foreigners present by the little red button worn on the left lappel of the coat, many members of the Assembly, and many representatives from scientific bodies in different parts of the nation. Next to France, Austria, Russia, and England were most largely represented, each of those nations sending, in a representative capacity, many of their most distinguished scientists. The Government of the United States was represented by Mr. Nourse, and the State of Virginia by Col. Stevenson.

Admiral Le Noury, in opening the Congress, dwelt upon the importance of the geographical sciences, not so much from their theoretical as from their practical utility. He vindicated their claim to recognition upon their fruitfulness as elements of production. Out of scientific geography grow commercial geography, economic geography, and political geography, three sciences which modify, if they do not determine, the whole fabric of modern civilization. The pioneers of commerce, of civilization, and of Christianity are the hardy travelers who venture into regions hitherto unknown, in order to solve the problems which geogra-

phy presents. The known has been pressing back the unknown since the first awakening of the human intellect. Most of the surface of the earth has been traversed and mapped; but in addition to the unexplored tracks, there are fields, vast and varied, upon which our knowledge is still meagre. There are questions of the relation of geological formation to surface and soil and climate; questions relating to the distribution of animal and vegetable life; questions regarding the distribution of races and languages; questions bearing upon the activities and industries, the economics and commerce and statistics of nations, which have not been answered, and which it will require years of patient research to investigate and reduce to systematic knowledge. To discuss these and kindred subjects this Congress assembles.

The address of Admiral Le Noury was considered to furnish a good outline of the work to be done. A splendid banquet, which many of the officers of State and civil and military functionaries attended, closed the proceedings of the day.

I shall not attempt to present in chronological order the business of the Congress, but merely to indicate the general method of procedure, and the nature and scope of the questions discussed.

The Congress was divided into seven sections, each of which met daily at 10 A. M., and sat till 1 P. M. The members sat grouped around a large table, with writing material and papers. Papers previously prepared were read with the sanction of the section, and when finished, became subjects of discussion. A general sitting was held every afternoon in the great hall of the Tuileries, attended by all the sections, at which an abstract of the questions discussed, and the conclusions arrived at by the sections, were reported.

Section first was designated the Mathematical, and embraced Mathematics, Geography, Geodesy, and Topography. It discussed the following questions: The substitution of the centesimal division of the quarter of the circumference for the division called sexagesimal, and the consequences thereof relative to division of time in Astronomy; discussion of recent inventions for measuring time and registering observations; utilization of telegraphic communication for measuring differences of Longitude; measure of an arc of the meridian in Southern Hemisphere, particularly in the Argentine Republic; study of the variations of gravity, by aid of the pendulum; instruments the most simple, and methods the most rapid, for determining the magnetic variation.

Section second, designated the Group Hydrographic, considered such subjects as the following: Researches upon the depth to which the effects of agitation of the surface of the sea extends; study of tides; general laws; anomalies; choice of places the most appropriate for observation of these phenomena; study of oceanic currects and their causes; with the analogous phenomena in the great lakes; determination of sea temperatures at different depths. Causes of the high temperature of the Gulf Stream; deep sea soundings, with the physical and chemical observations inseparable therefrom.

The third section covered a wide area. It was denominated the Group Physical, and included Physical Geography, General Meteorology, General Geology, Botanical and Zoölogical Geography, and General Anthropology. Of the forty questions allotted to this section for discussion, my space requires that I should select only a few. Different theories relative to the origin of mountains; the relations which exist between the elevation of the surface and its geological constitution; to investigate the origin and general movement of atmospheric whirlwinds or cyclones, as well as their periods; to compare the meteorological condition, ancient and modern, of countries where forests have been destroyed, and to state the influence which the re-covering of mountain tracts with forest and herbage has had upon the quantity of rain-fall, and upon the outpour of waters upon the surface; the geographical distribution of plants and animals during the tertiary period, with the consequences which result therefrom relative to the climatology of the globe during that period, and relative to the distribution of land and water; geographical relations between the fauna and flora of the tertiary period and those of the present day; the influence of causes anterior to the present geological epoch upon the area occupied during our epoch by vegetable species; species, orders, and families of plants which are characteristic of great natural regions; to study the resemblances and differences which exist between the fauna of different islands of Polynesia. Do the fauna of North and South America belong to the same zoölogical centre? Geographical distribution of prehistoric races of mankind, and of those which are regarded as fossil, and the relations of these to those of the present epoch; the migration and transplantation of races, and the displacement of one race by another; the distribution of mankind in ancient and modern times in Oceanica; discussion of the classification of Wallace—Malays, Negritos. &c.; distribution of the black

African races—dolichocephalic and brachycephalic; of the American races—Red-skins and Esquimaux.

To section four, designated the Group Historic, were assigned such questions as the following: To establish upon the territory of Europe, in prehistoric times, the existence of populations differing in instincts, habits, and adaptitudes, according to the monuments which they have raised, and the works of art which they fabricated. Recent palæontological researches have revealed, upon different parts of the globe, particularly in Europe, traces of the presence of man at epochs anterior to the most ancient documents. What relation can be established between these new nations and the most ancient authentic historic documents? Among the greater number, if not in all the principal branches of the Indo-European family, there exists a duality of physical type perfectly well marked, the black type and the blonde, in connection with a unity of speech. This duality shows itself in the eastern branch between the Persians and the Hindoos, and has a parallel existence also among the Sclavs, among the ancient Greeks, and among the Celts. What has been done up to the present, or what can be done with the data before us to explain this ethnological phenomenon?

The fifth section, called the Group Economic, was of especial interest, and comprised Geography, economic, commercial, and statistic. Its importance can best be shown by a statement of some of the questions it discussed—such as the following: What are the general causes which induce populations to emigrate and States to found colonies? What are the systems of colonization which have given, hitherto, results the most advantageous to the mother county on the one hand, and to the colony on the other? In view of the progress of geography, and the development of commerce, what are the best means of associating commercial and scientific interests? In what degree are merchant ship-owners able to serve the interests of science in general, and of commercial geography in particular, in stimulating collections, obtaining documents, and all other sources of information? What are the points where commerce and industry can supply themselves to best advantage with fuel for generating motive power, whether in depots or in workable deposits, and what is the approximate estimate of the quantity of such fuel in different countries? What are the most available stations on different parts of the globe for fisheries, and the working of different marine products? What are the consequences of the clearing away or destruction of forests upon the commercial, industrial, and agricultural condition of a coun-

try? What are the natural laws which govern the origin, distribution, increase, and decline of cities?

Several of the questions discussed in the preceding Group are of even more importance to us than to the States of the Old World. Our resources in mineral, agricultural, and forest wealth are great, but little known abroad—little known as yet, indeed, to ourselves.

Section sixth, called the Group Didactic, gave its time to the following, among other questions: What are the practical means of making more popular the elementary study of Geography and Topography? What ought to be the character of the geographical studies in the different branches of instruction, primary, secondary, and superior? What place does instruction in Commercial Geography hold, and according to what method is this instruction given in institutions founded to further commercial education? What are the institutions founded to further the acquisition of Geographical knowledge? What are the best means for co-ordinating and developing the labors of Geographical societies, and reaping therefrom the largest scientific results?

The seventh and last section, styled the Group of Voyages and Travels, concerned itself with questions relating to exploration, voyages undertaken for purposes scientific, commercial, and artistic. In voyages of discovery what are the principal obstacles which travelers encounter, and how may these best be obviated? What are the best methods to recommend for the observation of latitude and longitude What comparative value ought to be given to the determination of heights by the barometer and by geodesic processes? What are the best methods for photographing observations?

All these questions, and many more, were discussed during the sitting of the sections, which continued for nearly two weeks. I attended principally the meetings of sections three and four, as being more in the line of my previous studies than the others. On one occassion I attended the sitting of the fifth Group, when the construction of a canal across the Isthmus of Panama was discussed under the presidency of Ferdinand de Lesseps, to whom the world owes the Suez Canal. The veteran engineer expressed himself quite sanguine of the practicability of the work, and at a less cost than many of the estimates previously made.

As illustrative of geographical science in its various subdivisions, an Exposition was opened in connection with the Congress. Abundant space was appropriated to every nation which chose to participate.

France was best represented. Russia, Austria, Prussia, England, and Italy followed in the order named. Switzerland, Belgium, and the other minor States of Europe were well up. The States of the Western Continent contributed little to the Exposition, the space allotted to them being out of all proportion to their contributions. Even Japan made a better figure, and contributed more than some of those whose facilities were greater. Much to my mortification, the United States was about the lowest in the list. Either the General Government should have taken no part in the Exposition, or such part as would have been creditable. The best map of any American State or Territory which I saw there was executed abroad, and was found outside the American part of the Exposition. Globes, maps, charts, instruments of every conceivable size, scale, projection, and construction, were to be found there in the greatest profusion. Models of towns, harbors, public buildings, and reduced fac similes of mountain ranges in relief, were numerous in the most of the collections, particularly that of France. Topographical maps in relief, showing the relative altitudes and depressions of every part of France, and on a very large scale, attracted the attention and elicited the admiration of every one present. Large collections of prehistoric implements, illustrative of the neolithic and palæolithic ages of mankind, as well as implements illustrative of savage, barbarous, and half civilized life, were also on exhibition, chronologically and topographically arranged. Not only the actual condition of geography, but the progress of it, was brought before the mind. Original maps, hundreds of years old, showing the first rude efforts of our scientific predecessors to realize their conceptions of surface and portray them to others, stood as first in a series of which the elaborate maps described above were the last. These, with the intervening projections, showed in panoramic view the rapid advance made from age to age—from the rude mapping of Ptolemy and mediæval geographers to the present day.

Two more features, which ought to have been added, would have aided much. Each country should have been represented in its products and in its minerals. In neither was this the case, whether from oversight or from a conviction that the scope of the exposition would have been too much enlarged, I did not learn.

On the last day of the Congress a distribution of prizes, under the presidency of M. Wallon, Minister of Public Instruction, took place.

These were awarded by an international jury, which adjudged the merits of the respective exhibitors.

I beg to submit to your Excellency, and through you to the Legislature of Kentucky, the following considerations, suggested by my attendance upon the Congress:

There are three things of which this Commonwealth greatly stands in need; capital to develop her great mineral and agricultural resources, increase of population, and such provision for liberal and scientific education as shall enable her properly to utilize and direct these. It is unnecessary to dwell at any great length upon the extent and richness of the mineral deposits of Kentucky. The reports made, from time to time, through the public press, by Prof. Shaler, Director of the Geological Survey, certify their existence in the greatest abundance. There are thousands of square miles of rich coal lands, with iron of the best quality in immediate neighborhood thereto. These coal lands exist in the eastern part of the State, in the west, and in the south-middle counties. Neither does it need to be insisted upon that those countries and those commonwealths which possess coal and iron in the greatest abundance are, and are likely to be, the great natural leaders in manufactures, in commerce, in civilization, and in all that makes up the world's progress in these days. To her coal and iron Great Britian, at present, owes a great part of her industrial and commercial supremacy—a supremacy which she never could have attained without them—a supremacy whose continuance will be measured only by the duration of her mineral treasures.

The single county of Lancaster has to-day a population twice as great as Kentucky, with actual wealth ten-fold as great. This population is sustained, and this wealth has accumulated in great part, from the development of her enormous treasure of coal and iron. From Manchester to Liverpool, and from each of these vast centres of wealth and manufactures and commere, to Wigan and Bolton and Preston and Crewe and Rochdale and Stockport, one is never out of sight of dozens of tall chimneys, carrying their volumes of smoke athwart the sky. For a distance of twenty miles from Glasgow the whole country seems ablaze with blast furnances extending on either hand as far as the eye can reach. Throughout Yorkshire, throughout the "Black Country" of which Birmingham is the centre, and throughout a large part of Wales, the same dense populations are met, the same evidences of ceaseless activity are seen. In the Clyde, the Mersey,

and the Tyne, from iron smelted and rolled and wrought in their respective localities, are built the great iron fleets of merchantmen which cover every sea and every ocean, and reap the harvest of the commerce of the world. If it was no idle boast of Sir Robert Peel, forty years ago, that four hundred of his constituents could pay the national debt, one may imagine how immensely greater is that wealth to-day, after forty years of commercial prosperity such as Great Britain never knew before, and which is almost wholly due to the development of her coal and iron.

Such resources Kentucky possesses. The labor and the capital only are wanting to make many of our counties like Yorkshire and Lancashire, Lanark and Wales. Were our resources known abroad as they ought to be, both capital and labor would immigrate hither. Then we should see the hills of Eastern Kentucky and the coal fields of the west covered with tall chimneys and blast furnaces; manufactures would spring up; cities would grow and wealth accumulate; and Kentucky would take the rank among the great States of the Mississippi Valley, to which by her resources and her geographical position she is entitled. How is this to be accomplished?

Reports made to the Legislature, embodying the results of surveys and agricultural returns, seldom find their way abroad—seldom come under the eye of the foreign capitalist. Foreigners have fared so ill with investments in America that they look with suspicion upon all the prospectuses of new schemes for constructing railroads, opening coal mines, and building iron works. Erie stocks, and stocks of bankrupt States, which have repudiated their obligations, are a stench in the nostrils of foreign capitalists. How may this state of things be corrected? I would suggest that Kentucky make such provision as shall enable a properly qualified commissioner or commissioners to attend such International Congresses as that held in Paris; that he shall be furnished with maps of the State, and maps of counties, certified copies of its Geological Surveys; that these maps shall set forth carefully, and with scrupulous accuracy, the geological formation of every county where mineral wealth exists, its extent, approximate quantity and quality, and that these be accompanied with actual specimens of said minerals, with the actual analysis of each, as determined by the chemist of the survey.

I would further add, that a comprehensive statement, which should serve as a descriptive letter-press accompaniment to said maps, be

prepared by a committee of competent men, and that copies of this in English, French, Italian, Russian, and German, be placed at his or their disposal for distribution among the members of the Congress. All these documents should bear the official seal of the Commonwealth as emanating from its Executive, under the authority and by direction of the Legislature. This assurance would satisfy the foreigner that all the representations made were in good faith, and not the catchpenny advertisements of fraudulent corporations. Were this done for a succession of years, I am satisfied that foreign capital would soon follow in the wake of prospecting parties sent by foreign capitalists eager to find a profitable investment for the surplus millions now lying in their coffers, or yielding a maximum dividend of two and three per cent. Foreigners will accord a consideration to official parchments signed by Governors and Legislatures of Western States which they will be slow to give to unauthenticated paper.

The State should also make similar provisions for exhibiting its agricultural products, their kind, their quality, the yield per acre, with the price of farming land and the price of labor. This would show the condition of the owner of the soil and the condition of the cultivator. Thousands abroad would be glad of such certified information as would enable them to make an intelligent choice of a home in a Western State. They would learn therefrom the data which they often seek for and never attain. In the second place, such legislation as would directly encourage immigration should be enacted. A Bureau of Immigration, such as exists in New Zealand, would attract to our Commonwealth thousands of hardy men and women, who go instead to the States North and Northwest to make their own fortunes, and add to the material and moral strength of their adopted homes.

Of equal importance is the provision for liberal, scientific, and technical Education. I shall say nothing here of the common school or the academy. The State needs, and needs greatly, a first-class university, adequately endowed, where all her youth may obtain as good an education as can be had anywhere in America or out of it. She requires a university where not only classics are taught, but modern languages in their widest extent, Mining, Engineering, History, Political Economy, Mental and Moral Science, Chemistry, Physics, Geology, Mineralogy, Botany, Zoölogy—in short, the whole circle of knowledge and the whole circle of science. Education has made Germany, naturally poor, the first country in moral and material power in continental

Europe. Technical and scientific education, notwithstanding her enormous natural disadvantages, is making her citizens and mechanics formidable competitors with English producers.

Great Britain, under the sagacious forethought of her statesmen, sees the necessity for an education broader, higher, and deeper than that for which she has hitherto made provision, if she will retain her manufacturing and commercial supremacy. She remodels her old universities, founds new ones, endows them, makes education virtually compulsory, and makes such provision for technical and scientific training as shall enable her to keep the vantage ground already won.

To come nearer home, New England, with a poor soil and little mineral wealth, has, by her system of Education, moulded the thought and shaped the destinies of this Republic to an extent out of all proportion to her population. And here I beg to submit this important consideration: There are two types of civilization in this Republic. One is represented by New England; the other is, or rather *was*, represented by Virginia. New England gave her impress largely to the two great Middle States; still more largely to the States north and northwest of us. The Virginia type prevailed over the States south and southwest. It is needless to argue which of these is the better. There are some elements in the one confessedly good which do not exist in the other. As a whole, we prefer the Virginia type. But it is equally needless to say that the great civil war gave it a rude shock—a shock from which it may never recover—a shock, certainly, under which it staggers to-day. Some of its institutions have been swept away. Burdened with debt, crippled in trade, deranged in their social organization, paralyzed in their industries, the States of the south and southwest are not likely to recover for years. Virginia has lost her leadership in the South, and the civilization of which Virginia was the representative is to-day in danger of being supplanted by one of a more aggressive type. We ourselves have been unconsciously contributing to this result. Our sons are sent to institutions to be educated where the dominant civilization and the dominant influences are those of New England. We contribute of our means to build up institutions beyond our own borders, and to supplant ideas and traditions by which our early habits of thought were moulded. There are elements doubtless good in the one and in the other. In the conflict of opinion in the future, let us hope that what is good in both will survive and co-ordinate themselves to the ordering of a civilization and a polity which shall reflect all that is worth preserv-

ing in each. But the plea I make, and which I urge, is, that the mould in which our early ideas were cast, and the framework in which our habits of thought and action were set, are in danger of being obliterated. It is a struggle for existence in which we ought not to abdicate our normal functions of co-ordinate thought and activity.

Now, the idea upon which I insist, and which I wish to impress with all the energy I can upon your Excellency and the Legislature of Kentucky is, that Kentucky is, and of right ought to be, to-day best fitted by her origin, her traditions, her history, her geographical position, and, above all, by her mineral and agricultural resources, to take the leadership, and be the representative of the civilization which I have denominated the Virginia type. But in order to do this it is necessary that she should provide for the higher education within her own borders. She needs a great University, which shall be to her what Oxford is to England, what the Institute of France is to the French people, and what Harvard and Yale have been to New England. And just as her two great universities have contributed to differentiate English thought and English speculation just as Harvard and Yale have largely moulded the thought and character of the Eastern States, so will a university of such proportions and such equipments as the Legislature ought to found and endow, shape the destinies of this Commonwealth, and exert a large influence upon those of the affiliated States with which she stands in most intimate relationship. Wherever the intelligence of a nation lies, there is its head, and wherever the head be, there is its capital. Rome, for ten centuries after the fall of the Empire, ruled Christendom—not by legions, but by brains. Aristotle for sixteen centuries reigned over the world of thought, and held a sceptre such as no prince, temporal or spiritual, ever wielded. Expunge to-day from the libraries of the world Aristotelian thought and Aristotelian influence, and the rents and chasms would be fearful to contemplate. What Aristotle was to ancient and mediæval thought, Bacon has been to modern. The *novum organum* was the dawn of a new era, and has proved the prolific germ of all the organic growth of modern science, from Bacon to Faraday and Tyndall. These are but examples of the more than imperial sway, not for a lifetime only, but for ages, of the giants of thought—

> "The great of old,
> The dead but sceptred sovereigns who still rule
> Our spirits from their urn."

What we need is not so much elementary training as the discipline and culture and power which makes "leaders of men." We want men

so educated and disciplined that they can become exponents of ideas which are our heritage, and impress them upon others.

It is a very common, and a very pernicious error, that the Legislature of a State has done its duty in the matter of education when it has made ample provision for common schools. I would not be understood as disparaging the common school. It has a work to do, and that, too, one which can scarcely be estimated too highly; but in the common school the work of education is only begun. Its subjects are all elementary; its discipline all preparatory; the faculties of the mind which it brings into play are all subsidiary. It is only initiative, tentative, incomplete. At an age when the higher faculties begin to develop, and the youth is prepared to go forward with a bound, the common school can carry him no farther. The planting has been done, and the rudimentary stage is passed. As with the life of a plant, so with that of a human being. Its first energy is expended in enlarging its dimensions, with texture feeble and pulpy. Then follows a stage when the same power achieves firmness and consistency; when the fibres toughen and harden, and the prophetic blossoms finds its fullfillment in the fruit. If the first stage be important, the last is not less so. So for as education is concerned, it is the crisis in the life of a man. All his higher faculties begin to wake up. Lines of investigation open out on every hand. The world of mind and the world of matter begin to reveal themselves in new forms and in new relations, returning question for question, and putting the inquirer to his mettle at every step. During this period of sifting and testing, of adjusting and displacing, of building up and tearing down, all that can aid in giving vigor and courage and resolution and honesty; all that can stimulate manfulness and devotion to truth; all that can enkindle, and all that can guide an ambition at once honorable and generous, is urgently demanded. This is the sphere and this is the office of university training—a work as far beyond the common school as the training and fruiting of the vine is beyond the planting of the slip in the green-house pot. University training presided over the development, and determined its character, in David Hume and Adam Smith and Sir William Hamilton. Scotland would have been amply repaid for all the money expended on her universities for the last three hundred years had they yielded no other outcome than these three men. This is the critical period in education;

this the time when the hand of a master is required; this the time when, if we properly appreciate the magnitude of the interest at stake, we can intrust it to no men but tried men, and to no institutions beyond our own borders. To make ample provision for the common school is well; to foster and endow the academy and the college makes provision for carrying on the work, for building on the foundation laid; to provide by a properly equipped and adequately endowed university for the furnishing and finishing and adornment of the structure, is to complete the work—to send forth great men and true men to guide the destinies and determine the character of generations.

These treasures of coal and iron will be wrought; these fields will be cultivated; and the millions gathered therefrom will enrich thousands in the future. Whether these treasures will be wrought for us and our posterity or for others; whether these harvests will be gathered for us or for others; whether these millions will enrich our Commonwealth or go hence, leaving us as impoverished as the gold-bearing regions of the earth whose precious metals are mined and carried away by foreigners, will depend upon whether we rear an educated posterity to direct and control these results to their own enrichment instead of alien ends. Beyond all that is the political and social and moral character of our people. This also will be determined by the kind and extent of the higher education which we give them. Whether liberty shall co-exist with authority, and the rational end of all government thereby be attained, or whether liberty shall run into riot, and the fabric of civil government, unable to endure its vices or their remedies, work out its own dissolution, will depend on the moral and social and political education of our young men. It is not the common school training of the child, but the university training of the man, which fashions the intellect and moulds the intelligence of Commonwealths and peoples.

It is not the masses of the people, however good their common education may be, who give a nation character abroad. In the end they may contribute to perpetuate its reputation; but the great men of a people determine it. Greece lives to-day, and will live through all time, in Homer and Thucydides, in Plato and Aristotle, in Demosthenes and Alexander. Cæsar and Cicero, Horace and Virgil, form by far the largest part of our conception of Roman majesty and grandeur.

England, wide as is her sway and great as is her power, is known abroad chiefly through Shakspeare and Milton, Pitt and Wellington. When abroad, I saw few who knew anything of Kentucky; but I

met few who had not heard of Clay and Crittenden and Breckinridge.

When the traveler approaches another land he first becomes conscious of its nearness by its bold promontories and its mountain summits. These, like light-houses and beacons, reveal their presence from afar. Their crests glisten in the sunlight, and their shadows fall far out from their base. So it is with the great men of a nation. They reveal its existence and give us our first impression of it. They are the stars of first magnitude in its firmament, and by the light they radiate or reflect render it luminous. By them we measure the mass of their fellow-countrymen. America, in the infancy of the Republic, was chiefly known and best known abroad by her Washington and Franklin—by the man "who was first in war, first in peace, and first in the hearts of his countrymen," and by the man who "snatched the lightning from heaven and the sceptre from tyrants."

This, moreover, is a work which ought to be done by the State. If the Commonwealth should make provision for the common school *a fortiori*, should it provide for university training. Denominational colleges are well enough for special training, but they do not in these times rise to the realization of the university idea. The time is past in the growth of Kentucky when the highest education needs the fostering care of the church. Educational establishments in this country and abroad are successful in proportion as they cut themselves loose from all ecclesiastical trammels, and depend upon other means than ecclesiastical endowments for their support.

The great foundations of Oxford and Cambridge in England, and the great universities of Germany, are, year by year, partly by internal development, partly by State legislation, emancipating themselves from clerical control, and rendering themselves amenable to the State. All the endowments set apart by churches for college and university education in the State would, if consolidated, furnish little more than adequate support for a university such as Kentucky ought to have.

Let our sons, then be home-bred and home-educated first, then let them go abroad, if they will, to add to their already ample stores—to get their proper level by comparison with others, and to become less provincial and more cosmopolitan. Such a system of higher education as will develop, invigorate, expand, and liberalize, the State can give, and the State must give, if she discharge her duty to her sons.

I do not now suggest the means by which this should be done. But what I saw at the universities of Glasgow and Edinburgh, of Oxford and Cambridge, and elsewhere abroad, convince me that it can be done and ought to be done. This, however, is not the occasion to obtrude any scheme upon your Excellency or the Legislature. All I now urge as legitmately growing out of my mission, is the necessity for such provision, and the conviction that, from even the lowest point of view, no investment which the State could make would pay half so well.

I have the honor to be,

Your obedient servant,

JAMES K. PATTERSON.

ADDRESS

OF

JAMES K. PATTERSON, PH. D.,

IN THE

HALL OF THE HOUSE OF REPRESENTATIVES, FRIDAY EVENING, JANUARY 19, 1882.

GENTLEMEN OF THE GENERAL ASSEMBLY OF KENTUCKY:

An extraordinary occasion calls for my presence before you to-night. In the history of education in Kentucky no parallel to this, so far as I have known, has occurred. An institution founded through the munificence of the General Government, a munificence similar in kind to that which forms the ground-work of the common school system of the State, whose endowment has been generously increased by the Commonwealth, whose special object is to provide a liberal and practical education for the masses, is assailed—not by the people, not by the legal or the medical profession, not by the wealthy, but by the ministers of the Gospel. And why? Not because its course of study is defective, not because there is any lack of efficiency in its instruction, not because its moral or religious tone causes disquiet to good people—none of these things; but because it furnishes tuition too cheap, and educates too many. Presidents of colleges and presidents of boards of trustees have persuaded their co-religionists that they have a grievance. For days and weeks they have been importuning members of this Assembly; circulating among their church membership on county court days,

procuring signatures to petitions; arguing themselves and their listeners into the conviction that they have grievances to redress, wrongs to right, constitutional guarantees to maintain. This crusade against the advancement of learning would find an appropriate place in the Fourteenth century, but is strangely out of place in the Nineteenth. If the existence of this institution had been menaced by political faction, or by local secular interest, I should have looked for a combination of these colleges, working in hearty co-operation with the State College, to resist the selfish assault. But to anticipate that men engaged in the cause of education, whose aim is to extend the benefits of instruction far and wide, should combine to break down a college whose work differs partly in kind and partly in degree from their own, is a paradox in this age which one can, at first sight, scarcely comprehend.

The State College makes tuition too cheap. It provides too wide a course of instruction. It taxes the people of the Commonwealth for its maintenance. It has injured, or is likely to injure, our colleges by its prosperity. The consequence is, that fewer students come, or will in the future come, to us, and more go, or will in the future go, to the State College. We want the Legislature to withdraw its aid. Then the tuition in the State College will be no cheaper than ours; then the range of instruction will be so circumscribed that competition will then be impossible. We shall then be able to do as well as the State College. We shall have as many or more students than it. Our income and students will both increase. Is not this the plain English of their plea? and was any plea more thoroughly selfish ever presented to any body under plausible generalities? How do they move their church membership and the public? They say to the one, the prestige of our institutions, and consequently of the church is impaired. You are taxed to maintain the State College, our rival, while you voluntarily pay to support your own. To the non-churchman they say, you are taxed; taxation is odious; taxed one half cent on every hundred dollars. You are taxed to build up a great college—a college which your son may never enter, a college founded in the interest and for the benefit of the aristocracy of Lexington. If you own a thousand dollars' worth of taxable property it costs you

five cents yearly. If you own $10,000 it costs you fifty cents, if you own $100 worth it costs you one cent. This is the tax which Dr. Beatty informed you the other night is unjust, unwise, excessive, oppressive. Here the appeal is to the pocket of the tax-payer, and on behalf of the selfish interest of the aggrieved colleges. The interests of general education meanwhile are ignored; the larger, higher, wider interests of the masses of the people disregarded.

I am here to-night to repel this assault. I am here to plead the cause of the masses of the people, in whose interest this college was founded. I am here to plead for a higher education, more extended, more comprehensive than any which Kentucky has yet had within her borders. I am here not in the interest of a church, nor of a county, but in the interest of the people at large of the whole Commonwealth of Kentucky.

First. Their colleges are established mainly to promote and extend denominational influence, and to educate ministers.

The State College is exclusively unsectarian, and has no purpose to subserve other than to supply a broad, liberal, and practical education.

Second. They address themselves to a work which is necessarily partial; we to a class of work which is general.

Third. They appeal to a class of patronage which is not likely to be drawn from them—ecclesiastical and ministerial; we to a class of patronage which neither would nor could go to them—would not, because they do not get there what they want; could not, because their tuition, cost of living, and general expensiveness repel them.

Fourth. They allege that taxation for the support of a State College is unjust.

We hold, on the contrary, that if taxation for education be allowed at all, the same reasons which justify the one justify the other.

Fifth. They hold that the success of the State College will cripple, if not destroy them.

We hold, on the contrary, that there is room enough for all, and that it is the policy of wisdom, as well as economy, to furnish the best education to our sons at home, instead of depending on institutions alien to our habits, thoughts, and civilization.

Sixth. They hold that the existing sectarian colleges can do all in the way of education which Kentuckians require.

We hold that they are utterly mistaken, and that their pretentions in this respect are absurd.

Seventh. They hold that the State College can sustain itself on the income from the scrip fund.

We hold that this is impossible, and that the State, in accepting the trust, is morally bound to make good the deficiency resulting from her own mismanagement of its funds.

These propositions I shall discuss, not *seriatim*, but in the body of the defense which you invite me to make to you to-night. For a patient hearing, I bespeak your respectful attention.

I know, however, the disadvantages with which I have had to contend. The college on whose behalf I appear is assailed by seven gentlemen—some in a private, some in a representative capacity—supported by hundreds if not thousands of members of their respective denominations. For weeks they have been on the ground, relieving each other by detachments. By a series of adroit questions, they have ascertained from members, or otherwise, the prominent men of their respective communions in the counties they represent. Letters have been addressed to these, and they have been requested to write to their Representatives. The tenor of these communications and the staple of their contents were furnished from the respective head-centers of the agitation. Grievances were stated, church feeling aroused, local jealousies stirred up, the burdens of taxation bewailed, the state of common schools deplored, and the dangerous character and enormous greed of the State College denounced. Members, on receipt of letters of such tenor and uniformity, have been amazed to know that their counties are so profoundly stirred by a question of which they had not heard till they reached Frankfort.

I have had no such aids. I have had to fight this battle alone, against all the denominational agencies which have been evoked and imported into this controversy. I stand here before you to-night with no denominational influence behind me, alone on the justice of my plea, and for that I beg your attention.

Dr. Beatty, for whom I have the highest personal regard, and who made as good a plea as could be made for his cause, pro-

ceeds upon an entire misconception of the State College and its work. He styles it a great university. It makes no such pretense. It is only a college, and, measured by the great colleges of the country, is by no means a great one. The large space it gives to those sciences relating to agricultural and the mechanic arts shows how closely it adheres to the line of work laid down for it, and refutes, if refutation be necessary, the granger gentleman, who appeared on this floor the other night, with a statement that he and others were appointed a committee to ascertain and report the work and results of agricultural colleges with a view to a reformation of the State College of Kentucky. How strange that his committee applied themselves to know what colleges in other States were doing, but did not come near their own. Instead of addressing themselves to us or to the board of trustees to ascertain its condition, and know what we were doing, and the lines on which we operate, I suppose they got the information on which their memorial is based, as did the seven other gentlemen, mainly out of the depths of their own consciousness.

The fund derived from the munificence of the General Government would have been sufficient, if properly managed, to sustain such an institution as ours without State aid. But, as I shall show, it was sacrificed by the State, and the State is under a moral obligation to make good to her citizens the fund which she accepted, and undertook to administer as their trustee. This the State does, and by the one half cent tax makes good the deficiency, nothing more. Had this fund been economically and judiciously administered, as it ought, these gentlemen would have had the same grievance—competition through an institution under the care and control of the State. Then we should have seen them lobbying, not to withdraw State aid as now, but to divide the fund, and render competition impossible by dissipating it.

The root and essence of their opposition is competition, and when reasons are sought they are not hard to find. The sectarian colleges have had a monopoly of education. They allege they should have a monopoly still. Their capacity is double their patronage, and yet not one per cent. of those within the age for college attendance ask admission to their halls. They

pipe, but students refuse to dance. They mourn, and call on you to lament. And now when the State College, under every disadvantage, grows and attracts double their attendance, they fancy the root of the evil lies there, and if that can be crippled or broken down all men will flock to them. Does not this suggest that something else is wrong than the growth of the State College?

The time was when the clergy were almost the sole depositaries of learning. They administered the affairs of the church, presided in courts of justice, and received the homage of king and people. They had a precedence and influence which they were not slow to use. But since the revival of letters they have been shorn of their precedence, and have seen their influence wane. Laymen now, as a rule, outstrip them in mathematics, in physics, in philosophy, in natural science, in language even—in all save theology. But the traditional idea of prestige and precedence still lingers; and they measure their comparative importance in the fields of literature and science, not by what they are, but by what they have been. Hence the stubborn resistance which all secular learning and institutions encounter which are not under their control. They insist upon a monopoly now, forgetting that they live in the Nineteenth century and not in the Fourteenth. Within their own proper domain, no one wishes to interfere with them or depreciate their sacred office. Certainly not I. But there are departments of study outside of a theological curriculum, which I have no hesitancy in saying are, as a rule, better taught, because better understood, by laymen than by ministers. Center College was founded, and the same may be said of most of the aggrieved institutions, "specially to supply the church with a learned and godly ministry." For those who have this profession in view, these are the colleges for them to attend. But many wish a good classical and scientific education only, with a view to other professions and other pursuits, and these are to be compelled to go to these sectarian colleges or beyond the bounds of the State. Education has outgrown their leading-strings, and, as a rule, institutions of learning are successful now-a-days in proportion as they emancipate themselves from ecclesiastical control. No name stands higher in the services rendered to human freedom than that of

Thomas Jefferson. No man guarded more zealously than he the rights of States and individuals. For three things this great apostle of modern Democracy challenged the judgment and claimed the homage of posterity. These are engraven on his tomb to-day. The first of the three was the Declaration of Independence, the last the foundation of the University of Virginia. This child of Jefferson still lives, supported by the State he loved so well—$30,000 annually Virginia gives to the institution which, more than any other, made her great. No sooner was the terrible civil war closed, which left her scarred, bleeding, almost bankrupt, than she made provision out of her almost depleted treasury to re-establish the child of her pride, which had done so much to shape her honorable destiny.

The principle from which Dr. Beatty argues, that it is wrong to tax the public for collegiate education, proves too much. Carried to its legitimate result, it excludes taxation for common schools. Dr. Beatty would not push it so far; but why does he call an arbitrary halt at this point? Because he regards it expedient to do so; and this because, as he alleges, it is for the benefit of the few at the expense of the many. We are not so sure of this, however, and the principle is not one of few or many on any convenient sliding scale, but whether any tax shall be levied upon persons who reap no immediate benefit but for others, whether few or many. I justify it on the ground that it is the duty of the State to educate for the common good. As Macauley expresses it, the right to hang implies the duty to educate. And when public education has been begun, who shall say that it ought to stop where the seven gentlemen, whose new-born zeal for common schools is so refreshing, say it ought to stop? The principle, when once put in operation, is to be limited only on grounds of public expediency and the common good. The objection that comparatively few enjoy its benefits is worthless. It is open to all. The few who rise above their fellows are the beacon-lights of the present and the heralds of the future. The few who push their way to eminence by the cultivation of the talents which are their birthright, mould the character and shape the destinies of the State. The many begin to toil up the steep ascent, the few reach the top. Shall no facilities be afforded to those whose strength is unexhausted,

eager to rise to a broader vision, but must they be compelled to halt also where their weaker companions failed? The men who think for the ages, whose thoughts determine the course of human progress, are, and must be, few. And it is just because they are few, so few that the great of any age can be counted on one's fingers, that every facility and every opportunity should be given them to rise and realize their destiny. Nor can it be said of them that their education and culture are benefits which inure exclusively to them. Nothing could be further from the truth. They become centers of influence and power, grand examples, benefactors, the men who live less for themselves than for others, and whose lives are perpetual epics. Newton and Faraday, Watts and Morse, Bacon and Jefferson, who shall say that their endowments and their attainments were exclusively personal, or who shall estimate the fruits of their genius in dollars and cents? And so every educated man and woman in the land, according to the measure of their endowments, become centers of light and life and power, ever multiplying, ever growing as the centuries roll on. Dr. Beatty's objection would abolish the universities of Michigan, Wisconsin, Virginia. Cornell and Harvard would likewise go; all the universities of any reputation in the old world and the new; because in each of these the expenditure is large, and the numbers educated, when measured by expenditure, comparatively few.

I shall notice but one more fallacy in Dr. Beatty's argument, and then pass on. He tells us that tuition costs at the State College $114, and at the Center College $21; and yet the fact is that tuition costs at the State College but $15, and at Center College $45. If the sectarian colleges open their arms and halls, offering free tuition to all who seek it, why do not all men flock thither? If they are able to furnish a better education for nothing, why do they complain that ours is too cheap? Surely competition cannot injure them if they are ready to receive everybody free. Poor parents, Dr. Beatty says, cannot afford to send their sons to Danville, even when tuition is offered free; and the argument thence is that it is useless for the poor to seek an education. But, in opposition to all this theorizing, the fact remains that the poor do receive an education at the State College. Dozens and scores every year receive it. I hold in

my hand a remonstrance addressed by a large number of them to this General Assembly, praying that they will turn a deaf ear to the benevolent request of the seven gentlemen who memorialize you for our overthrow.

Says Carlyle: "Two men I honor, and no third. First the toil-worn craftsman, that with earth made implement laboriously conquers earth and makes her man's. Venerable to me is the hard hand, crooked, coarse, wherein notwithstanding lies a cunning virtue, indefeasibly royal, as of the scepter of this planet. Venerable, too, is the rugged face, all weather beaten, tanned, besoiled, with its rude intelligence. But in him is a God-created form to be unfolded. A second man I honor, him who is seen toiling to remove the thick adhesions and defacements of his labor, not for daily bread, but for something higher. Unspeakably touching is it when both dignities are united, and he that must toil outwardly for the lowest of man's wants is also toiling inwardly for the higher. If the poor and humble toil that we have food, must not the high and glorious toil for him that he have light and guidance and freedom and immortality? These two in all their degrees I honor. All else is chaff and dust, which let the wind blow whither it listeth."

This College, in common with all colleges and universities founded under the same act, owes its existence to the munificence of the General Government. In July, 1862, the Congress of the United States passed an act donating land scrip to the several States of the Union proportionate to their representation in Congress—30,000 acres for each representative. The allotment to Kentucky was 330,000, an amount quite sufficient, had it been economically administered, to have founded and endowed a respectable college without State aid. The little State of Kansas, for example, received scarcely one fourth the number of acres which fell to the share of Kentucky. She sold about 63,000 acres, the proceeds of which, invested in productive funds, now amounts to $333,136, yielding an income of $25,000 per annum, with nearly 20,000 acres of lands yet unsold. This fund the State has supplemented, from time to time, with appropriations for buildings and current expenses to the amount of $206,000, and Kansas has to-day one of the best colleges in the West. The State of New York received three times as

much as Kentucky, and has to-day an invested productive fund from the sale of lands amounting to $1,763,999, with lands of the value of $2,500,000 unsold. From sundry expressions in the act, the intention of Congress was that at least Congress price should be realized for these lands, and that even the States receiving least should have ample funds from the proceeds for the maintenance of a respectable institution.

Some years passed before Kentucky formally accepted the grant of the General Government, with its conditions. The trustees of Transylvania University, situated at Lexington, an institution owned and controlled by the State, had offered their grounds, buildings, library, museum, chemical and philosophical apparatus, and a cash endowment of $65,000 to the State as a site for the Agricultural College. Unfortunately, from some cause or other, the offer was not accepted. But when the college building of the Kentucky University, an institution founded and controlled by the Christian Church, and located at Harrodsburg, burned down in the year 1864, and the question came up whether they should rebuild at Harrodsburg or remove elsewhere, Mr. Bowman, then financial agent of the Kentucky University, conceived the idea of uniting the two interests—Transylvania and Kentucky University—under one general management, and upon this united interest ask the State to engraft the Agricultural and Mechanical College of Kentucky. The plan was submitted to the Legislature of 1865, and by them accepted, on condition that Mr. Bowman should purchase a farm, worth not less than $100,000, for experimental purposes, and within a reasonable time supply college buildings, mechanical shops, laboratories, museums, and everything necessary to the effective operation of an Agricultural and Mechanical College. The money was raised by subscription, chiefly among the citizens of Lexington, irrespective of denominational connection, wherewith to purchase the farm, many of the subscribers to the fund believing that the farm purchased would belong, in fee, to the State. The united endowments of Kentucky University, Transylvania University, and the proceeds of the Agricultural College scrip fund, would, it was believed, establish an institution of university proportions, and supply a felt want in Kentucky. The new corporation, known as Kentucky Uni-

versity, was to secure annually the interest accruing from the invested stocks representing the endowment of the Agricultural College, and derived from the sale of the land scrip, the State being the custodian of this invested fund, and reserving the right, whenever, in the opinion of the State, it seemed desirable, to withdraw the Agricultural College from its connection with the Kentucky University. Mr. Bowman induced the Legislature of that year to advance $20,000, without interest, to the Kentucky University, to erect buildings for the use of the College, the State reserving the right to reimburse itself from the income of the scrip fund at any time she might think proper. The farm was purchased, Ashland, to which subsequently Woodland was added. Meanwhile the land scrip was sold—sacrificed, I should rather say—by an agent appointed by the State, for fifty cents an acre, and the proceeds invested in Kentucky six per cents. The small amount realized by the State from the sale of land scrip was a sore disappointment to the financial agent of Kentucky University, who expected that at least $400,000 would have resulted from the transaction, and many of the friends of Kentucky University already began to suspect that the institution would be weighted rather than profited by the alliance. However, the college opened in the fall of 1866 with flattering prospects. The University, in all its interests, grew apace, and ere four years had passed had a matriculation list of nearly 800 students. The farm furnished employment to a large number of students. A mechanical department was gotten into operation, and the Agricultural and Mechanical College, partaking in the general prosperity, entered one year over 300 students. Meanwhile, however, the clouds began to gather. Two parties arose in the governing board, each of which strove to obtain the general direction of the affairs of the University. Into the merits, or even the history of this quarrel I cannot now enter. It is sufficient to say that during, and in consequence of the controversy, the patronage of the institution in all its departments steadily declined, and by the year 1877, when the Governor wrote to me to ascertain the number of students in the Agricultural and Mechanical College, I could report but sixty-six. The farm had never done anything in the way of experimental farming, and had, from the beginning, been worked

mainly to supply compensated labor to students. For several years, also, the mechanical department had been closed. No new building had even been provided for collegiate instruction, and an old dwelling-house at Woodlands was all that the Kentucky University had been able to furnish for that purpose. Kentucky University had loyally endeavored to do what she undertook, but was unable. The Legislature of 1877-'78 sent a committee to Lexington in February, I think, to report upon the advisability of continuing the connection. This committee, on its return, unanimously reported that the connection should be dissolved. Before the close of the session a committee was appointed, consisting of the Lieutenant Governor, as chairman, and ten others, one, viz: from each Congressional District in Kentucky. This committee was instructed to do three things:

First. To provide, if possible, for the continued operation of the College during the interval between the adjournment of the Legislature of 1877-'78 and the convening of that of 1879-'80.

Second. To advertise and receive bids from localities desiring to secure the permanent establishment of the College in their midst, and to recommend to the next Legislature that locality which, all things considered, should make the best offer.

Third. "To ascertain the number of departments of study necessary for the effective operation of a first-class university, such as the geographical condition of the Commonwealth, her agricultural and mineral resources, her influence and dignity, require to be constituted for the education of her sons; the plan of organization, salaries of professors and instructors; the plan, cost, and equipment of college buildings, experimental farm, mechanical department, horticultural department, laboratories, museums and cabinets, and to report the same to the next General Assembly."

These duties the Commission proceeded to discharge. In July, 1878, they met a committee appointed by Kentucky University, with whom an agreement for a provisional existence for two years was concluded, on the following basis, viz: That the Agricultural and Mechanical College should have the use of the buildings on Woodlands, and 100 acres of ground, sixty-five acres of which should be arable land; and that, as an equivalent for these concessions, that the Agricultural and Mechanical Col-

lege should admit all the students of Kentucky University during that time to instruction in its classes free of tuition.

The Lieutenant Governor, meanwhile, advertised for bids from places desiring the permanent location of the College. Lexington offered the city park, valued at $25,000, and $30,000 in city bonds for the erection of buildings thereon, which offer the county of Fayette supplemented by $20,000 in county bonds, which might be used either for the purchase of land or the erection of buildings. These offers the city and county were induced to make, partly by the conviction that the State would, in accordance with instructions to its Commission, quoted above, supplement largely the inadequate income derived from the scrip fund. The offer of Lexington and Fayette county was accepted.

The sub-committee appointed by the Commission, to whom was delegated the third duty assigned the Commission, reported a plan of organization of an institution of university proportions, which should include an Agricultural and Mechanical College as one of its colleges, the plan, cost, and equipment of buildings, laboratories, museums, experimental farms, etc., and an annual appropriation of $50,000 for its maintenance. I was an unofficial member of this Commission, and knowing the character of the report which would be made to the Legislature, informed the city council of the city of Lexington, and the board of magistrates of the county of Fayette, thereof, when I had the honor to appear before them, and to recommend a liberal offer to the College Commission, and through them to the General Assembly, for the permanent and ultimate location of the College. This report was unanimously adopted by the Commission, and by them transmitted to the Legislature. When the question of additional endowment came up, a committee, consisting of three from the Senate and five from the House, was sent to Lexington to ascertain and report the necessities of the College.

This committee made an exhaustive examination, as required. They had before them the character of institution intended by Congress, and the nature of the trust accepted by the State, and they believed that if any attempts were made to carry on its operations, after the unfortunate experiment of an alliance with a sectarian college for thirteen years, with an outcome so humil-

iating, it ought to be done in a liberal spirit, and with a determination to make it a credit to the State, and a benefit to the citizens thereof. They believed that Kentucky, with her vast agricultural and mineral resources, with taxable property of an estimated value of $350,000,000, but of intrinsic value worth nearer $500,000,000, was in a condition to wipe away the reproach, which had for years attached to her, of having no institution worthy of her. They believed that the time had come when this Commonwealth, the first to enter the Union west of the Alleghenies, the pioneer of Western civilization, the inheritor of the blood and traditions of the Old Dominion, should now place herself in the van of progress, assert and maintain a position worthy of herself, and found such an institution, unsectarian and undenominational, within her borders for moulding the thought and shaping the doctrines of her own people and of those around. After surveying the situation, the necessities of the College, and the opportunity afforded for a new departure, the committee concluded to recommend to the Legislature such additional aid as would place it on a proper living basis, and under the *exclusive ownership and control of the State*. Accordingly, a report was made—a unanimous report—that the proceeds of a tax of one cent upon every $100 of taxable property for the first year, three fourths of a cent for the second year, and one half of one cent for each succeeding year, would place the College on a living basis. The committee, in recommending aid in this way, and to this extent, believed that appropriations parsimonious in character, doled out with a miserly hand, would, instead of fostering the education and aims contemplated by Congress, and undertaken by the State, defeat the aim of the one and belie the professions of the other. They believed that this aid, administered economically and judiciously, would place the College on such footing that it could appear before any succeeding General Assembly and justify itself and the liberality of the State by its results.

This report was presented, but the Legislature was unwilling to vote so much for the first and second years. A compromise was effected, and the proceeds of a tax of one-half of one cent on every $100 of taxable property given by act of the General Assembly for the maintenance of the college for the first, second, and every succeeding year until repealed.

It must be borne in mind that when detached from Kentucky University this College had nothing. It had no farm for experimental or other purposes; no buildings, no machinery, no geological or mineralogical cabinets, no chemical or philosophical apparatus, no museums, no farming or garden implements, no stock—absolutely nothing. Some of these it once thought it had; but on the separation everything was adjudged to belong to the Kentucky University. To attempt to inaugurate and carry on an Agricultural and Mechanical College on the income from the Congressional scrip fund was impossible. The gentlemen who assail the present organization of the State College think it was. I beg to say that they are mistaken.

The Agricultural College of

Alabama expends annually	$22,300
Connecticut	57,500
Iowa	42,000
Illinois	43,000
Indiana	42,000
Massachusetts	24,000
Michigan	50,000
Maine	19,000
Wisconsin	80,000

*And these several States contribute to the support of these colleges and universities from $5,000 to $45,000 annually. It could not be in the nature of things that Kentucky, with an income from her scrip fund of only $9,900, and everything in the way of equipment to purchase, could expect to establish and maintain a college of respectable proportions on this pittance. Here I may be asked why the income from the scrip fund is insufficient. In reply, I would say that within the last fifty years the necessities of institutions of learning have grown mainly in the direction of the physical sciences. Institutions which fifty years ago were content to group together into one department all that was taught of natural sciences within their walls, have now divided and subdivided until their professorships are counted by four-fold, six-fold, eight-fold, and twelve-fold that number. Chemistry, agricultural chemistry, zoölogy, physiology, comparative anatomy, botany, geology, mineralogy, vegetable physiology, in colleges and universities of the highest class, are each a specialized department, and many of them are even

*See Appendix I.

subdivided still further. In physics, a similar differentiation of departments has taken place. In Agricultural and Mechanical Colleges, founded under the act of Congress, all these departments and many others are, in the language of the organic act, related to agriculture and the mechanic arts, and if the Congressional idea were realized in full, would in every institution be provided for. But to provide for instruction in these departments, and to do it by men who understand these specialties, requires a considerable expenditure of money. And not only so, but the material equipments which can render such instruction effective can only be provided at considerable additional expenditure. Take, for example, the Illinois Industrial University, founded under the Scrip Act of 1862. The Chemical building cost the State $40,000; buildings for the Agricultural Department, $25,000; for Horticultural Department, $25,000; for Mechanical and Military buildings, $25,000; for chemical apparatus, $10,500. All these are exclusive of the main building, to which the State gave $127,000.

In addition to the foregoing, on the narrowest interpretation of the act, instruction could not fail to be provided for in the English language and literature, in history and political economy, in mental and moral philosophy, in physics, experimental and mathematical, in mathematics, in veterinary science, in mining, civil, and military engineering, in experimental agriculture and horticulture, in practical mechanics, and in drawing and landscape gardening. Leaving out languages, modern and ancient, the bugbear at which these gentlemen stand aghast, and which nevertheless come clearly within the discretionary power of the States accepting the trust, what kind of an institution, purely scientific and technical, would they establish on $9,900 a year? How many of these departments of study would they include? How much would they allow for equipment? How much for the creation and maintenance of libraries, laboratories, museums, and cabinets? In their appeal published in the Courier-Journal of the 18th of November, and addressed to the Legislature and people of Kentucky, they stake their reputation on the statement that $9,900 is quite sufficient. It would be both interesting and instructive to see how they would apply it, and by what legerdemain in fiscal management they could make it suffice the necessities of such a college as Kentucky ought to have.

But it may be said in overt terms, as these gentlemen virtually say, that Kentucky has no need of any other college than can be maintained on this slender fund. Well, why not? She has 37,000 square miles of territory, much of it as rich as any within the limits of the oceans and the lakes which bound this wide domain. She has as much coal and iron within her borders as are contained within the four seas of Great Britain. She has 1,600,000 people. She has taxable property worth $350,000,000, but whose intrinsic value is nearer $500,000,000. Among the first to come into the Federal Union, she had academies and colleges when the great States of the North and West and South were unborn or in their swaddling clothes. Are not Kentuckians as well worthy of institutions of reputation and respectability as Ohio and Indiana, as Missouri and Illinois, as Michigan and Wisconsin, as Minnesota and Iowa, as Tennessee and Virginia, as New York and Massachusetts? Are not their sons and their daughters deserving of as good an education and as varied as the sons and daughters of any State in the Union? Why, in this respect, should we be the tributaries of our neighbors and our rivals? Why must one Senator in this Assembly send his sons to Virginia and another his sons to Yale? Why is it that no college in Kentucky can turn out a man who can build a bridge or open a mine? Why is it that no college in Kentucky can turn out a practical geologist, or botanist, or zoölogist? Why is it that no college in Kentucky ever has turned out a man who could translate an ode of Pindar, or read a page of Lucretius at sight? Why is it that the Warfields and Shelbys send their sons to Princeton and Harvard, and not to Richmond or Danville? In what college can he get more than the merest smattering of comparative philology or comparative anatomy, or comparative any thing else? Not long since I asked a Professor of Mathematics something about Quaternions, and he had never heard of it. The reason why Kentucky has no such institutions, and can do no such work is, that she has fallen behind in the race; that her educational institutions are much as they were forty years ago; that her seminaries and academies have styled themselves colleges, and her colleges, universities, and, content with the name, fancied themselves such. Look

at Michigan University, with her faculty of eighty professors, and income of $124,000; the University of California, with thirty-eight professors, and income of $100,000; Yale College, with ninety-seven professors, and income of $135,000; at Cornell University, with forty-nine professors, and income of more than $100,000; Princeton College, with thirty-five professors and income of $75,000; University of Wisconsin, with thirty-two professors, and income of $80,000. I have on this list over thirty colleges, great in teaching power, great in endowments, great in reputation, great in all the material appliances, libraries, laboratories, and museums, which make instruction effective, half of which are non-sectarian and State institutions, the other half distributed among Presbyterian, Catholic, Methodist, and Baptist. * These are great colleges, known all over this country—known abroad. But what Kentucky College, since Transylvania passed under the shadows, is celebrated throughout the nation or known abroad? A Kentuckian who should go to Gottingen, or Jena, or Oxford, or Cambridge, or Munich, with a diploma in his pocket from Yale, or Ann Arbor, or Cornell, or Princeton, or Brown University, would be received *ad eundem;* but should he produce a diploma from Georgetown, or Millersburg, or Bethel, or Center, or Richmond, who would know anything about him?

The breeders of your thorough-breds and trotters, your short-horns and Jerseys, are known all over the civilized world; but your colleges, where your sons are trained, are unheard of, unless by the compilers of gazetteers or statistics. As far as higher education is concerned, we get it, if we get it at all, as we do our mowers and reapers, our cutlery and queensware, our calico and broadcloths—from abroad. We have become the tributaries of others, and the kind of learning which cannot be gotten here we must seek abroad or do without. Why, then, have we no colleges or universities worthy of Kentucky to-day? It is not because of her insignificance in territory or in population. It is not because of her poverty, for she is rich, rich in actual wealth, richer far in undeveloped wealth.

For years Kentucky has felt the want. Her greatest institution, Transylvania, might have been among the great universities

* See Appendix II.

of the country had the State managed its interests herself alone. But instead of this, she delegated, from time to time, the duty and business of its management to successive religious denominations, each of whom promised great things, but accomplished little. At one time, when least under denominational influence, it was a power in the land, and many of the most distinguished sons of Kentucky, as well as those of other States, received their education within its walls. But under the mismanagement of those denominations which for the time exercised delegated control, and the jealousies of other denominations, who, for the time, were excluded from participation in its management, Transylvania, with occasional gleams of hope and fitful evidences of a fluctuating vitality, gradually declined, till in 1860 it had ceased to discharge collegiate functions, and in 1865 was consolidated, though a State institution still, with Kentucky University, carrying with it the prestige of its former name, its endowment of $65,000 in invested stocks, $5,000 in cash, and libraries, museums, chemical and philosophical apparatus, cabinets, buildings and grounds, worth $100,000, the use of all of which Kentucky University enjoys to-day.

This, for the time being, was an end of State attempts to sustain and foster, through her own exclusive management, university education. What Transylvania might have become I quote from a gifted writer whose name only I know: "Stinted appropriations killed Transylvania University, and its bones lie bleaching to-day around Lexington, upon the richest soil and in the healthiest climate of the world. Had it been properly supported and fostered, cheered on its way and encouraged, as the University of Virginia or the Michigan University have been, it would to-day be the pride and glory of the State, and what it might have accomplished, in these long years of deadly stillness in law, in literature, in medicine, and in science, for the State and for the world, who may dare to venture an estimate?"

The Trustees and Faculty of the State College are accused of having transcended the powers conferred upon them by the Legislature of Kentucky, and of having incorporated in their curriculum of studies branches of learning not contemplated by the organic act donating lands to States for the establishment of institutions of this kind. If this be true, the authorities of the

college are doubtless censurable. But what powers have been transcended? What is contained in the course of study which a fair interpretation of the act of Congress does not authorize? In order that these may be before us, I quote the sections pertinent thereto entire.

Section four of the act of Congress, approved July 2, 1862, under which Agricultural and Mechanical Colleges are established, is as follows:

And be it further enacted, That all moneys derived from the sale of lands aforesaid by the States to which the lands are apportioned, and from the sales of land scrip hereinbefore provided for, shall be invested in stocks of the United States or of the States, or some other stocks yielding not less than five per centum upon the par value of said stocks, and that the moneys so invested shall constitute a perpetual fund, the capital of which shall remain forever undiminished, except so far as may be provided in section fifth of this act, and the interest shall be invariably appropriated by each State, which may take and claim the benefit of this act, to the endowment, support, and maintenance of at least one college where the leading object shall be, without excluding other scientific and classical studies, and including military tactics, to teach such branches of learning as are related to agriculture and the mechanic arts in such manner as the Legislature of the States may respectively prescribe, in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions in life.

Also article 3 of section 5:

Any State which may take and claim the benefits of this act shall provide, within five years, at least, not less than one college, as described in the fourth section of this act, or the grant to such State shall cease; and said States shall be bound to pay to the United States the amount received of any lands previously sold, and that the title to purchasers under the State shall be valid.

Section 3 of the act of the Legislature of Kentucky, approved March 13, 1878, and entitled "An act in relation to the Agricultural and Mechanical College of Kentucky, and to provide for the future management and location thereof," is as follows:

Said Commission shall ascertain the number of departments of study necessary for the effective operation of a first-class State University, such as the geographical condition of the Commonwealth, her agricultural and mineral resources, her influence and dignity, require to be constituted for the education of her sons; the plan of organization, salaries of professors and instructors, the plan, cost and equipment of college buildings, experimental farm, mechanical department, laboratories, museums, and cabinets, and submit the same to the next regular General Assembly.

The following sections from the acts of incorporation, defining the appointment and character of the board of trustees, their powers and duties, are also added:

CHAPTER 359.

AN ACT to incorporate the Agricultural and Mechanical College of Kentucky, and to provide for the future management thereof.

§ 1. *Be it enacted by the General Assembly of the Commonwealth of Kentucky*, That the government, administration, and control of the Agricultural and Mechanical College of Kentucky be, and hereby is, vested in a board of trustees, constituted and appointed as follows: First. His Excellency, the Governor of Kentucky, who shall be *ex officio* chairman thereof. Second. Twelve men, discreet, intelligent, and prudent, who shall be nominated by the Governor of Kentucky, by and with the advice and consent of the Senate, and who shall hold their office for six years, four retiring and four being appointed at each regular session of the General Assembly. Third And four who shall be elected by the alumni of the institution so soon as said alumni shall exceed one hundred; and shall also hold their office for six years, two being elected and two retiring every two years. The present Board of visitors shall continue to perform the duties assigned to the board of trustees under this act until said board shall have been appointed and qualified.

The board of trustees, under this section, appointed by the Governor and confirmed by the Senate, consists of the following named gentlemen:

Term of office expires January 10, 1882.—W. B. Kinkead, Lexington; B. J. Peters, Montgomery county; W. H. Wadsworth, Mason county; P. H. Leslie, Barren county.

Term of office expires January 10, 1884.—James F. Robinson, jr., Lexington; B. F. Buckner, Lexington; John G. Simrall, Louisville; D. C. Buell, Muhlenburg.

Term of office expires January 10, 1886.—Robert S. Bullock, Fayette county; L. J. Bradford, Covington; A. R. Boone, Graves; Philip P. Johnston, Fayette.

Chairman ex officio.—Gov. L. P. Blackburn.

§ 2. The board of trustees, when appointed and qualified, shall be a body-corporate, and as a corporation shall have power to sue and be sued, implead and be impleaded, contract and be contracted with; and possess all the immunities, rights, privileges, and franchises usually attaching to the governing bodies of educational institutions in Kentucky. They shall have power to receive, hold, and administer, on behalf of the institution whose government, administration, and control is committed to them, all revenues accruing from all existing or future endowments, appropriations, or bequests, by whomsoever made, subject to the conditions attaching thereto; to receive, administer, and apply for and on behalf of said college, all moneys, devises, stocks, bonds, buildings, museums, lands, apparatus, &c., &c., under the conditions attaching

thereto. Said trustees shall have power to determine, from time to time, the number of departments of study which the college shall comprise within the scope of the organic law of Congress donating land scrip for the endowment of Agricultural and Mechanical Colleges, the relation which each department or group of departments shall sustain to each other and to the whole; to devise, allot, and arrange the distributions of departments or groups of departments, with the designation appropriate to each, and to devise the means required for their effective instruction, administration, and government. They shall also have power to appoint presidents, professors, assistants, and tutors, and to determine the salaries, duties, and official relations of each; to remove or suspend from office all incumbents of offices filled by them, for just cause, and to do all other duties which may be needful for the welfare of the institution.

§ 3. Said board of trustees shall have power to adopt such by-laws as they may deem proper, not inconsistent with this act.

§ 4. Said board of trustees shall have power to grant degrees to the alumni of the institution, to prescribe the conditions upon which post graduate honors shall be obtained by the alumni and others, and to confer such honorary degrees, upon the recommendation of the faculty of the institution, as they may think proper.

§ 6. In the appointment of presidents, professors, or instructors, no preference shall be shown to any religious denomination.

§ 12. Each Representative district in the State of Kentucky shall be entitled to send two properly prepared students to this college free of tuition; said students shall be selected and appointed on competitive examination, and the trustees and teacher of each common school taught within said Representative district shall select and send before an examining board, appointed by the Court of Claims, one student taught in the school managed and taught by them, from whom said examining board shall make the selection of appointees to said college. Preference in such selection and appointment shall be given to energetic young men, whose means are not large, to aid whom in obtaining a good education this provision is especially intended. All such appointees shall retain their appointments in the Agricultural and Mechanical College during good behavior, until their term of education is completed.

§ 13. The faculty of the Agricultural and Mechanical College shall have power to grant certificates to teachers, students of the college, valid in any county in Kentucky, under the conditions and limitations prescribed by the common school law.

§ 14. The board of trustees shall possess a common seal, which shall be attached by the president of the board, or by the chairman of the executive committee, when the board of trustees is not in session, to all diplomas, honorary degrees, and all public documents emanating from the college.

§ 15. One student from each county in the Commonwealth, who has been engaged in teaching, or whose immediate object is to prepare for the profession of teaching, and whose studies are directed specially with reference to that end, shall, upon the presentation of a certificate to that effect from the Common School Commissioner of his county, be entitled to free tuition in the Agricultural and Mechanical College of Kentucky.

From the amendment to the act of incorporation approved April 23, 1880, the following sections are also quoted:

§ 7. That the regular collegiate period of the Agricultural and Mechanical College shall be four years, and only those students who pass through that period, and attain the prescribed standard of proficiency in the regular course of studies, or those who, having qualified themselves elsewhere, shall be found, after at least one year's attendance in the college, to have attained the prescribed standard of proficiency in the regular course of studies, shall receive a diploma from the college. But a normal department, or course of instruction for irregular periods, designed more particularly, but not exclusively, to qualify teachers for common and other schools, shall be established in connection with the college; and those students who attain to the requisite proficiency as teachers, in the opinion of the Academic Board, shall be furnished by the college with a certificate to that effect; setting forth in each case the various branches in which the student is qualified; and such certificate shall be evidence of qualification to teach in the public schools of the State in the various branches named, without further examination.

§ 8. That section twelve of said act be, and is hereby, so amended as to allow each legislative representative district to send, on competitive examination, one student each year, between the ages of twelve and twenty-five, to said college free of tuition charge, instead of two for the collegiate period, as in said act provided; and that teachers or persons preparing to teach, may be admitted free of tuition charge for one year, at the rate of not more than four, at the discretion of the Board of Trustees, for each legislative representative district; and that other students, without regard to place of residence or birth, may also be admitted to the college on the payment of the fees prescribed for them by the Board of Trustees or the Academic Board.

The men who framed the act of Congress donating public lands for the purpose of founding and endowing these colleges knew the requirements of our people. They knew that with these thousands of millions of acres the people of this great nation must be largely occupied with agriculture and the mechanic arts. The learned professions, law, medicine, theology; the civil, diplomatic, and government services; manufactures, merchandise, and commerce; are all sustained ultimately by agriculture and the mechanic arts. They knew that the perpetuity of Republican institutions, the just co-ordination of liberty and authority, depend now and will for all time depend upon the intelligence, honesty, and integrity of the millions who people this wide domain. They knew that in the nature of things the vast majority of those who cultivate the soil will be its owners, and that they, with the mechanic, will constitute forever by far the largest part of our population. They regarded it as their duty, administering the greatest trust ever committed

to men, to provide all the conditions and all the safeguards which make a people intelligent, moral, honest, and honorable. To this end they regarded the education of the citizens of the Republic as the ground-work of their intellectual and moral greatness, the indispensable conditions of all rational progress and of all healthy development; and the special object of this legislation so generously conceived was not to provide for the wealthy few, for the millionaires who gather and garner their fortunes from the products of the plow and loom, the mine and the forge, but for the millions by whose daily toil the fortunes of the few are made. These are and forever must be the majorities on whom the destinies of the future depend. The rich are able to send their sons abroad if they cannot find the conditions of the intellectual growth and development and culture which they require at home. Here are no class distinctions. The many do not exist for the sake of the few. Concurrent with equal political rights, which are the heritage of all. The genius of Republican institutions requires that equal facilities and equal opportunities should be given to every citizen, to the end that genius and talent and capacity, wherever found, whether in the son of the rich man or the son of the poor, shall have equal chance in the struggle for pre-eminence.

Accordingly the framers of the act determined not to make common-place farming and common-place mechanics the object of their legislation. They would never have troubled themselves to found and endow colleges for these purposes only. To plow and to hoe, to dig potatoes and carry them to market, could be learned quite as well from any practical farmer. The knowledge how to wield the fore hammer at the anvil, to drive the plane or handle the chisel, to make wagons and stock plows, could be acquired equally well at any village blacksmith or wagon-making shop. But Congress took a wider, broader, higher view of the education of the farmer and the artisan. They intended to do more even than to enable the student to translate into action the principles taught in the class-room. Their aim was to make intelligent, liberally educated agriculturists and mechanicians, who should be in sympathy with all that is ennobling and inspiring around and above and within themselves, making agriculture and mechanic arts exist for the sake

of the man, not the man for the sake of these; precedence is given to the liberal education; that is to come first in order of time, the practical afterwards. The liberal is to be the foundation upon which the practical stands, the ground work of any superstructure which the liberally-educated man may choose to build. The professions and pursuits may follow. He may elect to devote his life to agriculture or to any one of the thousand mechanical arts; but whether he do the one or the other, he is to carry with him a liberal education, at least the opportunity for a liberal education is to be afforded him as the condition for an intelligent apprehension of the relations in which his pursuit necessarily stands to himself, to others, to all arts, and to all sciences. Here the wisdom of the framers of the organic act stands clearly forth. They did not direct these colleges to teach agriculture, simply. The gentlemen who memoralize you suppose they did. They did not direct these colleges to teach any special trade. What did they do? They direct, in language as explicit and as precise as can be expressed, that "such branches of learning as are related to agriculture and the mechanic arts" shall be taught. Now what does this mean? I will endeavor to explain. "Agriculture is an art, not a science. There is no science of agriculture any more than there is a science of medicine. Men sometimes loosely talk of the science of medicine. There is no such science. A science is something more than a mass of information; it is a body, an organized system of truths and principles established beyond dispute. But, although medicine is not a science, there are many sciences relating to the healing art, throwing light upon it, and guiding it on its difficult way, making it rational and not empiric, an intelligent apprehension of the relation of cause and effect, not fortuitous guess-work. Botany, pharmacy, human and comparative anatomy, surgery, physiology, and pathology are all sciences, without which the healing art as a rational art could not exist. So far as the physician is concerned, all these exist for the sake of his art. So it is with teaching. Teaching is not a science, but an art. There are, however, various sciences without which teaching as an art would be impossible. The science of numbers or mathematics, the science of language or philosophy, the science of geography, physical, descriptive, and political,

the science of mind or mental and moral philosophy, indeed, every physical science and every science not physical, are all laid under contribution by the teacher, and makes his art possible, and the more of science he knows the better fitted he is for his profession.

So agriculture, though not a science, is surrounded by sciences which throw light upon it. And if we might call an art liberal in proportion to its affiliation with science, then agriculture is the most liberal of all the arts, for it is allied to more sciences than any other. Step out on your farm and pick up a handful of soil, and before you can answer all the questions which that soil puts to you, you must know something of physical geography, organic and inorganic chemistry, the geology of your own and contiguous counties, their water-sheds and water-courses. Pick up a piece of coal or a piece of chalk, this pebble or that fossil, and before you are prepared to answer all the questions connected with the origin of the one, or the physical conditions which have determined the other, you will have need of sciences not a few. Stoop down and detach a single blade of grass with its roots, and you have in your hand all the essential data of the problem which that wonderful science, botany, is called to solve. Crawling under your feet, humming about your ears, infesting the plant which you have in your hand, disputing with you the possession of the air which you are about to take into your lungs, are living creatures whose structure, habits, and relations to other organic life forms but one division of the vast science of zoölogy, which treats of all animated existence on the earth, in the air, and in the sea. Every plant that grows on your farm, every animal in the stock yard, every bird and insect that hovers in the air, every implement of husbandry, every road, fence, farm building, every running stream, swamp, forest, change of temperature, rain storm, drought, every alluvial deposit left by the swollen stream, every upheaved rock, everything that the farmer's eye rests upon, or his ear hears, or which gratifies or offends his sense of smell, borne on the passing breeze—everything represents a science which lies very close to his work, or which it is his interest to know." The knowledge may, in some instances, not materially increase the contents of his store-house, but it adds to his pleasure, and gratifies his curiosity. Man was made

to know—made a little lower than the angels, but endowed with faculties and capacities far above the horse which carries him, or the cow which feeds his family. As he knows more and more, how his plants grow, how the stock upon which he bestows his thought and his care, develop from the germ to the embryo, and from the embryo to the beautifully proportioned thorough-bred which adorns his pastures, and the lamb which gambols before him on the lawn, he feels a deeper sympathy with nature, and with the processes of nature, appreciates more fully his own dignity, his relation to the vast chain of animated existence, of which he is the glory and the crown, and to his Creator who feeds the ravens and clothes the lilies of his fields.

Here the question may be asked, what use has the practical farmer for all this? "Cannot he raise corn and market his hogs without a knowledge of botany and zoölogy?" I answer, he can; and if the end and aim of the existence of the farmer is merely to grow corn and market hogs, then I concede the question without argument. But the corn and the hogs exist for the sake of the man, and not the man for the corn and the hogs. The end and aim of human existence is something higher and nobler than this. His thoughts are not, if he rises to a proper conception of his dignity, altogether of the earth and earthy. They reach beyond the bounds of space and time. His nature allies him to the divinity, not to the brute. His mission is not to live and vegetate, but to comprehend himself and all things out of himself. If the question be asked, what use the farmer can make of quadratic equations and logic, I answer, quite as much in his sphere as the lawyer, minister, or the physician can in his. His mind is trained thereby to correct habits of thinking, his faculties are disciplined, his views are widened, he is brought into relation with the great laws of progress. "The consequence is, that he can solve difficulties with more care, think more clearly, calculate probabilities with better forecast, adjust means to ends with better judgment. If this be so, then every intelligent father among you will want his son so trained, so disciplined, so instructed in the processes of thought, in the mysteries of life and of organization, that he will draw instruction and pleasure from every blade of grass," from every passing breeze, from the rill that bubbles at his feet, and from the stars

which light the heavens that bend above him. He becomes the seer, the prophet, the interpreter of himself, of nature, and of God; superior to nature, modifying, directing, controlling its powers, not for physical purposes only, but for high moral ends. And is this sort of education too good for farmers and mechanics and their sons? But I am asked, why will you include classics also? I reply, because the act of Congress and the Legislature of Kentucky allow it. Classical training, as all other studies, disciplines the faculties, humanizes, elevates, and refines. So does the study of any language, whether ancient or modern, which possesses a literature and has been made the vehicle of great and noble thoughts. "The study of the classics, to many men, makes other studies easy and fruitful. Some minds can best be disciplined by mathematical and physical study, some by classical and philosophical study. A wise system of education will supply facilities in both, if the study of classics and philosophy, though of no direct practical use to a farmer, a mechanic, a merchant or manufacturer, may make him nevertheless a better and happier and more influential farmer, or mechanic, or merchant, or manufacturer for having studied them. He gets a new conception of life, its duties, its privileges, its possibilities, and a new conception of education, which leads to important results." I can see no good reason why of two sons destined, the one for a farmer or mechanic, and the other for a physician, or lawyer, or minister, the latter should have opportunities of culture and mental and moral training opened to him which are denied to the other. The father in narrow or, perhaps, humble circumstances must send them to the same school. He cannot afford to separate them. It is a question of money, perhaps of a few dollars only, but a few dollars make all the difference in the world to him. Must he send the one only and keep the other at home, or if he send both shall an equivalent of that which is supplied to the one be denied to the other?

The General Government provided wisely when it made the inclusion of classical and other scientific studies discretionary with the Legislatures of the States accepting the land scrip with its conditions and its trusts. In all or nearly all institutions in which proper provision is made for the branches of learning

related to agriculture and the mechanic arts, established under the act, classics have been admitted and welcomed. It is done at comparatively little cost. If I have succeeded in showing that the branches of learning related to agriculture and the mechanic arts are neither few nor unimportant, as the adversaries of the State College would have you believe, then the provision which is complained of, by the simple addition of one chair, or at most two, virtually doubles the capacity and consequent usefulness of the institution. If the departments of study complained of can be made, at one tenth or one twelfth the cost of the whole, to double the efficiency, provide for twice the number of wants, round off more completely the system of training, and supply a good education to a greatly increased number, surely it is the part of sound economy to make that provision. What I mean is this: If a course of instruction in English, mathematics, chemistry, physics, botany, geology, agriculture, horticulture, and practical mechanics, are required for such an education of the farmer and the mechanic as I have outlined above, can be provided for any number within reasonable limits at a cost of say $20,000 per year, constituting a good scientific course of study, and entitling the student who has completed it to a degree; and if instruction in classics or in modern languages can be added to the already exisiting course of study at an additional cost of say $1,500, and by its addition practically double the opportunities for scientific and liberal training, and render two courses of instruction possible instead of one, is it not the part of economy to do it? Is it not the duty of the State to provide the greatest possible advantages to the greatest possible number, especially if, in the exercise of a wise discretion, such provision be rendered a necessity by her own legislation? The State created a Normal School in connection with the State College. Dr. Beatty thinks the State has no need of a Normal School. She did this as a matter of economy. She thought it wise to utilize the existing departments in the State College for purposes of Normal School training. By the establishment of a department of theory and practice of teaching side by side with the existing departments, she utilizes every such existing department, and, so far as the Normal School is concerned, subordinates them to its use. But no course of Normal School

training would be worth much unless provision were made for classical instruction to those who are to become teachers, and issue from its walls to take charge of the common schools. A limited course, at least, in classics must be made accessible to them; but when the limited course is provided, why not enlarge it, at trifling expense, for the benefit of those who wish to pursue classical studies farther than the pupil teacher? The board, in the exercise of the discretion given them by the State, added, partly as a necessity for the Normal School and partly for the benefit of others desiring a full classical course, the department which has given so much offense, and which has brought upon us all the vials of collegiate wrath. They allege that the State has no right, and the board of trustees no right, to include classics in the course of study of the State College, and this on the ground that it interferes with them. Who gave them a monopoly of education, classical or otherwise? By what inherent right or by what delegated authority do they claim a monopoly of classical education? Is it because they have made ample provision for it within their walls? If so, why do the more ambitious of our youth who desire thorough classical training go beyond the State to obtain it? In how many of the complaining colleges can a student write correctly, from beginning to end, the accent on a Greek verb? How many of them can translate into respectable Latin the first section of your Bill of Rights? They say it is not necessary to do that; a man may be a scholar and not do either of these things. I demur to that conclusion. A man cannot be a Latin or Greek scholar and unable to do it, and the institution which cannot make him such a scholar, if he desire it, is not, to say the least, entitled to arrogate to itself a monopoly in that sort of education.

They tell us that more students come to Kentucky colleges from other States than go from Kentucky to other colleges. Well, what does that prove? Not the superior character of Kentucky colleges, certainly. How many come to Kentucky colleges from the New England States, from the Middle States, from the North and Northwestern States? Few men from any State who want to obtain either a high classical or scientific education come to Kentucky; but those who desire to go away from home in order to have the distinction of obtaining

an education abroad, and who attach more importance to a diploma than to what the diploma should represent, come to Kentucky, or to colleges of equal grade in other States. A large number of them enter the preparatory departments of these colleges. Indeed, the preparatory department in every Kentucky college is generally the largest. It is no uncommon thing for young, ambitious men to enter a college in Kentucky, and after getting well up, go East or North to Princeton or Yale or Amherst or Harvard or Brown University or Ann Arbor or the University of Virginia. But who ever heard of a young man coming from one of the higher classes of any of these colleges to one of ours? The best of your young men only, the ambitious, the aspiring, the resolute, those who can pass the rigorous examinations at these colleges, those who desire the substance of an education, go East and North, and, in the nature of things, these are the comparatively few. Kentucky University and the Bible and Commercial Colleges connected with it, draw a larger proportionate patronage from outside the State than any other Kentucky college. But these come mainly to study theology in the one and book-keeping in the other. The former does not require a classical course as a condition precedent for the vast majority who enter the Bible College; the latter does not require it at all. The truth is, the cream of our young men go East and North to graduate, and Dr. Beatty and his associates, in submitting the figures which are their own condemnation, seem to have been wholly unaware of the fact. And whether you abolish the present organization of the Agricultural and Mechanical College or not, this yearly drain of your best and most highly-gifted young men will go on until the evil is remedied by establishing first-class colleges at home. They have done very well with the means at their disposal. No one would say a word against them if they were content with the level to which they properly belong. Rhode Island and Delaware are not to blame for being small. But if the one asserts that it is as big as New York, as rich, as strong, as populous, and the other that it is a match for Virginia, everybody can see how ridiculous they become by their pretensions.

If Georgetown and Richmond and Center College should establish the same standard of admission, and adhere to it, not

one in ten of their present freshmen could enter. Then their preparatory departments would exhibit a still greater disproportion than at present. The truth is, these colleges have stood still while others were moving onward and upward. Forty or fifty years ago the disparity between them and their contemporaries was not so great. Center College had four or five professors then, Yale perhaps fifteen. Center College has six to-day, Yale ninety-seven. They are determined, if they can, to keep Kentucky on the same plane with themselves. If they cannot build up themselves they will keep everything else down to their own level. If this be the case with classics, how is it with the natural sciences? They are almost non-existent. A Kentucky college will give a student a few weeks in chemistry, a few in botany, a few in geology, a few in physiology and hygiene, taught mostly by recitation from the text-book, with meagre illustrations. In chemistry the pupil will, perhaps, see oxygen gas made and burned in a jar, a Leyden jar charged by an electrical machine, the electrolysis of water, and a few more illustrations of that sort. But of actual laboratory work he knows little or nothing. He is not put to do any laboratory work himself. There is no college in Kentucky with experimental apparatus for quantitative and qualitative analysis, with from thirty to forty tables for students to work at, where work is assigned by the head of the department, under the supervision and aid of competent assistants, where students are required to tabulate results, and report when he makes his daily rounds. There is no place where independent investigation can be carried on, or where students are taught and required to make original research. There is not a college in Kentucky which can make such a chemist as Myers, of the Louisville High School, or such a botanist as Kellerman, or such a geologist as Procter and Crandall.

I believe that I have succeeded in showing that the future agriculturist and mechanician deserves and should receive an education equal to the best; that his avocation, the dignity of his nature, the welfare and perpetuity of our institutions all alike demand this. I have also shown that the Congress of the United States, in making the provision, and the State in accepting the trust, and the Legislature in carrying it out, all appre-

ciated this great truth, that the higher education of the industrial classses, their thorough mental and moral training, is required by every consideration—social, moral, political. I have also shown that the Legislature and the authorities of the college are within the letter and the spirit of the organic law, and in establishing what was imperative they acted with a wise discretion and a wise economy in including also what was left discretionary with them. And lastly, I have shown, I think beyond all refutation, that the pretensions of the Kentucky colleges to do all that a Kentucky youth needs in classics, and especially in science, is a most extravagant pretension. The fact that they have had undisputed possession of the field, some of them for sixty years, and that in their opinion they have so little hold upon the confidence and support of the public that they dread the competition of a college scarcely two years old, and clamor for its overthrow, is of itself the overwhelming proof that Kentucky wants and demands something better and broader and higher than they can give or hope to give for years to come.

The gentlemen who assail us allege that Lexington enjoys exclusive and exceptional privileges in the Agricultural and Mechanical College, and allege this as a reason for the withdrawal of State aid. They have not only made this a matter of broadcast publication, but they have studiously endeavored to impress the minds of members, especially those from Eastern and Western Kentucky, with this idea. If it be true that this College be organized exclusively or mainly in the interests of Lexington, then there would be just cause of complaint. Lexington is the site of the college. Before its ultimate location was determined any community desiring it had the privilege of making it known, and meeting the Commission appointed to determine that matter. Ample opportunity was afforded for any and all towns in Kentucky to compete for the location. Had it gone to Bowling Green, or Paducah, or Glasgow, or Owensboro, or Paris, or Columbia, or Mt. Sterling, or anywhere else, the town receiving it would have enjoyed precisely the same privilege as Lexington—the privilege of location and proximity thereto. If it be anywhere on terra firma, and not

in the clouds, as these gentlemen would be glad to have it, the town or county where it might have happened to be would certainly enjoy advantages which it does not now enjoy. So the inhabitants in the immediate vicinity of Center College, of Georgetown, of Richmond, of Millersburg, of Bethel, of Ogden, of Kentucky University, enjoy advantages which they would not, as regards these respective institutions, if situated elsewhere. Their sons, who reside in these towns, or within a radius of three or four miles, can attend and at night be at home under the parental roof. But if these sons pay their fees as others do, and crowd no one out, can it be alleged justly, as a matter of complaint on the part of the respective churches, that they enjoy exclusive advantages? And if the citizens of Lexington and Fayette county pay their tuition fees for their sons, as others do, and crowd no one else who seeks admission out, has either the State or the other colleges any just reason to complain? Lexington and Fayette county are allowed their quota under the acts of the Legislature just as other Representative districts are. Why should they not? Should all other applicants be excluded? If so, why? I remember that when the present organization was effected, I made a proposition to the board that, in recognition of the liberality of the city and county, a certain number of free scholarships in the college should be tendered to each. The board promptly refused. The suggestion was honored neither with a motion nor a second. The board said no; we will not have it said that either Lexington or the county of Fayette enjoys any privileges or advantages beyond the privileges and advantages offered to every other Representative district, except those which nature has given them—immediate neighborhood to the college. And yet Lexington and Fayette county gave $80,000 in grounds and bonds for the erection of buildings. Their bonds, issued for this purpose, run thirty years, and the interest on these, with the amount requisite to liquidate the principal at maturity, together with the interest on the value of the land, amounts to $6,166 66 annually, exclusive of their quota of the one-half cent tax, which amounts to $600 more.

The bulk of the receipts in tuition fees comes from the students resident in Lexington and vicinity. But the annual cost

to the city of Lexington and county of Fayette, exclusive of fees, will be, for the next thirty years, $6,766 66, equal to $67 66 per head for one hundred pupils. Why, then, should Lexington be taken to task thus soundly because, having the College in her midst, she prefers to send to it rather than to Danville or Georgetown or Richmond? This splendid liberality of Lexington in her munificent donations, after she had already, thirteen years before, given $112,000 for the purchase of a farm for its use, but which went to Kentucky University on the separation, should rather be matter of commendation than of blame. Lexington and Fayette county gave all that for the College—not for exclusively unselfish purposes; I do not claim that; but she gave these lands and these moneys believing that the State would liberally and generously support the College, and make it the pride of the Commonwealth; and though there is no legal obligation on the part of the State to do this, yet the moral obligation is none the less. On the faith and in the belief of liberal State aid—a faith and a belief founded on instructions given by the Legislature to its Commission, and a knowledge of what the report of the Commission would be—they gave lands and money. And now these college presidents and others throw their liberality in their teeth, make it a reason for cutting off the supplies, crippling, and ultimately breaking it down, in order that a possible half dozen more may enter the preparatory departments of their institutions each year. Not only is the moral obligation resting upon the State to sustain it, and make it effective, but the State owes it to itself and the General Government to carry out the trust in the spirit of its conditions, expressed and implied. These complainants care not a bawbee for the increased or decreased efficiency of the common schools. They were silent on this question till now. They do not care for and do not feel the half-cent tax, except in so far as it brings in the needed income to the College, which they are pleased to regard with so much hostile affection. But they stand by, and urging the plea of selfish illiberality, endeavor to make the State miserly, and the General Assembly parsimonious, by refusing the bounty which injures nobody, and brings joy to every poor man who has an ambitious son to educate.

Equally groundless is their plea that the college is organized only in the interest of the rich; that only the rich can enjoy its benefits. This statement, too, has been scattered broadcast over the country, and dinned into the ears of members of this General Assembly; and yet no statement can be more directly opposed to the facts. It is organized in the special interest neither of the poor nor the rich. It is not a school exclusively either for the one or the other. But it is a school where rich and poor meet on equal terms. Dr. Beatty and his associates are pleased to call this statement utopian. But the facts are against them. The poor boy who comes to this college with a county appointment, which gives him his tuition and his other fees also, if he need it, enters the college on equal terms and no more handicapped as regards social and class standing than his more fortunate fellow, who has his pockets full of money. He knows that he comes on the scholarship of his county, whether, like Jefferson and Fayette, it pays thousands yearly into the general revenue, or, like Wolfe and Pike and Magoffin, pays comparatively little. He feels no sense of dependence. His sense of manhood and independence is not brought to the blush. When side by side with his richer classmates, he does not feel the chill of poverty in his bones. In a speech made by the Right Hon. John Bright not long ago in Wales, when laying the foundation stone of a school, he said: "I recollect Mr. Adams, who many years ago was the Minister for the United States in Great Britain, a member of one of the oldest and highest families in America, whose father and grandfather had been Presidents of the United States, always went to the same school as his father's gardener." When I read that I felt a just pride that in one country in the world that was possible, and I reflected that nowhere else had I heard or known of so many instances where the rich and the poor were brought together on a footing of perfect equality as in the State College in Lexington. Two boys who wielded the ax and the hoe and made their living by the sweat of their brow when in college, are now at the Louisville bar. Another graduated from West Point, and is now an officer in the army of the United States. Another represented a district in Tennessee in the last Congress.

Another went only last week to enter the Signal Service at Washington.

Some years ago, before the warfare in the board of curators in Kentucky University wrecked its prospects for a time, there were not less than sixty or seventy students on the pay-roll, and, if let alone, the time will not be long till we have as many more. Dozens and scores have maintained themselves, and if you will allow us to live will do it again. Our pay-roll for last month, though in midwinter, was $110. If any member of this Legislature will drop in to our chapel at morning service, and see the numbers who sit there in homespun, not all the college presidents in Kentucky could persuade him that a majority of the occupants of these seats are the sons of rich men. They are there from the mountains and the valleys, honest, industrious, with bronzed features, and hard hands, but with resolute hearts, and every time I return from Frankfort ask me whether these "enemies," as they term them, of the State College, are going to persuade the Legislature to shut down on them, and compel them to go home? My answer to them is, "I think not." I tell you these gentlemen speak without knowldge; I tell you that many a poor young man has gotten an education there who could get it nowhere else. This fact is beginning to be known all over the State. These gentlemen say they also receive and educate the poor gratuitously. But when they do, the recipient of the gratuity knows it, and his sense of manhood and independence feels it, his class-mates know it, he is elbowed, tolerated, pitied, recognized, as his talents warrant, and he goes through with a sense of degradation and a sacrifice of self-respect that he can never get rid of. He feels it then, and he feels it as long as he lives.

The precedent for State aid is not entirely new. In 1798 6,000 acres of public lands were given to each of five institutions. In 1803 the forty-six schools and seminaries which had not been so favored obtained each 6,000 acres. About the same time an equivalent amount was given to each county for general educational purposes. In 1821 one half of the net profits of the Bank of the Commonwealth was distributed *pro rata* to all the counties in the State, and $60,000 from the branch banks were donated to Transylvania, Center College,

and the Southern College of Kentucky. I am indebted for these figures to a very able article prepared by Major B. W. Arnold, of the Kentucky Military Institute, and published in the Courier-Journal of the 3d inst.

When the consolidation was effected between Transylvania University, a State institution, and Kentucky University, a denominational college, all the grounds, buildings, apparatus, libraries, endowments of Transylvania, passed under the administration and control of the Curators of Kentucky University. I am not questioning the legality or expediency of the consolidation. But what I wish to bring to your attention is the fact that Kentucky University enjoys these to-day. Upon the consolidation the Trustees of Transylvania handed over to the new corporation cash assets, $70,000; buildings, libraries, apparatus, etc., valued at $100,000; the interest on which amounts, at six per cent. annually, to $10,200. In addition to this, there is State aid rendered to this institution annually, in the shape of exemption from taxation, to the amount of nearly $2,000. Here, then, is an aggregate of State aid direct to the amount of $10,000 annually, and indirect to the amount of $2,000 or more, or an aggregate of over $12,000 yearly. The Chairman of the Board of Curators does not complain of State aid rendered to his college, although a denominational one, its college building and dormitory being used, the former partly and the latter almost entirely, for purposes and instruction purely theological, but he signs the appeal to the Legislature against State aid to the State College, though owned and controlled by the State. Since 1865, the year when the Transylvania funds and realty passed under the control of the Board of Curators of Kentucky University, the latter has gotten directly therefrom income and rental value to the amount of $163,000, and indirectly, by exemption from taxation, $32,000, a total of $195,000 in sixteen years. Is it the proper thing to do for the President of the Board of Curators of Kentucky University, a denominational college existing mainly for the education and training, in connection with the Bible College, of ministers in the Christian Church, to complain of State aid given to the State College and join in the crusade for its repeal? So Center College, George-

town, Bethel, Millersburg, Richmond, and Ogden, all, except the latter, strictly denominational, have been for years, probably since their organization, the recipients of State aid by exemption from taxation. How much the aggregate exemption for these amounts to I cannot tell, but it reaches thousands annually

If the sectarian colleges fail to effect their purpose with the present Legislature, I believe an auspicious era has dawned for education in Kentucky. The State College is not yet a great college, nor for years to come will it be a great one. It is not in the nature of things that it should be. Colleges, like individuals and nations, are of slow growth. But it has made a beginning, and a good one, so good that already, in the second year of its independent existence, it has obtained an invidious recognition from its contemporaries. It has new buildidgs, a good laboratory, ample accommodations for five hundred students. In the years to come, it will create its own botanical, agricultural, and geological cabinets. It has a large and well-selected faculty, comprising some of the best scholars and teachers in the State. It covers a field sufficiently wide to lay the basis of a good education in a large number of departments.

The complaining colleges testify their alarm in regard to its future, if its present revenues are left unimpaired, and its present course of study allowed to remain. I share the belief with them that it will grow and expand, and shed a healthful influence around it. I do not share their apprehensions that they will lose thereby. I do not believe that the field is so narrow that competition will reduce collegiate attendance and collegiate profits to the limits of precarious subsistence. With a population of over a million and a half, there is room enough and work enough for the State College and for the denominational colleges also. It will, if they comprehend their necessities and opportuities, stimulate them to a salutary activity, to increase their endowments,to add to their courses of study,to enlarge their faculties in numbers and ability. Each will form a proper counterpoise and corrective to the other. Each will be on its guard to maintain the efficiency of its administration, the thoroughness of its instruction, the high standard of its course of study, the purity of its influence.

In this generous competition the State College will perform well its part. They will address themselves more especially to provide an education for those who seek to prepare themselves for the church, the bar, or the study of medicine, whose purpose is only to acquire a knowledge of classics and mathematics sufficient upon which to build a professional education, to be obtained elsewhere. They will also provide an education for those whose parents wish them to pursue an ordinary classical and mathematical course under church influence, and whose aim is to give their sons a general education good enough as far as it goes. But for those whose aim is to make specialists of themselves in science, literature, and arts, who desire to make themselves familiar with all that relates directly and indirectly to the specialty which claims their allegiance, who find themselves under the necessity of devoting more time than the sectarian colleges allow, and pursuing an extended course which they do not and cannot provide, the State College will supply a felt want. Post graduate courses of study, in natural science, in mathematics, practical as well as theoretical, will carry them far beyond the limits of sectarian college instruction. Laboratory practice, independent research in botany and zoölogy, experience with the microscope in those fields of labor in which reputations are won, in those departments which widen the area of human knowledge by pushing back the limits which separate the known from the unknown, in these the State College will do a good work. It will turn out men who can take in the botany and geology of your coal-fields, who can build your bridges, open your mines, contribute to the solution of the ever recurring problems which these pursuits and occupations present, multiply the means of subsistence, and satisfy the wants which their labors create. It will, moreover, operating through a series of years, provide better educated teachers for your schools. No amount of money expended by the State or by local taxation, in addition to State aid, can make good common schools unless there be good teachers Light must come from above, not from below. That is the natural order of things.

As the mineral fields open up, and wealth pours into the laps of their possessors, the log school-house will disappear. All

the modern methods and appliances which make instruction effective, will take the place of obsolete methods. As surely as the spinning-wheel has given place to the spinning-jenny, and the flail to the steam thresher, will the old methods of instruction give place to the new. Educated men and women, supported by salaries which will attract talent and energy and enthusiasm to the work, will preside over the development of the minds of your children, forming their characters, opening up to them the mysteries of intelligence, cultivating their powers of observation, and leading them step by step to comprehend themselves and the wonderful system of which they form a part. One of the functions of the State College will be to help on the good work by educating from year to year the normal pupils sent by the counties to enjoy its instruction tuition free. Suppose this work to go on for twenty years, and suppose each county to keep its quota full, 117 counties would supply a constant attendance of 468. In twenty years the aggregate would amount to over 9,000. Supplementary Normal Schools, sustained by public or private enterprise, would also spring up to assist in supplying the demand. Suppose each Representative legislative district kept its quota full. Four hundred young men would then be in constant attendance, honored pupils of the common school, the flower of the rural districts, young men of ambition, industry, resolution. These returning to their homes as others came, would, through a series of years, raise the intelligence of their respective districts, becoming their future Justices, Representatives, Senators, Judges, Governors, and Congressmen. Local associations would then be formed for the cultivation of literature and of science. These would divide, forming geological, chemical, botanical, microscopic, archæological, and historical associations. In the organization and growth of these, graduates of your State College would take a leading part.

What is the paltry tax of one half cent—which Dr. Beatty and his associates describe as unwise, unjust, excessive, oppressive—to the prospective advantages likely to accrue from the maintenance of an institution such as this will undoubtedly become if fostered in a generous and appreciative spirit? To the man who pays tax on $1,000 of taxable property it amounts to five cents annually; to the man who pays tax on $200, one

cent. Yet these enjoy advantages equal to those who pay tax on $100,000. I asked the sheriff of Pike county the other day for one who paid tax on $1,000, how many paid tax on $200? Not one in twenty, was his reply. And yet these gentlemen endeavor to persuade the members from Eastern Kentucky that this College is organized in the interests of Lexington and for the benefit of the rich. They preach a crusade against the College, which makes education the birth-right of the poor. They pervert the facts in order to give plausibility to their plea.

They manipulate figures to deduct one conclusion, and, when confronted with the facts, employ them to deduce another which is its contrary. Like the enthusiast who came to the philosopher with a ready-made explanation for all phenomena, and when informed that his hypothesis was directly at variance with the facts, replied: *Well, so much the worse for the facts.* These gentlemen have expended an amount of ingenuity in proof and disproof of the figments of their own imagination, which shows to what extent reason and imagination may run riot, even in theologians. All this is done professedly in the interests of common schools, of the tax-payers, of the aggrieved Churchman, and lastly of the Constitution.

This is the climax. But the common schools, so far from being injured, will be benefited thereby at no expense, either directly or indirectly, to themselves. The tax-payer feels no burden, and had no knowledge that he had a grievance. The grievance of the Churchman is illusive. The Constitution, as we hope to show to the satisfaction of the Legislature and the Courts, if the question be carried thither, offers no hindrance to the enterprise. On the contrary, a fund given by the general government for the maintenance of an institution to which the State, by its acceptance of the trust stands pledged, is of itself insufficient to carry on its operations, and will be practically wasted if left to stand alone. Successive Legislatures have pledged the State to this work. The Legislature of 1865, by accepting the trust, the Legislature of 1877, by providing for its separate existence; the Legislature of 1879, by locating and establishing the institution among a people who gave liberally of their means under the belief that Kentucky would prove no step-mother to her own child. Build it up, and future generations of scholars will issue from its walls to serve their country

with all their endowments of head and heart developed and disciplined by its instruction. Withhold your aid at the solicitation of its enemies, and you extinguish the lamp which you have lighted, send back to the daily routine of unrequited toil its best and noblest members, and throw back the cause of general and higher education a quarter of a century.

For ten generations my ancestors have been of Presbyterian faith. There was still in existence in 1832 a flag in the possession of my family which had been borne at the battle of Bothwell Bridge, when the banner of the Covenant went down before the ruthless veterans of Monmouth. I have been proud of the leaders and confessors who, from Knox to Chalmers, preferred principle to patronage. On every moor and in every glen they sealed their testimony with their blood. I have been proud, too, of my countrymen who came hither, though with foreign accents on their tongues, to establish the faith of my fathers in this newer and greater and mightier Britain on this side of the Atlantic. But I am not proud of these exponents of my faith in Kentucky to-day. Their creed is that of Knox and Chalmers and Witherspoon and Alexander and McCosh. Their shibboleth, but not their spirit, is theirs. They gave their lives to build up institutions which build the fabric of human thought, not to drag others down. They strove to reach the highways and hedges of illiteracy and vice, not to close the portals of knowledge to the poor. They strove to exorcise the demons of ignorance, not to confine their wretched victims to the tombs. What do I see to-day? I see the heads of two Presbyterian institutions of learning, rivals themselves, scarcely on terms of amicable relationship, the one, in its foundation and its constitution an embodied protest against the alleged rapacity and legal justice of the other, combine together, not to advance the cause of learning in the Commonwealth, not to place Kentucky in the van of progress and enlightenment, not to cheapen education, and make it the heritage of the toiling millions, not to combat ignorance and vice, not to make the fruit of the tree of knowledge accessible to all—no one of these things. They combine to clog the wheels of advancing development, to make liberal education the monopoly of the Church and the privilege of the wealthy, to perpetuate the barriers which divide the fortunate

few from the moneyless many, to make our farmers peasants, and our mechanics boors. I say nothing of the Baptist and the Methodist. I am not of their communion. But in days gone by I have spoken with pride of the honorable record of my own church in widening the realm of human thought, in encouraging every movement which had for its object the emancipation of the human intellect, and anticipating the dawn of universal knowledge. But I hang my head in shame before this General Assembly and the people of Kentucky to-night. I have been wounded in the house of my friends. For years I have labored and struggled to advance the cause which makes men famous and nations great. And when success was achieved, when dozens and scores came to slake their thirst at the fountain of knowledge opened by the State, when good men rejoiced and the poor were made glad, these men sound the trumpet and gather together to seal up the streams as they flow and turn this promised oasis into an arid waste once more.

The present generation grew up when the facilities for education were worse even than now. Our fathers and our mothers had opportunities inferior to ours; but as their ambition was to give to us, their children, benefits which were denied to them, so our ambition is to give to our children advantages denied to us. It may be said, and it is said, that the tendency of education is to make gentlemen and gentlewomen; that to educate men and women is to make them discontented with the sphere in which they were born.

There is a grand and noble truth in this, and I thank the gentlemen who urge a limited and circumscribed education for the farmer and mechanic for calling our attention and yours to this objection. I do not want our farmers to be peasants nor our mechanics boors. I want to make your sons and mine gentlemen, and your daughters and mine gentlewomen, at the risk of making them discontented with their lot. Discontent is an essential element in human progress; and nowhere in this broad world, and among no people to a greater extent than among this English-speaking stock to which we belong, has discontent been a more potent factor in advancement. It has substituted the railway and the steamer for the old stage-coach and sailing-

vessel; it has substituted the wonderful carding and spinning and weaving machinery, which you saw the other day at Atlanta, for the spinning-wheel and hand-loom of our grandmothers. It has substituted the reaper and mower and steam thresher for the sickle and scythe and flail. It has made the luxuries of two generations ago the necessities of to-day. It has brought the daily newspaper to your desks, and enables you to read the debates in your National Legislature before your morning meal. It has substituted in many places the brick mansion for the log cabin, and, before another generation goes by, will make your mountain counties, teeming with coal and iron, worth thousands where our blue-grass counties are worth tens. It makes, and will make, each generation in the future resolve to make their children better and happier and richer than their fathers and mothers have been.

"I believe that nothing God has to bestow on his most favored children is too good for Kentuckians or for their children, even though the lot of both be farmers and mechanics. You went from the common school, or perhaps from no school, to the farm, the anvil, the merchant's desk, the bar. You have been leading a laborious, upright, honest life, as intelligent and useful as your opportunities made you; and if there is any thing nearer and dearer to your heart than another, it is that your children shall possess advantages, and begin the battle of life with acquirements superior to your own. And if education will make gentlemen and gentlewomen—and education and good morals certainly will—there is no place where true gentlemen and gentlewomen have a better right to live and reign and multiply their kind than right here in Kentucky.

"If there is any good thing in life which we failed to get, whether it be wealth or reputation, or mental or moral power, or great intellectual acquirements, because we come too early in the course of human progress, then let us do all in our power to secure it for our children." This is the plea which I make to-night, and this is the cause on account of which I make my appeal.

APPENDIX I.

Agricultural and Mechanical Colleges founded by States securing Lands under Act of 1862.

STATES.	No. of acres received.	No. of acres sold.	No. of acres unsold.	Productive fund from lands sold.	Income from productive fund.	Val. of buildings, gro'ds, apparatus.	Aid from States for grounds, &c.	Amount of appropria'ns from States.	Aggregate income from all sources.	Remarks.
Alabama . .	240,000	240,000	. . . .	$253,000	$30,280	$100,000	. . . .	. . .	$22,500	
Connecticut .	. . . .	. . . .	. . . .	. . . . .	8,000	. . . . .	. . . .	. . . .	57,500	
Colorado . .	90,000	. . . .	90,000	. . . . .	. . . .	. . . . .	. . . .	$20,000	20,000	Farm of 240 acres.
Iowa	412,000	375,000	17,000	. . . . .	42,000	400,000	$400,000	. . . .	42,000	
Illinois . . .	480,000	455,000	25,000	319,000	21,398	545,000	300,000	12,000	43,170	
Indiana . . .	390,000	390,000	. . . .	340,000	17,000	400,000	. . . .	20,000	42,000	
Maryland . .	. . . .	. . . .	. . . .	. . . . .	6,975	100,000	. . . .	6,000	13,250	
Missouri . . .	380,000	250,000	130,000	225,000	13,150	225,000	. . . .	49,000	89,000	Farm of 600 acres.
Massachusetts	320,000	320,000	. . . .	240,000	12,000	225,000	. . . .	12,000	24,000	$120,000 to Inst. of Tech., Boston.
Michigan . .	240,000	88,655	151,345	153,734	20,000	274,380 app. 196,858 buil	530,310	7,249	50,000	Most of State aid raised by taxation.
Maine . . .	210,000	210,000	. . . .	. . . . .	10,000	132,000	189,218	. . . .	19,000	
Ohio	. . . .	. . . .	. . . .	559,627	33,922	. . . . .	. . . .	. . . .	51,623	
New York. .	990,000	680,000	310,000	1,793,999	100,000	253,509 app. 689,000	. . . .	. . . .	141,000	Unsold lands worth $2,500,000.
New Jersey .	210,000	210,000	. . . .	. . . . .	6,960	. . . . .	. . . .	. . .	6,960	Works in connection Rutger's Col'e.
Nebraska . .	90,000	. . . .	90,000	. . . . .	. . . .	. . . . .	. . . .	5,000	. . . .	Works in connection with Nebraska University.
Pennsylvania	780,000	780,000	. . . .	405,000	30,000	532,000	179,500	. . . .	30,000	$25,000 in aid of endowment fund
Tennessee. .	300,000	300,000	. . . .	396,000	23,000	70,000	. . . .	. . . .	29,000	University income $31,956 addition'l.
Virginia . . .	300,000	300,000	. . . .	. . . . .	20,000	100,000	60,000	. . . .	21,000	
Vermont. . .	149,920	149,920	. . . .	122,626	8,130	145,000	. . . .	. . . .	31,000	
Wisconsin . .	240,000	217,000	23,000	276,000	15,891	481,000	130,877	43,877	80,000	State aid by taxation.
Louisiana . .	210,000	210,000	. . . .	182,313	. . . .	175,000	50,000	10,000	24,000	$182,000 invested; in bonds, $327,000
Kansas . . .	82,313	62,752	19,560	333,135	25,000	119,000	206,000	. . . .	26,000	[scaled to $182,300.

APPENDIX II.

	Religious denomination.	No. of faculty.	No. of volumes in library.	Value of buildings, apparatus.	Amount of productive funds.	Income.
University of Alabama	Non-sectarian	27	6,000	$250,000	$302,000	$26,000
University of California	"	38	14,300	805,000	750,000	105,000
St. Mary's College, California	Catholic	25	1,000	250,000		58,000
Yale College, Connecticut	Non-sectarian	97	88,000		587,000	135,930
Wesleyan University, Connecticut	Methodist	15	30,000	472,000		
Northwestern University, Illinois	"	13	25,000	291,000	962,000	28,000
Asbury University, Indiana	"	14	10,000	200,000	170,000	12,000
Notre Dame University, Indiana	Catholic	27				
Iowa College	Non-sectarian	20	4,500			
Kansas University	"	14	3,100	260,000		
Bowdoin College, Maine	Congregational	20				
Amherst College, Massachusetts	"	21	35,000	400,000	410,778	57,348
Harvard College, Massachusetts	Non-sectarian	108	173,000		3,615,539	441,609
Michigan University	"	80	26,000	450,000		124,445
Minnesota University	"	31	13,000	200,000	425,000	61,000
Missouri University	"	32	11,925	375,000		89,000
Dartmouth College, New Hampshire	Congregational	20	54,835	100,000	450,000	47,400
College of New Jersey	Presbyterian	35	45,000	800,000	859,145	75,000
Cornell University, New York	Non-sectarian	49	38,000		1,763,999	141,000
Union College, New York	Presbyterian	19	15,000	430,000	300,000	29,000
Cincinnati University	Non-sectarian	19	100,000			58,890
St. Vincent's College, Pennsylvania	Catholic	33	14,000	104,000		
LaFayette College, Pennsylvania	Presbyterian	25	16,000	675,000		23,554
Brown University, Rhode Island	Baptist	16	51,000		660,193	66,109
Wisconsin	Non-sectarian	32	9,000	350,000	483,536	80,000
East Tennessee University	"	17	5,025	100,000	396,000	24,760
University of Virginia	"	14	36,000	1,000,000		30,000
Vanderbilt University, Tennessee	Methodist	13	7,500	450,000	600,000	42,000

APPENDIX II—Continued.

	Religious denomination.	No. of faculty.	No. of volumes in library.	Value of buildings, apparatus.	Amount of productive funds.	Income.
Washington and Lee, Virginia	Non-sectarian . .	13	11,000	150,000	125,000	(in 1876) 13,747
Illinois Industrial University	Non-sectarian . .	28	. . . . .	. . . . .	. . . . .	. . . . .
John Hopkins University	. . . . .	. . . .	6,800	2,000,000	2,500,000	. . . . .
Three Kentucky Colleges are herewith added for comparison, data taken from Report of Commissioner of Education:						
Center College, Kentucky	Presbyterian . . .	6	4,296	70,000	158,000	10,568
Wesleyan College, Kentucky	Methodist	6	. . . . .	30,000	32,000	2,500
Bethel College, Kentucky	Baptist	6	1,000	40,000	71,000	7,500

CONSTITUTIONALITY OF THE TAX

FOR

THE STATE COLLEGE.

GENTLEMEN OF THE COMMITTEE ON THE A. & M. COLLEGE, AND GENTLEMEN OF THE GENERAL ASSEMBLY:

I listened with much pleasure to the eloquent and learned advocate who presented the plea of the protesting colleges on Wednesday last to this honorable Committee. I am not sure that a better presentation could have been made. I came expecting to hear a dispassionate, lucid statement, a full and impartial exposition of the law, a critical analysis of the organic statute, out of which all subsequent legislation has grown, and I was disappointed. The presentation was skillful, ingenious, and forcible, with a good deal of the political, less of the constitutional, and more of the popular species of conventional oratory than either. Indeed, I could not help thinking that the inherent tenuity of the constitutional plea was dexterously padded and wadded with extraneous matter which none would know better than Judge Lindsay, were he on the bench, how to brush uncermoniously away as irrelevant dicta. Of course it is no part of the duty of an advocate to assume the judicial ermine, and with this no one who heard the distinguished ex-Chief Justice would charge him. But it seems to me that the attorney for the protesting colleges presumed too much on the credulity of his audience and their ignorance of the history of education in Kentucky as well as of the Constitution.

He began by saying that the intention of the authorities of the State College is to rival the great colleges of the East; that my argument and the report of the Board of Trustees both warrant this conclusion. Now I submit that nothing I have

said, and nothing said by the Board of Trustees, warrants this conclusion. I do not say that I would not gladly see such an institution in Kentucky. But whether that statement be true, or the reverse, is altogether outside of the constitutionality of the tax. This much, however, may be said, that in regard to an institution projected on an income of $26,000 a year, there is no need for any one to lose his equanimity through apprehension of its excessive growth, especially when such growth is dependent upon the liberality of the Legislature of Kentucky. Our people have not as yet any extravagant ideas about expenditure which need cause the denominational colleges serious alarm.

In order to establish the assumption that the Legislature of 1865 did not intend to include classic and other scientific studies in the curriculum of the Agricultural and Mechanical College, Judge Lindsay quoted from the act of the Legislature of that year, which specified the studies made obligatory by Congress. From this he infers that classics were intended to be excluded, and yet just the opposite is the fact. The advantage which Kentucky University offered by the proposed alliance was, that her College of Arts should provide all the classical instruction, and the State branch all the scientific instruction required by both, and thus, by the concentration of capital and the division of labor, realize the greatest possible results from the least possible expenditure. From the very beginning all the students of each College had free access to all the classes of the other, and for thirteen years this order of an interchange on equal terms existed, as every professor knows.

In the reorganization, it was not deemed expedient to offer less advantages than had been enjoyed while the alliance with the denominational college existed. This discussion was also foreign to the constitutionality of the tax. Equally unfortunate was the reference of Judge Lindsay to the early history of Transylvania University. When, in 1825, the Legislature was invited by the message of Governor Desha to consider the condition of Transylvania University, the evil plight into which it had fallen was due largely, if not exclusively, to the denominational war waged remorselessly against it by sectarian animosity and jealousy. In that warfare, the church to which I belong

played no unimportant part. Had the State sustained and cheered Transylvania as she ought, and not left it a prey to ecclesiastical rancor and denominational hate, Transylvania would be to Kentucky to day what Harvard is to Massachusetts, and Yale to Connecticut. It was brought into politics—how? Because assailed by the churches then, as the State College is assailed by the churches now, and because of the parsimonious support given to it by the State at the instance of clergymen, who stood by with lugubrious visage and ecclesiastical scowl. The ministers of that day prevailed. The curse of Meroz rang through the land. Transylvania was handed over to the doctors, not of physic, but of divinity, with the inevitable result that always attends clerical ministrations when applied to State institutions—decline, decadence, extinction. Like the patient whose tombstone records: "I was well; the doctors thought I might be better. I took physic, and here I am."

All this, however, was quite irrelevant to the constitutionality of the present tax levied for the benefit of the State College.

Equally unfortunate is the statement, that when the Convention which framed the present Constitution sat, the question was discussed whether the views held by Dr. Robert J. Breckinridge on education should find expression in the article adopted on education. Whether the funds existing or to be created should be used exclusively for common schools, as that expression is commonly understood, or whether any other educational institutions should find recognition or support, was never before the Convention. I make bold to say, that in all the debates, extending over two days, no such question was discussed; no such question was raised; no such question suggested.

The distinguished counsel for the opposition says that, as a consequence of this discussion (which did not take place), the Constitution declared in favor of poor men's schools and against rich men's schools, and, by his emphatic reading and iteration of the phrase "*purposes of education*," in article eleven, declared and insisted that this was the fact. Now, not a word was said in the Convention of poor men's schools being fostered by the State in opposition to rich men's schools, or of lower education in opposition to higher. Common schools and common school education alone were before the Con-

vention, and not one word was said, from beginning to end of the debates, about State aid to seminaries, academies, colleges, or universities, either by way of approval or condemnation. Leaving out of account the opposition made by some of the members of the Convention to any system of common schools, the only question raised was, whether the Constitution should incorporate a guarantee for a two-cent tax, and enjoin such additional taxation as would inaugurate the common school system within five years. Many of my auditors, after the eloquent presentation of Judge Lindsay—more eloquent than accurate—will be surprised when told that these were the only matters which divided the Convention. All except a few were in favor of a system of common schools. All except a few were desirous of securing a constitutional guarantee for the existing capitalized school fund; and among these latter, the only question of difference was, whether a constitutional guarantee should also be made for the then existing two-cent tax, and as much more as would be required to put the system in operation within a given time.

Judge Lindsay alleges that the original draft of the article on education failed to satisfy the Convention. That is true. But it is not true that the original draft failed to satisfy the Convention for the reason that he assigns, viz: that the members resolved that there "should be no effort to sustain such an institution as Transylvania." By what authority is this statement made? From what data is this conclusion drawn? No such question had been raised; no such question had been thought of. I will tell you why the original draft failed to satisfy the Convention. It was because it contemplated a guarantee for the tax already levied, in order to supplement the income from the capitalized school fund. This contemplated guarantee for the two-cent tax the opponents of the original draft resisted, and this was the sole and exclusive question in dispute.

The distinguished counsel having laid down such a dictum in regard to the original draft and its failure to satisfy the Convention, then proceeds to say that no rule of constitutional construction will allow us to interpret "*purposes of education*" otherwise than he endeavored to impress upon you To this I now desire to address myself, and I ask your patient attention. I hope to

prove to your satisfaction, from an analysis of the article itself, and not by any torture, as the gentleman apprehends, that "*purposes of education*," upon which he lays so much stress, means, and can mean, "common school purposes" only. I shall then show you, from the Debates in the Constitutional Convention, and from the language of the author of article eleven, that the phrases "common school system," "educational purposes," and "purposes of education" were used synonymously throughout; and lastly, that any other interpretation is absurd.

About the close of his constitutional address on Wednesday night, Judge Lindsay observed that there are precedents for legislative action shaping, amending, modifying, and abrogating preceding legislation, on constitutional grounds. This is true. But here the distinguished advocate got his legislative cart before his judicial horse again. The word "white," he tells us, was excluded by legislation from the section which defines the qualifications of jurors. But the initiative was not taken by the Legislature. The initiative was taken by the State courts, after the deliverance of the Federal courts; and after the courts, Federal and State, had declared the exclusion of colored citizens from juries unconstitutional, the State Legislature brought the statutes into conformity with these judicial deliverances. But, in the case of the tax for the benefit of the State College, the distinguished gentleman asks you to reverse the order of pro cedure which he quotes, and insists upon the State Legislature anticipating the action of the courts, and sitting in judicial judgment upon the acts of its predecessors. In all these matters he seems to me to have been singularly unfortunate or singularly ingenious in getting things wrong end foremost. I am sure this is not the order for which Judge Lindsay has the credit of doing things upon the bench, and I can account for it only on the ground of the inherent badness of his plea, and the desperate necessity of making the "worse appear the better reason."

The reference to John Hampden, and the suggestion that the attorney of the aggrieved colleges was here to play the part of the English patriot in protecting the people of Kentucky from illegal taxation, was not quite warranted by the facts. The cases are neither analogous or parallel. Hampden's resistance was

not to a tax authorized by Parliament, the constitutionality of which he questioned, but to the payment of an impost which was levied and collected by the Crown without authority of Parliament. This resistance, too, he made not as an attorney for the clergy of his diocese, but as an individual. The man to whom 4,000 of the yeomanry of England came to give support and countenance when threatened with arrest and prosecution in Westminster Hall, the man who received his death wound on Chalgrove field when holding at bay the fiery cavaliers of Rupert—admired when living, lamented when dead—lived the champion of the rights of the people, and died a martyr to liberty, because of his own *personal* convictions of right, and not because of the retainer's *fee* which he carried in his pocket. I would not be understood to make any reflections on this. Far be it from me. The profession of an advocate is a noble and an honorable one, and no man in Kentucky has a more honorable record than the distinguished ex-Chief Justice. But an advocate, however able and honorable, does not become a Hampden or a Franklin or a Henry because he happens to be retained on one side or the other on any question involving the construction of the article on education in the Constitution of Kentucky.

I could not help thinking that the distinguished counsel for the prosecution was carried away by the presence of the Aarons and the Hurs, who, on Wednesday night, held up the hands of the champion of the Church while leading them forth from the galling bondage of the half-cent tax out of the Egypt of their discontent into the Canaan of unrestricted ecclesiastical monopoly and control. Already, in prophetic vision, the wilderness was traversed, the Amalekites destroyed, the Jordan passed, and the walls of Jericho were seen tumbling down. No wonder that facts and fancies got mixed in the legal as in the clerical brain.

The opponents of the State College assail the constitutionality of the tax levied for its support, relying upon their interpretation of an expression which occurs in the first sentence of article eleven in the Constitution. The first sentence of section one is as follows:

"The capital of the fund, called and known as the 'Common School Fund,' consisting of $1,225,768 42, for which bonds have been executed by the State to the Board of Education, and $73,500 of stock in the Bank of Kentucky; also the sum of

$51,223 29, balance of interest on the school fund of the year 1848, unexpended, together with any sum which may be hereafter raised in the State, by taxation or otherwise, for purposes of education, shall be held inviolate for the purpose of sustaining a system of common schools. The interest and dividends of said funds, together with any sum which may be produced for that purpose, by taxation or otherwise, may be appropriated in aid of common schools, but for no other purpose."

Their argument is, that all the dividends accruing from the capitalized school fund, amounting to $1,350,491 71, shall be expended exclusively for common schools, or in aid thereof. They argue further, that the proceeds of all taxes levied for common schools shall be applied exclusively for the use of common schools, or in aid thereof. They argue further, that the clause, "together with any sum which may be hereafter raised in the State, by taxation or otherwise, for purposes of education, shall be held inviolate for the purpose of sustaining a system of common schools," forbids the Legislature to raise by taxation a fund for the maintenance of any institution such as the Agricultural and Mechanical College. They hold that it does this on one of two alternative grounds—first, that the tax cannot be imposed under this act; second, that if imposed, and the money raised by taxation, it cannot be applied to the purpose designated in the act, but must go into the common school fund.

I undertake to show that their construction of the clause "together with any sum which may be hereafter raised in the State, by taxation or otherwise, for purposes of education, shall be held inviolate, for the purpose of sustaining a system of common schools," is erroneous; that the Constitution is altogether silent on the question of State aid by specific tax to such an institution as ours, and I shall endeavor to do this by showing that the expression "purposes of education" means, and can mean, only "purposes of 'common school' education." I shall show, first, that a fair analysis of the entire article warrants this construction; secondly, that the entire essence and language of the Debates in the Constitutional Convention, and especially the language of the author of the article on education in the Constitution, demonstrate beyond the possibility of a reasonable doubt, that the phrase "purposes of education" means,

and can mean, only "purposes of 'common school' education;" and lastly, I shall show that a contrary interpretation would fasten upon the framer of the article, and those who adopted it as a part of the Constitution, an absurdity and a dishonesty of purpose with which a fair interpretation cannot charge them, and commit the framer of the article, and the party of compromise which he led, to an enlargement of the common school fund which they never intended, and which they would have promptly repudiated had any man in the Convention suggested it.

I have to premise that this argument which I submit is an unprofessional one. It is not couched in the technical language of the bar, with which I am unfamiliar. It can lay no claim to any voluminous array of authorities, decisions, or reports; but if law, constitutional and municipal, be the embodiment of the ideas of justice and common sense inherent in man, the articulate projection in language of his inalienable and inherent rights, and existing in the human soul before they find expression, and if the proper interpretation of these, when so formulated, be by language under the guidance of reason, then I claim for the interpretation and construction which I present to you to-night your impartial consideration, even though it be not the work of a professional jurist or of a feed attorney.

The original of the school fund described in article 11 of the Constitution, whose inviolability this article was designed specially to guard, came from the General Government. The government of the United States had accumulated in the National Treasury a very large sum of money, $28,000,000, chiefly from the sale of public lands. This accumulated treasure was distributed by act of Congress June, 1836, among the several States on certain conditions. The State of Kentucky accepted her share on the conditions proposed, and by section 9 of the act approved February 27, 1837, consecrated $1,000,000 of the money received to the cause of education. On February 16th, 1838, the Legislature reduced the amount to be devoted to school purposes from $1,000,000 to $850,000, which sum was invested in the internal improvement bonds of the State.

After the financial crisis of 1837 had passed, and the State had recovered in some degree from pecuniary disaster, Kentucky

embarked in an extensive system of internal improvements, designed to increase the general wealth. The funds necessary to carry on her extensive operations were raised by the public credit. When the State become embarrassed by these operations she looked around for relief, and reasoning with herself that the bonds representing the principal and nucleus of the school fund constituted a debt due to herself, she determined to relieve herself to the extent of this indebtedness by cancelling the debt, not by its payment to the Board of Education, but by obliterating the evidences of the debt. Accordingly, by an act approved February 10, 1845, she ordered all the State bonds held by the Board of Education to be delivered to the Governor of the Commonwealth, and by him to be burned. The act, however, under which they were burned, directed that lists of the burned bonds be prepared, and that these lists should be held and taken in place of the bonds which had been burned. On February 29, 1848, chiefly through the exertions of Dr. R. J. Breckinridge, then Superintendent of Public Instruction, an act was passed by which the State issued a bond for $308,268 42 to the Board of Education, for arrears of interest on the burned bonds up to January, 1848, and in 1849, by act approved on the 26th of February of that year, made further reparation by designating the net proceeds of certain public works as a fund to pay interest on school bonds.

The sacredness of the original debt was also recognized, and the preserved copies of the original bonds 1, 20, 21, 22, 23, and 24 accepted and recognized as evidences of the original indebtedness to the Board of Education.

These, together with $73,000 in bank stock and the bond unnumbered, bearing interest at 5 per cent., dated December 20, 1848, executed to the Board of Education for the sum of $308,268 42, chiefly for arrears of interest from the date of the burning of the bonds above mentioned, constitute the aggregate of $1,225,768 42, mentioned in article 11 of the Constitution.

When the Constitution of 1799 was adopted, there was no public or common school system in Kentucky. Its existence was not anticipated by the framers thereof; and hence, there is not a line in the Constitution of 1799, from beginning to end,

in relation thereto or in anticipation thereof. When, therefore, through the munificence of the General Government, a beginning for a common school system had been made, the funds which were set apart for this purpose having no constitutional safeguard thrown around them, were liable, as the issue proved, to be invaded, and applied to other purposes at the caprice of the Legislature, with no remedy from the courts or elsewhere.

While the public mind was still excited in regard to the invasion of the school fund, the Constitutional Convention was called. Provision had been made for the restoration of the fund, principal and interest, and in addition thereto a tax had been voted for common school purposes of two cents upon each $100 of taxable property. The experience of the past ten years had demonstrated the necessity of protecting and safeguarding these funds, not only the restored principal and interest of the original fund, but the proceeds of the two-cent tax, and of all other taxes levied for the support and maintenance of the common schools. The integrity and inviolability of these funds could not be accomplished by the ordinary processes of legislation. Hence the necessity that the Constitution should deal with the subject, and that a security, fundamental in its character and thorough-going in its efficiency, should be devised, whereby the disasters and humiliation of past years should be impossible. To this task the framers of the Constitution addressed themselves, having in view the integrity and inviolability of the common school fund, and that alone. The circumstances in which article 11 of the Constitution had its origin, and which called it forth, have no reference to any contest, except the contest in regard to the integrity and inviolability of the common school fund—no reference to any kind of schools except common schools—no reference to any kind of education, whether inferior or superior, related to or concurrent with the common school system. Hence the article, according to every canon of interpretation, must be interpreted according to the meaning of its authors, and this can only be gathered from the circumstances of its origin, the evils it was designed to remedy, and the purpose it was intended to accomplish.

First, a fair analysis of Article 11 *shows that, by "Purposes of Education," Common School Education only is meant.*

A careful reading of article 11 warrants, I think, the belief that its authors had no other sort of education in their minds than "common school" education; that they had no anxiety to prevent aid being given to any other education; but that their sole desire was to guard and maintain the integrity of the fund known as the "common school" fund, with any increase that might accrue to this fund from any quarter whatsoever, whether by taxation or otherwise. I believe that a carefnl examination will show that wherever the word "school fund" occurs, "*common*" *school fund* is meant, that wherever the word "school" occurs, "*common*" *school* is meant, and that wherever the word "education" occurs, "*common school*" *education* is meant. Indeed, the caption of article eleven, as interpreted by the marginal summary, shows that only "*common school* education" is intended to be considered in the article. The marginal summary is as follows: "The capital of the common school fund to be held inviolate." The whole design of article eleven would seem to be to assert and maintain the integrity and inviolability of the common school fund. If this be true, then everything foreign to this idea would be *necessarily* excluded by the rule of interpretation which applies to all writings alike. Let us see what the probabilities are from induction and analogy.

The words "school fund" occur four times in article eleven, and only once is it prefixed by the qualifying expression "common," and yet it is apparent that "*common*" *school fund* is meant throughout The word "fund" is used three times in the singular or plural, and in every instance not only "*school*" *fund* but "*common school*" *fund* is meant. Indeed, in the first instance of its use, it is defined as "*common school*" *fund*, a meaning intended to attach to it throughout. The word "school" is used five times in the singular or plural; in four of these with the prefix "common" expressed, while in the fifth "common" is manifestly understood. In the phrase "Board of Education," in line five (I refer to line *five* in the Constitution, as printed in the General Statutes), "common school" is undoubtedly understood. The phrase, if fully expressed, would certainly be "Board of 'Common School' Education," because this is the

only sort of education under discussion, and the only kind of education in the State controlled by the State through a board denominated the Board of Education. All analogy, then, would seem to require the prefix "common school" before "education," in the twelfth line. This presumption is rendered still stronger by the fact that, in the second sentence of article eleven, the phrase "that purpose" means a *single purpose* already supposed to be clearly before the reader, and as no other single purpose is under contemplation than common school education, "purposes of education" is intended to have a singular meaning, which can be only if "common school" is understood as a qualifying and limiting prefix to be supplied before "education." The second sentence, viz: "The interest and dividends of said funds, together with any sum which may be produced for *that purpose*, by taxation or otherwise, may be appropriated in aid of common schools, but for no other purpose," is but a repetition of the idea contained in the first sentence of section one, with this difference: the first sentence defines the sources of income, and for what purpose these sources of income shall be held inviolate; the second sentence defines the proceeds of these sources of income, and directs to what purposes these proceeds shall be applied. There is a remarkable parallelism in these two sentences, to which I call your attention. In sentence one the capitalized principal of the school fund is described, viz: three items, amounting to $1,350,491.71. This has its parallel in sentence two, in which the proceeds of this capitalized principal is described, viz: "interest and dividends of said funds." In sentence one the supplementary funds guaranteed by the Constitution as applicable to the end contemplated, are defined as "together with any sum which may be hereafter raised, by taxation or otherwise, for purposes of education." This has its parallel in sentence two, in the expression "together with any sum which may be produced *for that purpose*, by taxation or otherwise." Now note the words "*for that purpose.*" For what purpose? Evidently, "common schools." Do not the words "for that purpose" express the scope and limit of the taxation discussed in article eleven? Undoubtedly. "*That purpose*" is a single purpose.

The scope and limit of taxation here discussed are coextensive with and bounded by that single purpose, whatever that single purpose be. That purpose is undoubtedly "common schools," and the scope and limit of the taxation here discussed must undoubtedly be for "common schools." If this be so, then the scope and limit of the taxation discussed in the parallel clause of the sentence preceding, must be of like extension and limits, viz: for "common schools." There is certainly not a plurality of purposes considered in the first, and only a single one in the second. "That purpose," in the second, is manifestly retrospective. The word "that" is conclusive on that score. "That purpose" being single, must, of necessity, refer to a single purpose already in the minds of the framers of article 11. What else could it be? Now, no parallel idea exists, and no single purpose exists, brought before the mind of the reader by the previous sentence, than the purpose evidently referred to, viz: "common schools." If this be so, then "that purpose" must be "common schools" previously expressed, and common school education. "Common schools," and "common school education," then constitute the single purpose, the antecedent unit in thought—the single idea. All other ideas are excluded, all other purposes are excluded, and taxation is limited in its scope and bounds by this single idea, "common schools."

As a condition precedent to their construction, they must hold that the phrase "purposes of education," in the first sentence, includes common school education, and all other sorts of education. But the expression, "that purpose," in sentence second, is fatal to their construction. Now, "that purpose," being single, refers to a single antecedent, and that purpose, meaning only common schools, must refer to an antecedent which means common schools. Suppose their construction correct, and to be the meaning in the minds of the framers of the article and of the members of the Convention who adopted it, what should we have in place of "that purpose?" If the phrase, that purpose, was intended to refer to a plurality of purposes, and not to a single one, what would be its character and form. It must have been "those purposes." Then the implication, the presumption would be, that the reference was to common school purposes and other purposes of education. But, inasmuch as

the singular "that" defines and limits us to one purpose antecedently expressed, we are forced to conclude that only one purpose was intended by the antecedent, and the character and scope of that purpose is defined and limited by the retrospective reference.

The fact would seem to be that the qualifying and limiting expression "common school," constantly in the minds of the framers of the Constitution, was sometimes expressed and sometimes omitted, apparently for no other reason than to avoid its too frequent repetition. "Purposes of education," then, would mean "purposes of '*common school*' education;" nothing less and nothing more. Indeed, from this induction and analogy, no other meaning seems probable. I might almost say, no other meaning seems possible. The clause in the Constitution, upon the interpretation of which the constitutionality of the tax depends, and which reads: "Any sum which may hereafter be raised in the State, by taxation or otherwise, for *purposes of education*, shall be held inviolate for the purpose of sustaining a system of common schools," would then read: "Any sum which may hereafter be raised in the State, by taxation or otherwise, for *purposes of 'common school' education*, shall be held inviolate for the purpose of sustaining a system of common schools." This interpretation harmonizes entirely, and is altogether consistent with the idea that the whole scope and intent of article eleven is to guard and maintain and defend the integrity and inviolability of the common school fund. Indeed, in the marginal summary above quoted, this is declared to be the aim and compass of the article. It does not admit anything irrelevant. It excludes every consideration not germane to itself. This common school fund is to be preserved inviolate. No appropriations are to be made at its expense. It is to be applied sacredly and exclusively to the single purpose for which it was levied, and to no other. This exhausts the significance of the article. It deals with one subject, *one purpose*, and no other. It excludes the consideration of all other subjects, all other purposes. On everything else it is silent than on the single subject of "common school education," and the *single purpose* of maintaining the integrity and inviolability of this fund. All other sorts of education, and all other

funds, or purposes relating thereto, are ignored. Had the framers of the Constitution intended to prohibit taxation for any other kind of education than "common school" education, the prohibition would have been direct, explicit, and precise, and either in a separate paragraph or in a proviso. It would have been in some such language as the following: *Provided, however, That no tax shall at any time be levied for the support, endowment, or maintenance of any academy, high school, seminary, college, or university, or for the equipment, outfit, or ordinary expenses of any of these, on any pretext whatsoever.* Had the Constitution intended to prohibit a tax for any of these purposes, it would doubtless have used such prohibitory language as the above.

Inasmuch, then, as money raised by taxation or otherwise for "common school purposes" can be applied only to "common school purposes," and to no other, the Appellate Court decided correctly in the cases of Collins vs. Henderson, and Commonwealth vs. Collins, cited by Judge Lindsay. The court held that no part of the common school fund could be applied to pay for Collins' book. It was the duty of the court to see that the integrity of this fund was unimpaired, and that money raised for this special purpose could not be applied to another.

But it is an altogether different thing when it is alleged that money raised by taxation or otherwise for the aid of an institution, the existence of which was not anticipated by the framers of the Constitution, must either be thrown into the school fund, a purpose for which it was not raised, or forbidden to be raised at all. The imposition of the tax does not diminish the common school fund; its non-imposition does not enlarge it. The common school fund is wholly unaffected thereby.

The plain intent and meaning of article 11, then, seems to be to guard the common school fund for purposes of common school education, from whatever source derived, whether invested funds, stocks, or taxation for common school purposes, and that this fund shall be applied to its legitimate uses, and to these only; and this exhausts the significance of the article. It does not certainly mean that the Legislature of Kentucky is to be estopped from making provision by taxation or otherwise to aid and maintain an institution, to the aid and maintenance of which

Kentucky has pledged herself by accepting the trust from the Congress of 1862, with all its conditions expressed and implied. The Constitution is altogether silent on such a question as the imposition of a tax for the maintenance of such an institution. So the Constitution is altogether silent on the maintenance of the institutions for the blind, for the deaf and dumb, and for the feeble-minded—institutions sustained by taxation or otherwise. The Constitution does not prohibit the maintenance of these by taxation or otherwise any more than it prohibits the maintenance of the State College by taxation or otherwise. And if it be construed to prohibit the support of the Agricultural and Mechanical College by taxation or otherwise, it as certainly prohibits the support of these institutions, which are as surely educational as this. These institutions differ from asylums for the insane in kind, not in degree. The latter have as their primary object the treatment of mental disease and physical disease, in so far as mental disease is determined by physical conditions. This is the sole end of their existence, viz: treatment of disease mental, and disease physical, as related to mental derangement. Physical restraint is merely accessory to this idea. But in the institutions for the blind, for the deaf and dumb, and for the feeble-minded, established and maintained by the State, the primary object is education, not medical treatment. The inmates of these institutions are taught such branches of education as will enable them to make a livelihood, as will expand and invigorate their faculties, as will bring them into relation with the known and the knowable. Nor are they, in the common acceptation of the term, common schools. Neither in their organization, management, supervision, or maintenance, are they common schools, or analogous to common schools. They have each their Boards of Trustees, directors, commissioners, or managers; they each have a corps of instructors; they each report to this General Assembly; they each draw the funds for their maintenance direct from the revenues of the State. They are supported, if not by a specific tax, otherwise, that is by appropriations from the State Treasury, which owes its annual replenishing to direct taxation. They are supported then by taxation or otherwise, and the end and aim of this support and maintenance are "purposes of education." The construction which the adversaries

of the State College ask you to place upon the phrase "purposes of education," will, if admitted, apply to them as certainly as to us. And yet some of these institutions were, if I mistake not, in existence when the Constitution was framed, and when the contemporaneous construction adverted to by Judge Lindsay took place.

Secondly. The essence of the Debates, and the language used by all the gentlemen who participated in the discussion of the Report of the Committee on Education in the Constitutional Convention, demonstrate beyond the possibility of a reasonable doubt, that the phrase, "purposes of education," in article eleven of the Constitution, means and can mean only "purposes of common school education."

When the subject of education was reached in the Constitutional Convention Monday, December 10, 1849, the first section of the report of the Committee was read, as follows:

"SEC. 1. The diffusion of knowledge and learning among men being essential to the preservation of liberty and free government, and the promotion of human happiness, it shall be the duty of the General Assembly to establish, within ——— years next after the adoption of this Constitution, and *forever* thereafter keep in existence, an efficient system of common schools throughout this Commonwealth, which shall be equally open to all the white children thereof."

The debate was opened by Mr. Hardin, who opposed any system of common schools. In the course of the discussion, the following gentleman spoke:

Mr. Proctor said: "I promised my constituents, when a candidate for a seat in this Convention, that, if elected, I would use my best exertions to secure the incorporation of a clause in the Constitution which would permanently secure to the people of this Commonwealth not only *the fund set apart by the General Government for the purposes of education* in Kentucky, but that also which the people, in their magnanimity, had voted to tax themselves with at the August election, 1848, for that purpose." (Page 885, Debates Constitutional Convention.)

Again: "I believe that if there is any question that has been settled by the people, and any one subject on which they require prompt action by this Convention, it is that a *school fund shall be permanently secured* by a constitutional provision." (Ibid.)

Again: "But, sir, no sooner is the proposition submitted to this Convention to secure to the people of this Commonwealth the *school fund* of the State from the control of the Legislature, than the herculean voice of my venerable friend is raised in opposition to that proposition." (Page 886, Ibid.)

Again: "Mr. President, I believe that the adoption of a provision in the Constitution for the permanent security of the *school fund* of this Commonwealth is demanded by the people of the State."

Again: "But, sir, I believe that the people did understand this measure, and that they require and did expect of this Convention, that we will secure by a constitutional provision not only the fund set apart by the General Government to the State *for purposes of education*"—

Mr. Hardin—"The gentleman is mistaken. Congress did not declare to what purpose this fund was to be applied."

Mr. Proctor—"My friend informs me that Congress did not designate the object of this fund at the time of setting it apart to the States. Well, sir, it is known to all that it was the general understanding of Congress, at the time of setting apart to the States the surplus revenue, that it was to be applied to the *purposes of education*, and our Legislature, acting upon this understanding, at its first session after Congress set apart this fund to us, dedicated it by a solemn act for *that purpose* alone."

Again: "For my part, Mr. President, I am anxious to see this report adopted in the Constitution, and I shall by every act of mine endeavor to secure this *school fund* by a permanent provision in the Constitution."

Again: "If, sir, it is right that the money which was set apart to the State of Kentucky by the General Government, and which was originally intended for the *purposes of education*, should be applied to that purpose alone, why, I ask, should we leave the matter to the future control and management of the Legislature?"

Mr. C. A. Wickliffe—"One of the things which seems to excite a great degree of interest is this of common schools. I am the friend of education, and claim the responsibility of an agency in setting apart the $850,000 from the United States revenue for the *purposes of education* when the country is prepared to appropriate it."

Mr. Root said: "If there was any one subject on which I was thoroughly and fully instructed, it was to rescue from the vacillation of the legislation of the State the *common school fund*, solemnly dedicated to *purposes of education* by the Representatives of the people in 1837, and place it beyond the control of the Legislature of the country."

Hon. C. A. Wickliffe, after the discussion had proceeded to some length, offered the following substitute for section 1 of the Report of the Committee on Education, to which special attention is called:

"All the funds which have been or may be collected, and which have been set apart for *common school purposes*, shall be held sacred, subject to be regulated by the General Assembly, and applied and disbursed as shall seem best to effect the object of general education."

Had Mr. Wickliffe any such idea in his mind when he offered this amendment, as Judge Lindsay endeavored to make you believe the other night? In this amendment he uses "*common school purposes*," the identical phrase used in the original draft. He also uses "general education" as evidently synonymous with it, for he states expressly that the object for which the fund was set apart should be kept sacredly in view.

And as if in anticipation of such a question of constitutional construction as the present, Mr. Wickliffe said:

"There is no substantial difference between the amendment which I offer and the second clause of the report. [See Report, page 377, Const. Debates.] I go with the committee, and every friend of education on this floor, to set apart and dedicate the fund for *educational purposes* which has either been accumulated by taxation or which was originally set apart by the law of 1837." (Page 901.)

Here the phrase "educational purposes" is used retrospectively, and, being so used, can only mean "common school purposes," because no fund had been accumulated by taxation, and none had been set apart by the law of 1837 except for "common school purposes." Mr. Wickliffe, the author of article eleven, then used "educational purposes" in the debate pending the discussion of his amendment, as the exact equivalent of "common school purposes."

Again, while this discussion was still pending, Mr. Wickliffe said:

"If I understand the report of the committee, it is that, while they do the same thing which I propose [not a different thing, as Judge Lindsay asserted the other night], they make it obligatory upon the Legislature to establish and keep in existence this system through the Commonwealth. If that is complied with, taxation will be necessarily involved to the extent stated

by my friend from Logan, or nearly to that extent. I am unwilling to impose that (by constitutional guarantee*) upon the Legislature; I would leave that to the tax-paying power in the Commonwealth. * * * * * * * * But if you adopt the whole of the report of the committee, you impose necessarily the duty upon the Legislature, from which they cannot escape, to put into operation this system within five years after the adoption of this Constitution. I offer no hostility to education in my amendment, for I appeal to the zeal I manifested in setting apart originally the sum of $850,000; but I am unwilling to impose the taxation which must be imposed to put this in operation in five years." (Page 901.)

Here Mr. Wickliffe sets clearly forth wherein he agreed with the Committee who reported the original draft of the article on education, and wherein he differed from them. "There is no substantial difference," says he. "I go with the committee and every friend of education to dedicate the fund which has been accumulated by taxation, or which was originally set apart by the law of 1837" for educational, that is, common school purposes. Wherein, then, did he differ from the committee? It was, in his own language, that "while they do the same thing which I propose," they make it obligatory upon the Legislature to establish and keep in existence this system throughout the Commonwealth. This would involve taxation, and a good deal of it. This taxation Mr. Wickliffe did not propose to make obligatory upon the Legislature by a mandate of the Constitution. If made mandatory, they cannot escape from it. "If" said he, "you adopt the whole of the report of the committee you impose necessarily upon the Legislature a duty from which they cannot escape, to put into operation this system within five years after the adoption of the Constitution."

Now you will observe that no such discussions, suggestions, or apprehensions as Judge Lindsay dwelt upon the other night formed any part of the subject-matter before the Convention. The only question which divided the Convention was the necessity of a constitutional guarantee for the then existing tax, and such additional taxation as would be necessary to place the system in operation within a given time.

* "By constitutional guarantee" is inserted in parenthesis, and is not in the original.

After further discussion, Mr. Wickliffe said:

"What does the amendment which I propose contemplate? It is that the fund which has been collected, the $850,000, the $73,000 of bank stock, and any other and every other fund collected *for educational purposes*, shall be devoted by the Legislature to that object, and when so devoted, it shall remain sacred, and be appropriated to no other purpose or object than the diffusion of a general system of education."

Now, it must be admitted by every one that Mr. Wickliffe's explanation of his substitute was designed to unfold articulately and explicitly what the substitute contained implicitly. The thing defined and the definition must be absolutely equivalent. The thing defined is made up of a certain complement of characters; the definition unfolds these characters. The thing explained, or made plain, contains within it a certain complement of characters which, in the explanation, are made to stand out clearly, distinctly, and unambiguously. Nothing appears in the definition which did not exist in the thing defined, and conversely, nothing exists in the thing defined, which, if the definition be adequate, is wanting in the definition. The notion, "man," for example, contains a certain complement of characters, qualities attributes, which go to make up the idea "man." These are material, organized, sentient, vertebrate, mammal, rational, moral. If "man" is mentioned, these qualities or characteristics immediately suggest themselves; and conversely, if there be an enumeration of these characteristics, exhaustive, neither deficient nor superflous, attention is at once fixed on "man" as the embodiment of all. The thing defined is equal to the full complement of all its characters; and conversely, the full complement of all its characters is equal to the thing defined. So "gold" embraces such characters as metal, yellow, ductile, malleable; of such and such specific gravity; melts at such and such a temperature; forms chemical combinations in such and such atomic proportions. If gold be adequately defined, all the qualities are enumerated; and conversely, all the qualities, when enumerated, give one the equivalent idea, "gold;" and so with plant, mineral, fish, horse. The definition, if adequate, contains an exhaustive enumeration of the qualities which make up the thing defined; the thing defined is equal to all its qualities.

The absolute equivalence of the two is a principle in law as in logic.

In the explanation given by Mr. Wickliffe of his substitute, there is a remarkable parallelism throughout. Certain phrases had been used by all who participated in debate as synonymous. These phrases, wherever they occurred, were quite well understood. They had been used again and again by members on the floor. These phrases occur in the substitute, and in the explanation, and your attention is particularly directed to them. I arrange the substitute and the explanation in parallel columns, that the parallelism may be properly exhibited:

SUBSTITUTE.	EXPLANATION.
All the funds which have been	It is, that the fund which has been collected—the $850,000, the
(collected),	$73,000 of bank stock,
or which may be collected,	and any other and every other fund
	collected
and which have been set apart	
FOR COMMON SCHOOL PURPOSES,	FOR EDUCATIONAL PURPOSES—
shall be held *sacred*,	shall be *devoted*
subject to be regulated by	by the
the GENERAL ASSEMBLY,	LEGISLATURE to that object; and
and *applied and disbursed*	*when so devoted it shall remain*
as shall seem best to effect	*secure and be appropriated to no*
the object	other purpose or object than
OF GENERAL	the DIFFUSION OF A GENERAL SYSTEM
EDUCATION.	OF EDUCATION.

In this equivalence of expressions "the funds which have been collected or may be collected," in the substitute, is explained in the explanation to mean "the $850,000, the $73,000 of bank stock, and any other and every other fund collected."

The object for which these funds have been collected or may be collected is stated in the substitute to be "common school purposes," in the explanation "educational purposes." "Shall

be held sacred" in the one has its parallel, "shall be devoted," in the other. "General Assembly" in the one has its parallel, "Legislature," in the other. "Shall be applied and disbursed" in the one has its equivalent, "appropriated," in the other. "To effect the object of general education" in the one has its equivalent, "to no other purpose than the diffusion of a general system of education," in the other.

But a special significance attaches to this parallelism, and absolute equivalence of expressions in the substitute explained and the explanation, when it appears that Mr. Wickliffe, on withdrawing the substitute and submitting, as an amendment, a paper which was subsequently adopted as article eleven of the Constitution, uses "educational purposes" in its equivalent form, "purposes of education." This being the only difference, that what is substantive in the one is adjective in the other, *i. e.*, "purposes of education" in article eleven takes the place of "educational purposes" in the explanation, the exact equivalent of the one to the other being patent to all. Mr. Wickliffe then uses "purposes of education" as the equivalent of "educational purposes;" and he himself defines "educational purposes" to mean "common school purposes." This makes the proof complete.

All through the Debates of the Convention there is not a line to show that the committee who reported the bill, or the members of the committee and others who participated in the debate extending over two days, used "funds" in any other sense than "common school funds;" "school" in any other sense than "common school," or "educational purposes" in any other sense than "common school purposes." The chain of proof seems conclusive and irrefragible.

No other kind of "schools" than "common schools," no other "education" than "common school education," no other kind of purposes than "common school purposes," were under consideration or thought of from beginning to end of the debate.

In this debate it must be borne in mind there were three views represented:

1. Those who opposed common schools *in toto*, and who opposed any recognition of the system in the Constitution.

2. Those who advocated a constitutional guarantee for the school fund derived from the General Government, amounting

to $850,000; for the bond issued by the State for arrears of interest, amounting to $308,000; for the bank stock, amounting to $73,000; and also for a tax specific in character of a certain number of cents on each $100 of taxable property.

3. Those who advocated a compromise, and who proposed to admit the constitutional guarantee on all the bonded funds, viz: $850,000, $308,000, and $73,000 in bank stock, but who refused to incorporate a guarantee for the tax proposed.

The first was represented by Mr. Hardin, the second by Mr. Taylor and Mr. Proctor, the third by Mr. Wickliffe.

The first refused a guarantee for anything; the second asked a guarantee for everything; the third conceded a guarantee for existing funds, and while refusing to incorporate a requisition for a specific tax, was willing also to guarantee, for common school purposes, the proceeds of any tax which the Legislature, in the exercise of discretionary power, might levy for the use of common schools.

The first would be hampered by no constitutional guarantees whatever, either for the existing school fund or for any prospective addition thereto from any quarter whatsoever.

The second affirmed the necessity of a guarantee for the existing stocks and bonds, known as the common school fund, and likewise for an addition thereto, which should be created by constitutional provision, and guarded by constitutional guarantee.

The third conceded the guarantee for existing funds only, but refused to create by constitutional provision anything additional thereto. While, therefore, the third party, the party of compromise, the party whose amendment was ultimately accepted, and forms article 11 of the Constitution, conceded much more than the first, its concessions fell short of the demands of the second. It refused to make the tax compulsory under the Constitution. It allowed, however, a constitutional guarantee for the integrity and exclusive application to common school purposes of the proceeds of any tax which might be levied for common school purposes by the Legislature. This limits and defines its scope and intent. It takes no cognizance of any tax levied for any other purpose whatsoever, nor of the proceeds of any such tax. It concerns itself neither with the purpose of any other tax, nor with the application of its proceeds.

The amendment which was submitted by Mr. Wickliffe, and which was subsequently adopted as article 11 of the Constitution, introduces no new feature which was not contained in the substitute. The substitute was submitted as a substitute for section one of the original draft. The amendment incorporated the substance of the substitute proposed for section one, and, in addition thereto, the substance of the remaining sections of the original draft, with certain modifications not germane to this discussion. This is an important point. Mr. Wickliffe had declared, in language as emphatic as it could be expressed, that there was no substantial difference between the second clause of the report of the committee and his substitute—that the only point of difference was the guarantee for the tax already levied, and for additional taxation necessary to carry the system into operation within a given time; that in other respects the report of the committee proposed to do exactly what he proposed. When, then, he submitted the amendment which was adopted as article 11, he embodied the substance of his substitute for section one of the original draft, there was no change of opinion—no shifting of ground. He adhered persistently to the position he had taken at the beginning without advance and without retreat. He was rigorously and honorably consistent from beginning to end.

A proposition to throw into the common school fund the proceeds of a tax levied for an altogether different purpose, and to guarantee its application to a use for which it was never intended, would have appeared so monstrous that no party to the debate would for a moment have entertained it, and a proposition to forbid taxation for any other purpose, on the plea that, if levied and collected, it should become part and parcel of the common school fund, would have appeared equally monstrous. No party to the debate would have tolerated it, and no more effectual method could have been devised to defeat the constitutional guarantee for the common school fund.

The author and mover of the substitute, which was ultimately adopted as article eleven, was not the man to tender more than the Committee had reported and insisted upon. The party of compromise would have abandoned him at once had they suspected that his substitute, under pretense of guaranteeing less,

covertly and by indirection proposed to guarantee much more, viz: not only the capitalized school fund, and the proceeds of whatever taxation might, in the discretion of subsequent Legislatures, be imposed in aid of common schools, but beyond and above this, the proceeds of some other tax which might be levied for some other purpose outside of the common school fund and common school system.

What Mr. Wickliffe's substitute proposed was a middle course between those on the one hand who insisted upon a guarantee for the capitalized school fund, together with any fund which might arise by taxation *heretofore* and *hereafter* imposed by the General Assembly in aid of common schools; and those, on the other hand, who refused a constitutional guarantee for any and all of these. And this he did by conceding the guarantee asked for the capitalized fund, and for any fund that might arise by taxation *hereafter* imposed by the General Assembly. He refused to include a guarantee for any fund that might arise from taxation *heretofore* imposed, inasmuch as that guarantee might hamper and embarrass future Legislatures; but he was quite willing to include a guarantee for any fund which might arise from taxation hereafter imposed by any subsequcnt Legislature, of a character well defined, for common school purposes, and to maintain its inviolability for that purpose, and that alone. How absurd, then, to credit him and the party he led with an intention to foist into the common school fund, covertly or by indirection, something which did not belong to it, which was wholly foreign to the ideas entertained by every gentleman who discussed a guarantee for the common school system, and which would have surprised and shocked every member of the Convention. The gentlemen who claim this interpretation can surely never have read the circumstances or the conditions under which article 11 originated. A contrary interpretation imputes to them a dishonesty and disingenuousness of purpose of which we must acquit them.

Lastly, a contrary interpretation imputes to the framer of the article, and to those who accepted it, an absurdity, with which they could not have been justly chargeable. If the phrase "purposes of education" in article eleven mean what the opponents of the tax for the benefit of the State College allege, then it

must be said that no prohibition in any written instrument in the English language was ever expressed in terms so awkward and by a method so indirect. The work of the common school, as commonly understood, is one thing, that of the State College is another. They differ in degree, not in kind. They are related as inferior education is related to superior. We may designate the one as "A," the other as "B." It is admitted on all hands that the State may provide by taxation for the aid and maintenance of "A." The opponents of the State College hold that, by the provisions of article eleven of the Constitution, the State is forbidden to make provision by taxation for "B." If their contention be just, how does the Constitution provide for this prohibition? Not in direct terms, certainly. Not by saying that "no tax shall at any time be levied for the support of any high school, seminary, college, or university, or for the equipment, outfit, or expenses of any of these, in whole or in part." But it does it in this clumsy and indirect way, viz: No aid shall be given by taxation to "B," but if it be levied for the benefit of "B," it shall go to "A."

Or if the other alternative be taken, we have it thus:

Aid may be provided by taxation or otherwise for "B," but if it be so provided, then it shall not go to "B," the party for whom it was provided, but it shall go to "A," the party for which it was not provided. Or to take the more familiar phraseology with which some of you are familiar—John Doe and Richard Roe. It is admitted on all hands that maintenance may be provided for John Doe. It is, however, held by some, that such maintenance may not be provided for Richard Roe. How is the prohibition made out? This way: Aid and maintenance shall not be provided for Richard Roe, but, if so provided, it shall go to John Doe. Or if this construction is objected to, and the affirmative held, we have the following: Aid and maintenance may be provided for Richard Roe, but, if so provided, it shall go to John Doe. We are at a loss to know whether Richard Roe should complain most of the loss of aid and maintenance, or of the interpretations and methods by which it was compassed. Seriously, is this sort of nonsense, this sort of fast and loose verbiage—denying, promising, tantalizing; affirming, promising, and capriciously forbidding—the construction which

Judge Lindsay would have you put upon article eleven of the Constitution? Such an article, brought to a *reductio ad absurdum*, as this fortuitous combination of Law and Gospel would have you believe, would seem rather to be the work of lunatics than sane men. I do not so lightly esteem the wisdom and common sense of the framers of the Constitution.

The interpretation which I have the honor to submit, makes no such enormous draft on your credulity; it violates no canon of interpretation; strains no phraseology; accepts the historical and political circumstances of the times in which it was framed as the back-ground, and the ideas dominant at the time of the adoption of the Constitution as the mould in which it is cast. The interpretation is consistent; postulates nothing; accepts nothing; rests upon no hypothetical fictions, and especially does it give you a result which may be characterized as common sense in opposition to the sublimated nonsense which the opposition would have you believe the essence of wisdom.

Finally, this interpretation is in perfect accord with the canon of interpretation given by Blackstone. Says he:*

"The fairest and most rational method to interpret the will of the legislator is by exploring his intentions at the time when the law was made, by *signs* the most natural and probable. And these signs are either the words, the context, the subject-matter, the effects and the consequence, or the spirit and reason of the law."

Tried by this rule of interpretation, I have no hesitancy in submitting the preceding construction of the Constitution to any competent body of lawyers in Christendom. The higher the character of the tribunal for learning, experience, and probity, the better for my purpose. Common sense, and the sense of right common to all, form the foundation of all jurisprudence and of all construction of law. Hence, it does not necessarily follow that one must be a trained jurist in order to be competent to give an opinion upon an article in constitutional, or a statute in municipal law. One who is trained in the processes of thought, and familiar with the import of language, can do this fairly well. And when such interpretation corresponds exactly

*Judge Lindsay, in his reply on the Friday following, repudiated Blackstone's canon of interpretation as obsolete, "even though he had had it patented." In another part of his reply he said: "Blackstone was an authority several hundred years ago." This will be news to most readers.

with the canons given by the greatest of commentators, the presumption is that it is correct. The common sense which interprets, and the common sense to which it appeals, will alike brush away the flimsy web of technicalities woven by an ingenious advocate, and stand upon the solid substratum of fact and common sense.

If, gentlemen of the Legislature of Kentucky, you desire to apply to the purposes of a liberal and practical education the fund received from the General Government by the State, to supplement its deficiency in order to render it effective; to carry out in a liberal and magnanimous spirit the trust accepted in 1865; to realize the expectation created in 1879; to go on in the good work begun in 1880; to fill the halls which await your sons with a vigorous, hardy, self-reliant youth, and to provide them with such facilties and opportunities as the geographical position of Kentucky, her agricultural and mineral wealth, her traditions and influence and dignity demand for those to whom you will ere long hand over the administration of the affairs of this Commonwealth, and to do all this in a spirit generous, comprehensive, catholic, then stand by your College. Nurture it, cherish it, build it up, and make it your glory and your pride.

But if you care little for the present, and less for the future—if you are indifferent to your trusts, preferring stagnation to activity, ignorance to culture, denominational vassalage to progress, expansion, vitality, freedom, then withdraw the aid which now vitalizes your scant income from the Congressional fund, cut down the emoluments of your College to meet the demands of the clergy, write upon your statute books that Kentucky is too miserly or too obsequious to clerical menace to maintain an institution worthy of her, send the flower of your youth beyond your own borders to obtain the education which the Church will not allow you to give them at home. This is the alternative placed before you to day.

Let Kentucky rouse from her slumber, shake off her lethargy, and in the provision which she makes for the education of her sons dare to be free.

"Learning is an addition beyond nobility of birth. Honor of blood, without the ornament of knowledge, is but a glorious ignorance."

Restore the glory of the olden time, when the flower of the young men of Kentucky and of the Mississippi Valley flocked to Transylvania—when from her venerable halls went forth the men who ruled the destiny of your own and neighboring States. Lay broad and deep the foundations of such an institution as will reflect honor upon you, and shape the characters of your sons in culture, in self-reliance, in honor, in duty, and generations to come will venerate your names.

OBSERVATIONS ON JUDGE LINDSAY'S ANSWER, FRIDAY EVENING, FEBRUARY 3D, 1882.

Judge Lindsay, in his answer to the arguments addressed to the committee on Monday evening by Mr. Simrall and myself, began by saying that I had answered successfully every one whom I had met, including Mr. Simrall. This was an admission and compliment from the distinguished gentleman for which I was not prepared. He unwittingly admitted more than he intended. Perhaps he had forgotten that I had replied to himself as well as to Dr. Beatty.

He endeavored, with some apparent effort, to show that Mr. Simrall's argument and mine were not in unison. That they dealt with different parts of Judge Lindsay's argument is true. But the alleged disagreement has no foundation in fact. Mr. Simrall addressed himself to one phase of the question raised by Judge Lindsay, I to the other. Mr. Simrall, by a close examination of the decisions rendered by the Court of Appeals, showed that they did not touch the constitutionality of the tax for the Agricultural and Mechanical College, for the simple reason that they were neither analogous nor parallel. The Vanceburg case, the cow case, and other cases cited, touched no points, and decided no issues in any way analogous to the present. He then proceeded to show that the definition of a common school, contained in the statute, can be altered, amended, restricted, enlarged, or abrogated by any succeeding Legislature, and that such definition, falling exclusively to the competence of any Legislature, could not be placed on a parity with the mandates of the Constitution. What the Constitution did determine was this, and this alone—that the fund, known as the "common school fund," interest and principal, should be held inviolate for the purposes for which it was designed.

Judge Lindsay then addressed himself to a criticism and refutation of an anonymous article in the Yeoman, with whose paternity he assumed my acquaintance. I informed him that I had no knowledge of the authorship of the article. He replied that an identity of expression occurred, and said that the phrase, "add from top to bottom and you have six, and from bottom to top and you have half a dozen," or something of like import, occurred in the Yeoman article, and also in the reply which I made to him on Monday night. I repudiated the language ascribed, and stated that no such expression had been used by me, and challenged its production from the manuscript of my reply in the Yeoman office. Notwithstanding this, Judge Lindsay went on to argue in refutation of the anonyomous article, on the assumption of my knowledge and endorsement of its contents. Who its author is I did not then and do not now know; and the language in it, by which Judge Lindsay attempted to show my knowledge of its origin by affirming its identity with mine, was never written or uttered by me, and I now challenge the production of the proof. A reply to my argument ought, I submit, to deal with my own language and my own reasoning, and not with those of any anonymous writer, on a wholly gratuitous imputation of identity growing out of an inexplicable confusion of ideas in Judge Lindsay's own brain.

The relation of the second sentence of section 1 of article 11 in the Constitution to the first sentence in the same section, and the parallelism of these two sentences which I exhibited and discussed, Judge Lindsay entirely ignored. The relation and retrospective reference of "that purpose," in sentence two, to "purposes of education" in sentence one, he failed to notice, but confined himself to the "general traverse" suggested by the distinguished gentleman from Louisville, who sat near him on Monday night.

Equally flippant and evasive was his treatment of the parallelism exhibited in Mr. Wickliffe's substitute and explanation. The principle of interpretation which I submitted, viz: that "the thing defined and the definition, if the definition be adequate, are absolutely equivalent; that the thing defined is made up of a certain complement of characters; the definition unfolds these characters; the thing explained, or made plain, contains within

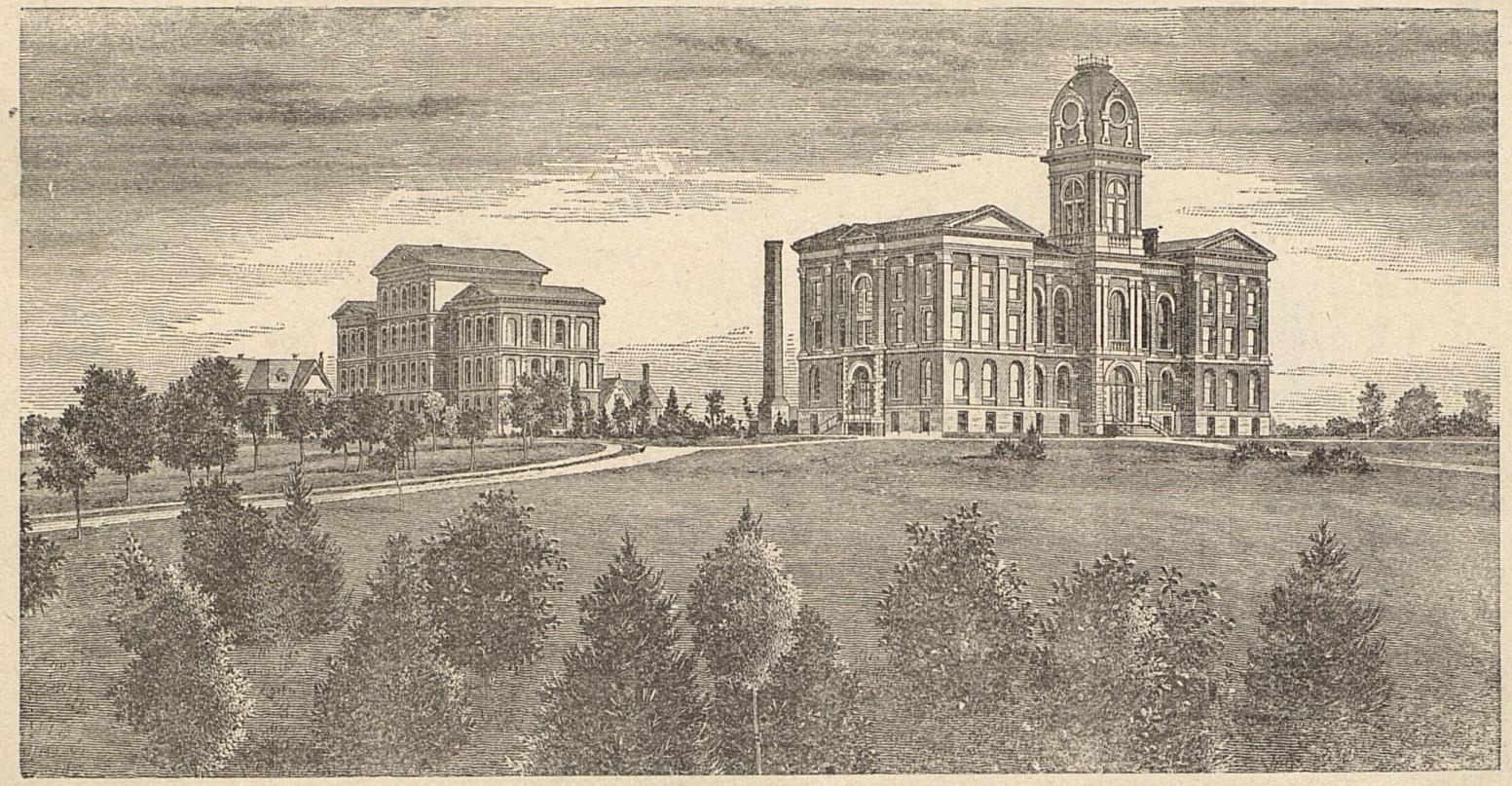
it a certain complement of characters, which, in the explanation, are made to stand out clearly, distinctly, and unambiguously," Judge Lindsay said he did not understand. It was couched in language with which he was unfamiliar, and above the comprehension of most men. This I regret exceedingly. I am not accustomed to use language above the comprehension of ordinary mortals. It never occurred to me that the ex-Chief Justice would again content himself with the "general traverse," which had already played so prominent a part in his answer.

The significance of the substitute and explanation as throwing light the one upon the other, was in consequence of Judge Lindsay's failure to understand the principle of logic, "that a thing is equal to itself," conveniently ignored. He felt, however, that a passing reference was due to a phase of the argument which had undoubtedly caused him some perplexity. He assured his hearers that it mattered little what had been said in the Debates of the Convention which framed the Constitution; that Blackstone's rule of interpretation, quoted in my reply, did not apply to American deliberative bodies; that though Blackstone had authority *several hundred years ago*, it was now obsolete, even "though he might have had his rule patented."

Nothing, of course, could be better evidence of the unconstitutionality of the tax for the Agricultural and Mechanical College than the appeal to a principle in logic and in law which the ex-Chief Justice did not comprehend, or reliance upon a rule of interpretation formulated by an obsolete authority, such as Blackstone, who, we were informed, was held in esteem several hundred years ago. The one of course indicated a transcendentalism dangerous to the Church and to the Bar; the other a blind adherence to antiquated rulings and usages which ought to be consigned to the oblivion of the past. In either case, a college whose president held views expressed in language so far above the comprehension of ordinary men, or who made an unwary reference to an authority so obsolete as Blackstone, ought to be abated as a common nuisance—"unwise, unjust, excessive, oppressive," the language in which Dr. Beatty expresses his abhorrence of the aid by which it is sustained. On this, the

distinguished counsel for exclusive monopoly of education by the clergy, rested his case. The "general traverse" formed the staple of his answer. Occasionally, there seemed a disposition to grapple seriously with some of the difficult parts of the problem, but as he neared them, alarmed and startled by his own temerity, like the boy in Macauley's Horatius, he drew back from the den on which, by accident, he had stumbled.

And so closed the constitutional argument, to which, by the etiquette of the Bar, I had no opportunity to reply.



PRESIDENT'S HOUSE. DORMITORY. COLLEGE BUILDING.

ADDRESS OF PRESIDENT J. K. PATTERSON

Delivered before the State Grange, December 11, 1883.

In the United States, as in all countries possessing so extended a geographical area, and embracing such a variety of soil and climate, agricultural interests must always be paramount. Second, but only second in importance, is and will be the mechanical industry of the country. Not only are these the most important occupations, but they furnish employment to much the largest part of our population. The professions styled liberal, the merchants and bankers, the dealers in stocks and bonds, the gentlemen of literature, and the gentlemen of leisure, are all possible only through the existence and the activity of the agriculturist and the artisan. They are the producers and manufacturers of the raw material, the creators of our wealth, the basis of all our material prosperity, and supply the indispensable condition of all intellectual, political, and moral power.

The members of the liberal professions, the lawyer, the physician, the minister, the teacher, those engaged in the distribution of the wealth which these create, those who apply themselves to discovery and invention, those who aspire to manage affairs of the township, the county, the municipality, the State and the Nation, all these are, and of right ought to be, their servants. These relations are often reversed; but this is not the order of nature. These relations are not only reversed, but oftentimes ignored, and that has been made first which is last, and that last which by right is and ought to be first. With the progress of intelligence and

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The members of the liberal professions, the lawyer, the physician, the minister, the teacher, those engaged in the distribution of the wealth which these create, those who apply themselves to discovery and invention, those who aspire to manage affairs of the township, the county, the municipality, the State and the Nation, all these are, and of right ought to be, their servants. These relations are often reversed; but this is not the order of nature. These relations are not only reversed, but oftentimes ignored, and that has been made first which is last, and that last which by right is and ought to be first. With the progress of intelligence and

the growth of freedom, the rights and necessities of the agriculturist and the artisan have been recognized. Now, I hold that this recognition implies and necessitates an education for the industrial classes, for the farmer and the mechanic, equal to that of any, whether professional or liberal. I do not hold that this education should be of the same kind as that given to the clergy, or the physician, or the lawyer, or the man of letters. The character of education provided for these is determined by the special kind of activity to which each desires to apply his intellectual endowments; in other words, by the end which each has in view. The intending clergyman applies himself to Greek, to exegetic and dogmatic theology; the physician to anatomy, materia medica, and therapeutics; the lawyer to abstract discussions of right, and to the study of statute law. But before each of these begins to study the special departments of science which form the distinctive features of the profession which he is supposed to have in view, he is subjected to a course of preliminary training and discipline. His intellectual powers must be awakened, his latent and dormant faculties evoked into healthful and vigorous activity. He must be taught to think, to think vigorously, to think correctly. His education is directly proportioned to his capacity for prolonged and spontaneous activity; and the main purpose in view by all those who have in charge the education of youth is to cultivate and develop the intellectual endowments so as best to attain this end.

The preliminary training which young men undergo who intend to become lawyers and physicians, ministers and teachers, artists and engineers, inventors and discoverers, all tend to this end. This education is given not so much for the amount of knowledge which it conveys as for the mental activity and vigor which it assures, for the ability which it confers to think vigorously and to think correctly. The boy who toils through proportion and square root may see little practical utility in the long examples devised, so far as he can

see, to perplex and puzzle, but when he has gotten through his task and understands his work, whether he is aware of it or not, he is better prepared to grapple with and to solve problems which he could not have touched before. And when he has advanced into geometry and algebra, though he may see little practical utility in the demonstration of a formula for logarithms or the development of the complex relations of sine and cosine, tangent and cotangent; yet when he gets through these and understands them he is prepared to advance to higher and higher reaches of reasoning thought.

So it is with the discipline and strength acquired through the study of language, the study of the laws of thought, the study of the rights of man and the duties of man, the study of the Creator in His works, and the study of man in relation to himself, in relation to his kind and in relation to his God. All mental discipline expands, invigorates, and ennobles, and this, after all, is the prime object of all education and of all existence.

Upon the discipline and habits thus acquired the professional man builds. His powers of observation are sharpened, his reason strengthened, his acquisitions multiplied, his sense of right invigorated, his powers of expression enlarged. When these are accomplished, the mere professional acquirements which enable the professional man to enter upon his profession are easy enough of attainment. But, up to a certain point, whatever the intended profession of the student may be, the course of preliminary education is or ought to be very much the same. A course of study ought to be prescribed and entered upon, prosecuted and completed, which will provide the necessary kind of training to all the powers of the mind, not cultivating one faculty while others are left uncared for—but cultivating each and all in proper proportion, so that the mind shall be trained and developed as a symmetrical whole. At one stage of growth the powers of observation and memory ought to be sharpened and strengthened; at another the faculty of connected thought,

the faculty of reasoning, and the conditions which legitimate conclusions. Concurrently with these the sense of duty, our obligations to the Creator, to mankind and to ourselves, should be developed and strengthened in such way that what we owe to others, as well as what others owe to us, should be understood. Who shall be made the beneficiaries of this sort of education? Is it necessary for the future lawyer and physician and clergyman only? Shall the necessity also be admitted for the civil engineer, the teacher, the man of letters, and, in addition to these, for the sons of the wealthy? When all these have been included, shall all others be virtually excluded? Shall it be said that after provision has been made for the intended professional classes, that the duty of the municipality, the State and the Nation, is fulfilled? I answer no.

The men and women who create and transform the wealth of mankind, by whose labor the wealth of the municipality and the State is rendered possible, who constitute the bone and sinew of a nation, who are its guardians in time of peace, its safeguard and bulwark in times of peril, these men and these women deserve an education, so far as preliminary training goes, equal to that provided for any of the professions. They are, and, in the nature of things, always must be, by far the most numerous part of the population. They make the men who legislate, they make the men who interpret the law, they make the men who execute the law. When they have made these, does their duty and their right end there? Nay, verily. The masses who are the ultimate depositories of power need to know the principles on which civil government is constituted; the mutual limitations of liberty and authority; the right and the wrong of questions of home and foreign policy; the expediency of this line of political conduct and the inexpediency of that; the limitations under which corporations may be allowed to exist; the powers which may be delegated to the governing bodies for the good of those who

are governed. Now, all this cannot be accomplished intelligently unless the education given them embraces such training and such instruction as will qualify them to understand these rights and these duties. And, passing from the rights and obligations of citizenship, why, I ask, should a liberal, elementary education, deemed necessary for the rich and for the members of the learned professions, be denied to the agriculturist and the mechanic? It must be for one of two reasons—either that they do not need it, or that they are not worthy of it.

When it can be shown that the possessors of power always exercise it for the best advantage of the millions whom they govern, that legislators are invariably unselfish, that the judiciary is always above corruption, and that corporations are invariably merciful; then we may admit that, so far as the functions of government are concerned, the masses may abdicate the useless luxury of elections and delegate once for all the right of succession to those who govern them. But, granting all this, does it follow that the agriculturist and the mechanic can dispense with an education? Why should he be denied the light that irradiates the human soul? Why should he be condemned, son of toil though he be, to look with a less intelligent mind upon the mysteries and the glories of the skies that bend above him, or of the earth that stretches out beneath him? Why should the wonders of the organic and the inorganic world, the endless complexity of animal and vegetable existence around him, be to him as they are to the ox which he fattens for his table, or to the horse which draws his plow—shrouded under an impenetrable veil? Possessor of a mind whose faculties are godlike and whose capacities are all but infinite, why should all this exhaustless treasure be to him a storehouse sealed and bound? Why should the achievements of the past, the deeds of the men of old in science, in literature, in art and in arms, be to him as though they had never been?

The telescope, which brings immensity within the fields of his vision; the spectroscope, which by analysis affords

him the constitution of sun and moon, of planets and stars, whose distance he may compute but cannot adequately represent even in imagination; the microscope, which reveals all but the ultimate processes of existence and all but the ultimate atoms of which the universe is built up; the telephone and telegraph, the railway and the steamship; shall the knowledge of these and the knowledge which they reveal and the principles of their construction and the laws of nature by which they are made possible, be the heritage, the birthright of the rich few, but practically inaccessible to the millions? I would educate the son of the farmer and the son of the artisan as I would educate the sons of the banker and stock-broker, the sons of the merchant and lawyer, the sons of the minister and teacher. I would give them the opportunity of an education similar in kind up to a certain point, the point namely: where each should begin to specialize in order to prepare himself for a particular pursuit in life.

Now, what should this preliminary education necessary for all include? Every one, of course, will say reading and writing. Well, what does that mean? It means a good deal less now than it did when Christopher Columbus discovered America. Why? Knowledge then was comparatively limited Few had gone beyond the merest rudiments, and the man who could read and write was on a par with the best of his fellows. There was then little geography, arithmetic was almost unknown, anatomy and physiology were non-existent, chemistry and astronomy had not advanced beyond alchemy and astrology. The natural sciences, as we understand them, had not come into being. Reading and writing, then, made their possessors participants in the meager knowledge of the times. But now a man may know how to read and write, and if he knows no more, be an intellectual barbarian. We must go beyond mere reading and writing, then, to bring our men and women into actual participancy in the knowledge of our time. There is arithmetic in its largest

sense, the science of numbers, which carries us on to algebra and geometry, enabling its possessor to measure earth and sea and heaven. There is geography and geology, informing us of the present and past condition of the globe which we inhabit. There is chemistry and physics, making us acquainted with the constituent elements of matter, whether in the inert lifeless mass or in the organized animal and vegetable, with the laws which determine their constitution and relations. There is animal and vegetable anatomy and physiology, revealing the principles of structure and the processes of growth and nutrition. And there is the wonderful human mind with all its godlike powers, reflecting the image of its maker, transcending the bounds of time and space, grappling with the problems of existence, penetrating all things in earth and air and sky, and aspiring to union and communion with the Divine, whence it sprang. Its laws, its operations, its limitations, are there for contemplation and study. Now, which of these departments of knowledge and research should be closed to the future farmer and artisan? From which of these fields waving with golden harvest would you exclude him? Born to know, is not all knowledge his legitimate domain? Enriched by the possession of knowledge in an equal degree with others, and enriched beyond any powers of numbers to express, why should any human being the end of whose existence is to know himself and the universe around him, to create wealth out of the materials which God has given him, to devote himself to thatoccupation which the father of his country has dignified as the most honorable and useful to man—why, I ask, should not he be afforded the same opportunity for its acquisition and possession as those who create nothing, but live by the labor of others? He is, I hold, not only worthy of a good education, but worthy of the best.

Your sons furnish the best blood of the country. They not only produce that which sustains life, but year by year they throw an infusion of fresh blood and fresh life into the

cities, whose populations would otherwise decline and ultimately die out. They thus directly and indirectly vitalize all the varied elements of population, provide the bone and sinew and nerve and brain of the nation, and supply material not only for the agriculturist and mechanic but for the merchant and manufacturer, the inventor and discoverer, the judiciary, the bar and the legislature. ' Every farmer's son is a possible Senator or Cabinet officer, Governor or President, and whether he attains the highest offices of honor and profit or not, in a hundred ways and on a hundred occasions he can turn to practical account the discipline and training for which I plead. In such assemblies as this, in the halls of legislation, in the political arena, he is called upon to scrutinize measures, to determine their justice, their policy, their expediency, to disentangle sophistry, to maintain right and denounce wrong. In all these relations the man of brains, of education, of vast and varied information, has immeasurably the advantage. Whatever the question at issue, he holds all the threads which make up the warp and woof of the web, however complicated, in his hands, and while his illiterate antagonist is fumbling and floundering he sees with intuitive glance right through the whole.

The farmer is the only true conservative in any community. His interests are immediately connected with the soil which he tills. Through all changes of government his lands remain. The capitalist with his stocks and his bonds has no such interest in the perpetuity and integrity of good government as has the agriculturist. He can transfer the contents of his vaults and money chests from continent to continent at ten days' notice. If revolution and anarchy impend, he discerns the coming storm and transfers his movables to happier shores. But the barns and granaries, the flocks and herds and lands of the husbandman cannot so be converted and transferred. These remain to be burned and plundered and despoiled. Hence, the husbandman has a stake in the existence of civil government which the mere capitalist and

broker has not; and if there be one debt, one obligation which you owe greater than all others, paramount to all others, it is that you educate your sons to maintain and conserve and transmit in their purity and in their integrity the institutions which you have inherited, the wealth which you have created, the heritage of freedom which you have defended. If this people are to remain free, the muscle and brain of those who till the soil must maintain this freedom. An educated, intelligent, and moral population, such as I hope the coming ages will find in these States, can never be enslaved. But you will have need of all that education and intelligence and morality can give. One hundred years will not pass before a population of 300,000,000 of souls will be found within the boundaries of these United States. In cities fourfold the population of New York, will be found tens of thousands of illiterates, the scum and dregs of society, a mass of irresponsible poverty, whom any Vanderbilt or Gould or Astor of the future can buy, whom corporations can control in order to control legislation and monopolize power. What is the only possible counterpoise to this explosive element, to this prostitution of the franchise, to this perpetual menace? I answer, the educated yeomanry of the country. If free institutions perish, they will perish not so much because of a corrupt municipal *proletariat*, as because of an uneducated, rural population who, because of their ignorance, were unable to counterwork the mischief wrought by the venality of the moneyless mob and the rapacity of the moneyed monopolist. This is the plea which I make for the broad, liberal, comprehensive education of the agriculturist and the mechanic—education which I insist ought to be as broad, as liberal, and as comprehensive as that provided for any other up to the point where each begins to specialize for his particular profession or avocation. To limit the further consideration of what should be done specially for the education of the agriculturist, I beg your attention to the following considerations:

"Agriculture is an art, not a science. There is no more a science of agriculture than there is a science of medicine. Men sometimes talk loosely about science and art, failing to make the distinction which should be made. Science is something more than a mass of information. It is a body, an organized system of established truths and principles. But, though medicine is not a science, there are many sciences relating to the healing art, throwing light upon it and guiding it on its difficult way; making it rational, not empiric; an intelligent apprehension of the relation of cause and effect, and not mere fortuitous guess-work. Botany, pharmacy, chemistry, anatomy, surgery, physiology, and pathology are all sciences, without which the healing art as a rational art could not exist. So far as the physician is concerned, all these exist for the sake of his art and make it possible. So agriculture, though not a science, is surrounded by sciences which throw light upon it. As the sciences advance which are related to it, the art becomes more rational. And if we might call an art liberal in proportion to its affiliation with science, then agriculture is the most liberal of all the arts." See what sciences it lays under contribution for its purpose: The chemistry of soils and the chemistry of animal and vegetable life; geology and physical geography, which determine the composition of soils and the temparature of latitudes; comparative anatomy, animal and vegetable physiology, animal and vegetable pathology, even mathematics and physics, all are related to the art of agriculture, and intimately so.

"Step out on your farm and pick up a handful of soil, and before you can answer all the questions which that soil puts to you, you will have need of sciences not a few. You must know something of physical geography, organic and inorganic chemistry, the geology of your own and contiguous sections of country, their water-sheds and water-courses. Pick up a piece of coal or limestone, this well rounded pebble or that fossil, and before you are prepared to answer all the ques-

tions connected with the origin of the one, or the physical conditions which have determined the other, you will have laid many sciences under contribution. Stoop down and detach a single blade of grass with its roots, and you will have in your hand all the essential data of the problem which one of the most wonderful of all the sciences is called upon to solve. Crawling under your feet, humming about your ears, infesting the plant which you have in your hand, disputing with you the possession of the air which you are about to take into your lungs, are living creatures whose structure, habits, and relations to other organic life forms but one division of the vast science which treats of all animated existence on the earth, in the air, and in the sea." The relations of these to the vegetable and animal kingdom with which the farmer has to deal, are now recognized with the recognition that the fertility or barrenness of his fields, and the health or disease of his cattle, often depends upon these minute organisms.

"Every plant that grows on your farm, every animal in your stockyard, every bird and insect that hovers in the air, every implement of husbandry, every road, fence, farm building, every running stream, swamp, forest, change of temperature, rain-storm, drought, every alluvial deposit left by the swollen stream, every upheaved rock, everything that the farmer's eye rests upon or his ear hears, or which gratifies or offends his sense of smell borne on the passing breeze, everything represents a science which is very close to his work or which it is his interest to know." The knowledge may, in some instances, not materially increase the contents of his storehouse, but it adds to his pleasure and gratifies his curiosity. Man was made to know—made a little lower than the angel—but endowed with faculties and capacities far above the horse which drags his plow, or the sheep which supplies the clothing for his family.

As his knowledge increases, how his plants grow, how the stock upon which he bestows his care and his thought develop from the rudimentary germ to the embryo, and

from the embryo to the beautifully proportioned thoroughbred which adorns his pastures, or the lamb which gambols before its dam upon the lawn, he feels a keener avidity for the acquisition of knowledge, a deeper sympathy with nature and the processes of nature; appreciates more fully his own dignity, his relation to the chain of animated existence of which he is the glory and the crown, and to the Creator who brought him and them into being.

"Here the question may be asked, what use has the practical farmer for all this? Cannot he raise corn, and carry his mules and hogs to market without a knowledge of botany and geology?" I answer he can, and if the end for which the Creator made the agriculturist, and the aim of his existence, be to grow corn and market mules and hogs, then I concede the question without argument.

But corn, hogs, and mules exist for the sake of man, and not man for the mules and hogs. The end and aim of human existence is something higher and nobler than this. His thoughts, if he rises to a proper conception of his dignity and of the nobility of his nature, are not altogether of the earth and earthy. They reach beyond the bounds of space and of time. His origin allies him to the Divine and not to the brute. His mission is not to live and vegetate, but to comprehend himself and all things out of himself; to comprehend all but the incomprehensible God.

"If the question be asked what use has the farmer for algebra and geometry, I answer, quite as much in his sphere as the physician or the lawyer or inventor can in his. They serve to develop his mind, to expand his conceptions, to discipline his faculties; and is not the mind of the farmer with its conceptions and faculties and far-reaching possibilities, of as much value to him, of as much service to society and the world, as that of the physician or lawyer, minister or philosopher? He is thereby brought into more intimate relation with universal progress, with the march of intellect; he can solve difficulties with more ease, think more clearly,

calculate probabilities with more certainty, adjust meansto ends with better judgment, disentangle the web of sophistry with more certainty, and becomes prepared to be a leader of men instead of being made the follower and dupe of others. "If this be so, then every intelligent father, whatever heritage he may be able to leave his son in acres and stocks, will want to see his mind so trained, so disciplined, so instructed in the science and knowledge of the age, that he can receive instruction and pleasure and profit from every blade of grass, from every passing breeze, from the rill that bubbles at his feet," from the stars which sparkle in the heaven above him, from the bow which spans the arch of the sky. He becomes, then, the seer, the prophet, the interpreter of himself, of nature, of God. Superior to nature, modifying, directing, and controlling her powers, not for physical purposes only, not for the sordid accumulation of wealth only, but for high moral ends. This is the sort of education which I have in my mind, and this is the sort of education to the realization of which I ask your co-operation to-day.

In addition to the means provided for class-room instruction, which for the present answer fairly weil, there ought to be procured for the service of the College a farm sufficiently large for all the requirements of experimental agriculture. During the connection of the College with the Kentucky University, a farm was provided for its use, bought and paid for by the subscriptions of the citizens of Lexington and vicinity in order to induce the State to place its Agricultural College at Lexington. On this farm, consisting of the two estates of Ashland and Woodland, and embracing 430 acres of the best land in Central Kentucky, had also been erected a large building for a mechanical department, well equipped with machinery. The State of Kentucky had also advanced $20,000 for the erection of buildings, all or most of which is alleged to have been expended on these two estates.

Upon the separation of the A. and M. College from the Kentucky University, this real estate which had been bought

for its use, was claimed and held by Kentucky University. Had the State College been the owner of this magnificent estate in fee, as it ought now to be, the necessity which I now bring before you would not exist. To conduct experimental farming with any degree of success, a tract of land is needed upon which permanent improvements can be made, and upon which a series of experiments, extending over a term of years, can be begun and carried forward. To do this upon a short lease, terminable under certain conditions at the option of the lessor, is quite impracticable.

A tract of land owned by the College, could in a short time be made what the organic law of Congress expected every Agricultural College to have—a model farm. Upon such a farm ought to be seen the representatives of the best breeds of beef and milk cattle, of the best varieties of sheep, and the best kinds of swine. Upon it should be erected model buildings for housing the employees, for storing grain and provender, and for providing shelter for those varieties of stock which require it. Facilities should be provided for testing the relative values of different kinds of food prepared under all conceivable conditions. Upon this farm experiments should be conducted in the growth and nourishment of all cereals, grasses, root crops, and other productions suitable to the latitude of the Commonwealth, under all possible variations of soil, planting and cultivation, the results of which should be carefully tabulated and given to the public. Every kind of machinery for preparing the soil, planting, cultivating, and reaping, should likewise be represented here—in short, the whole estate should be made an educational apparatus, whereon should be exemplified in practice and translated into action the instructions of the class-room. Here all the departments of study which I have shown make agriculture possible as an art, ought to find emphasis, illustration, and practice. To provide all this, however, requires money—requires legislation. I come here to-day to invite your co-

operation in procuring the funds to inaugurate a new era in industrial education in Kentucky. During the connection of the A. and M. College with Kentucky University, notwithstanding the possession of the estate to which I have referred, the idea of experimental farming was only fitfully attempted, and, on account of circumstances to which I need not recur—never realized. Since the separation in 1878, the College has had no opportunity even to attempt it, because of the absence of the indispensable condition—a farm. All the States around us, North, South, East, and West, have provided their Agricultural Colleges with farms handsomely equipped and stocked, ranging in area from 100 to 1,000 acres.

Kentucky is rich. The grounds on which the College stands are the gift of the city of Lexington. Most of the expenditure incurred in the erection of the magnificent buildings which crown the old city park was defrayed by the proceeds of the city and county bonds given to the State for this purpose. The accommodations are ample for the instruction of 500 pupils, and theoretical instruction is provided in all or nearly all the departments relating to agriculture. Only the farm is wanting, and that is indespensable. For procuring this I desire and claim your co-operation. I would urge you to take the initiative to procure the necessary legislation looking to this end, or at least your active co-operation towards its attainment. I will go farther. I think the agricultural interests of Kentucky ought to have an adequate representation on the Board of Trustees, by additional legislation, if this should be deemed necessary, and to this end I would pledge my hearty and loyal co-operation.

If the State of Kentucky, turning a deaf ear to the factious opposition of interested parties, will sustain your State College as it ought, cheapening education, widening its range, bringing it within the reach of the industrial classes, making it accessible to all, rich and poor, on equal terms, educating your teachers, your farmers, your mechanics, your

civil engineers, developing at home and under home influences the nerve and brain power which in time will develop the material resources of the Commonwealth, placing within the reach of every one an education equal to any that can be gotten anywhere within the limits of the Union, she will do a great and noble work.

On the education of your sons depends the perpetuity of your institutions. On this education depends the social and political morality, the leaven of which will leaven this people for righteousness. On this education depends the elevation of your children and children's children to a plane of far-reaching knowledge, such as you and I do not possess. Like the Hebrew law-giver, we have reached Pisgah's summit and can view the promised land: free institutions perpetuated, intelligence developed, morality deepened, culture widened, mankind living, nor for bread alone nor by bread alone, but living by the conscious glow of the Divine Spirit, and living for his race and for his God.

The outskirts of this land of promise we are now treading, but into the full possession and fruition we may not go. But our children may—our children will, if we do our duty.

The great work of the day is to educate those who have no means to educate themselves. "It is not because of his toils, that I lament for the poor. We must all toil, and no faithful workman, whatever be his sphere or kind of toil, finds his task a pastime. The poor is hungry, athirst, but for him also there is food and drink. He is heavy laden and weary, but for him also the heavens send sleep, and of the deepest. But what I do mourn over is, that the lamp of his soul should go out, that no ray of knowledge should visit him. Alas! while the body stands so broad and brawny, must the soul be blinded, dwarfed, stupefied? Alas! was this, too, a breath of God bestowed in heaven, but on earth never to be unfolded?

"That there should one man die ignorant who had capacity for knowledge—this I call the deepest tragedy."

[1886]

ADDRESS ON COMMENCEMENT DAY

BY JAS. K. PATTERSON, PH. D., F. S. A.,

PRESIDENT OF THE STATE COLLEGE OF KENTUCKY.

[Published by order of the Board of Trustees.]

In the absence of Governor Knott, who was invited to address you, I propose to occupy your time for a few minutes with a brief retrospect. It is the custom with all engaged in mercantile pursuits and in manufacturing enterprise, to take an inventory of stock at stated periods, and from conclusions, based upon trustworthy data, to determine whether their business be prosperous or the reverse; whether they be holding their own, advancing or losing ground, and in the light of the information thus obtained, to determine the policy of the future.

This is not, by any means, the first time that the College has taken a retrospect of its operations. This is done by the Board of Trustees annually, but on no previous occasion have the public been taken into the confidence of the College authorities as I propose to do to-day.

Twenty-one years have elapsed since the Agricultural and Mechanical College was established. These Colleges owe their existence to the act of Congress of 1862, donating lands to the States for this purpose, in proportion to representation. The allotment to Kentucky was 330,000 acres—a magnificent endowment if it had been judiciously and economically managed. The State committed the mistake of attaching the College created under the act to one of the denominational colleges of the Commonwealth, instead of putting it at once upon an independent basis. The land scrip was sold for fifty cents per acre, the proceeds invested in Kentucky six per cent. bonds, of which the State Treasurer became the custodian, and the income from this invested fund was directed to be paid over annually to the Trustees of the Kentucky University, the institution to which it was attached, so long as the connection existed. The Legislature reserved the right to dissolve the relation at any time. The Legislature required that the Kentucky University should provide, within a reasonable time, a farm worth not less than $100,000, for the use of the Agricultural College for experimental purposes, and a Mechanical Department for practical instruction in

the Mechanic Arts. The first condition was in part met by the citizens of Lexington and vicinity, who subscribed the money for the purchase of the farm. The second was in part met by a donation for the erection of buildings and the equipment of a Mechanical Department. The State, moreover, advanced $20,000 to set the Institution going. In 1866, twenty years ago, the Agricultural College opened. Its matriculates increased from year to year till, in 1869–70, the maximum was reached. From that year its attendance began to decline, owing to causes the discussion of which are not appropriate to this occasion. In 1878, the Legislature of that year sent a committee to Lexington to investigate the condition of the College—its relations and its work. They found the number of students to be about 75. They found that its Mechanical Department had practically closed. They found that its Agricultural Department consisted of ordinary farming and gardening, with no attempt to do experimental work. They found that adequate College buildings had never been provided; that the title to the estate purchased as its site was vested in the Kentucky University. The committee unanimously reported to the Legislature, advising the dissolution of the relationship at the end of the collegiate year then current. When the dissolution was effected, the Agricultural College was just where it had been thirteen years before. It had its endowment fund in the custody of the State Treasurer, viz, the proceeds of the sale of 330,000 acres of land at fifty cents per acre. But it had nothing else. It had no buildings, no laboratories, library, museums or physical apparatus. It had no farm, no shop. The State found that the $20,000 which it had advanced was irrecoverably gone. The question then came up, what shall the State do with it? The Legislature appointed a commission of eleven men to do three things: to make arrangements for its provisional existence till the meeting of the next Legislature; to advertise for and receive bids from those towns which desired to have the College established in their midst; and to prepare and present to the next General Assembly the outlines of an Institution, such as the dignity, the traditions and the educational wants of the Commonwealth required. These duties they discharged. Bowling Green and Lexington were competitors for the location of the College. The latter offered to the Legislature of 1879–80 the City Park, the present site, and $30,000 in city bonds, to be used for the erection of buildings, which offer the County Court supplemented by $20,000 in county bonds, to be used for the erection of buildings or the purchase of land. Bowling Green offered $30,000, and a connection with a local institution, Ogden College, such as the State had formerly made with the Kentucky University. The commission accepted the offer of Lexington, and the Legislature accepted and ratified the recommendation.

The Legislature then proceeded to re-organize the College upon a basis entirely undenominational. It gave it a broad and liberal foundation. It provided for its internal growth and expansion. It provided for such departments as its income, present and prospective, could adequately sustain, with additions, enlargements and specializations, such as future conditions might make possible. It made provision for a board of twelve trustees, who are appointed by the Governor and confirmed by the Senate. It required that a full and complete report be made to the Legislature biennially within one week after it convenes.

The Legislature of 1879–80 also sent a committee to Lexington to ascertain and report the probable expenditure necessary for the effective operation of an Institution such as by charter they had created. It was confessed on all hands that the income from the proceeds of the land scrip was entirely inadequate for this purpose.

The committee unanimously recommended the further endowment of the College by means of a tax of one-half of one cent on each one hundred dollars of taxable property in the Commonwealth. This recommendation was embodied in a bill which passed both branches of the Legislature and received the signature of the Governor. Under these provisions, with this prospective income, the College was re-organized.

During the collegiate session of 1880–81, the following departments were constituted: Mathematics and Astronomy, Natural History, Civil History, Mental and Moral Philosophy, English Language and Literature, Latin and Greek Languages and Literature, French and German Languages and Literature, Chemistry and Physics, Agricultural Chemistry, Practical Mechanics, a Normal School Department, a Commercial Department and a Preparatory Department, with a Principal and Assistant. Contracts for the College buildings were let within the proceeds of the city and county bonds given for that purpose. As the buildings advanced in their construction, it became painfully apparent that the estimates and contract prices would be largely exceeded, mainly on account of the failure of some of the contracting parties, and the necessity of reletting the contracts under circumstances disadvantageous and onerous in the extreme. Still the Board of Trustees and the Faculty were not discouraged.

Our embarrassments were happily known only to ourselves, and the Trustees believed that an economic management of their resources would enable them to come out all right. The departments were well filled; the attendance had more than trebled in comparison with that of the last years of our connection with Kentucky University. Every point was strained to provide machinery for the Mechanical Department, chemical and philosophical apparatus, and to lay the foundations of museums and to provide such other material appliances as were indispensable to make instruction effective.

Meanwhile a storm was brewing of which we had little dreamed. In October, 1881, it became known that the synod of Kentucky, controlling Centre College, had taken measures adverse to the State aid given by the Commonwealth to the State College. Later on it was surmised that the authorities of Central University were disposed to make common cause with Centre College, and later still, ominous indications came from another college in a neighboring county and town.

It was expected that the new College buildings would be completed and ready for occupancy late in the autumn. The Legislature was to convene on the 28th of November. Hon. Henry Watterson, of the Courier-Journal, had been invited to deliver the address upon the dedication of the College, and the intention was to invite the Legislature to be present. The correspondence with Mr. Watterson made it doubtful whether, on account of his business engagements, he could accept the invitation, and on the 17th of November, I went to Louisville to confer with him in person.

On the morning of the 18th, while in Louisville, I read in the columns of the Courier-Journal a manifesto issued by the denominational colleges of Kentucky, six in number, assailing the principle of State aid to the State College, and calling upon the people of the Commonwealth to insist on the repeal of the tax levied for its benefit. It is not my purpose to discuss this paper. I concluded that I could not do better than to remain in Louisville one day longer, and to answer in the next issue of the Courier-Journal the appeal of the presidents of Colleges and presidents of boards of trustees whose names were appended to the document. The arguments in favor of repeal appeared on the 18th. On the 19th the plea for the maintenance of the State College likewise appeared. The Senators and Representatives, who were expected to receive and digest the appeal of the colleges against aid to the State College in the brief interval between its reception at their homes and their departure for the seat of government, had only one day less in which to consider the plea of the State College for the continuance of State aid.

On the assembling of the Legislature, it soon became manifest that the State College question would be one of the questions of the session.

Shortly after the Legislature assembled, a bill was introduced to repeal the tax levied for the benefit of the College. Early in January the subject was brought before a committee of the House in an elaborate argument by Dr. Beatty, of Centre College, to which argument reply was made by the President of the College a few days later. In addition to the question of expediency and justice of State aid to an Institution owned and controlled by the Commonwealth, the question of the constitutionality of the tax was raised and argued before the committee by an ex-Chief-Justice, one of the ablest lawyers at the bar. Reply was made by counsel. For weeks and months the assault and defense went on with unflagging energy. When finally the matter came before the House for action, the motion for repeal was laid on the table by a handsome majority, and thus the famous legislative contest of 1881-2 ended. After the adjournment, however, suit was brought in the Chancellor's Court in Louisville to test the constitutionality of the act. Simultaneously a test case was made in the Circuit Court of Magoffin county. The decision of the Chancellor's Court and of the Magoffin Circuit Court both affirmed the constitutionality of the tax. Appeal was taken, and the case argued before the Supreme Court in the Spring of 1883. But no decision has yet been reached by the Court of Appeals.

The cause of the College, the cause of superior education for the industrial classes, has thus far triumphed all along the line. Three successive Legislatures have refused to disturb the settlement of 1879–80.

Let us now look at the relative status of the College in 1882 at the conclusion of the great legislative contest and to-day. Had the assailants known our financial embarrassment, it would materially have compromised our prospects and weighted us in the struggle. On the completion and equipment of our buildings we found ourselves $35,000 in debt. Nearly half of this amount was due to the professors of the College, whose salaries remained for that year unpaid. $7,000 were borrowed from the Northern Bank on personal security to meet the most pressing obligations and notes exe-

cuted for the balance. So stood the case at the close of the fiscal year 1881–2. How stands the case to-day? Every cent of the obligations of t' e College, principal and interest, has been paid. Thousands of dollars have meanwhile been expended in addition for laboratory equipments for microscopes, spectroscopes, polariscopes and other material. Three well equipped laboratories for general chemistry, organic chemistry and agricultural chemistry, and for the experimental station, have been provided. Within the last year the Normal School has been strengthened by doubling the effective work of the department proper. Within the last year, too, the most important step which has ever been taken towards realizing the idea of agricultural training and experiment was taken by the Executive Committee, viz, the establishment of an experiment station for work exclusively experimental. Under the charge of a competent director its bulletins have already attracted attention from widely different quarters and have taken rank among the best publications of the kind in the country. Under the auspices of the director a measure requiring all fertilizers used in the Commonwealth to be analyzed at this station, and by the officers of this College, with safeguards for the protection of the farmer, was passed by the Legislature. Every package sold henceforth in Kentuc' y will bear the *imprimatur* of the College and bring the fact of its existence and its work home to every purchaser in the State. Moreover, the effective work of the Preparatory Department an indispensable feature of the Institution, has been largely increased since 1882.

We have no controversy with the denominational colleges of the land We bid them God-speed in their work. There is room for them and for us. We believe that the net result of the contest has done them good as well as us. It has stimulated them to provide for the necessities of the youth of Kentuc y by the effort to increase their endowments, to lengthen their cords and to strengthen their stakes. Under a mistaken apprehension of injurious competition resulting from the free scholarship, cheap tuition and enlarged facilities provided by the State College, they assailed the justice, the expediency and the constitutionality of State aid to a State Institution. These fears were groundless. Their patronage instead of diminishing has grown, and they, as we, are more prosperous now than they were four years ago.

Twenty-one years is the limit of minority. The State College has attained its majority. It stands erect to-day, having passed through a struggle for existence the severity of which no one knows so well as he who now addresses you. There have been periods when for weeks at a time I did not know the satisfaction of a sound night's sleep, undisturbed by the difficulties and dangers which beset the State College. That period is past. The State College has survived all and is here to stay. Its Trustees never despaired. Its Faculty bore privation, and borrowed money to supply the want of unpaid salaries. We have survived our perils, paid our debts, enlarged our sphere of educational activity. This is the net result of twenty-one years, and with pleasure and pride I present you this balance sheet to-day. We are, so far as we know, in peace and charity with all. This much we know, we are not voluntarily, and never intend to be, a disturbing element in the educational interests of Kentucky. Our mission is to extend the boundaries of human knowledge by instruc-

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tion and experiment, to aid the youth of the Commonwealth, especially the hardy, the industrious, the energetic, whose means will not provide an education elsewhere, with an education equal to the best that can be gotten within the limits of Kentucky or out of it. The State College has made a good beginning in this direction. It will, while not excluding classical instruction, address itself mainly to those branches of learning which are most nearly related to industrial enterprise. While not neglecting those sciences which relate principally to the cultivation of the mental faculties, it will address itself mainly to the work of instruction and discovery in those departments which concern themselves with Nature and natural processes, with the physical sciences, with the laws of matter, with the laws of organization, animal and vegetable. It will, moreover, endeavor to prepare its students, by means of a sound disciplinary training in civil history and in moral and political philosophy, for entering upon the privileges and responsibilities of citizenship in this mighty nation.

I can not allow this occasion to pass without saying a few words suggested by the circumstances in which we find ourselves to-day. In one form or other questions connected directly or indirectly with education meet us on every hand. They meet us in the newspaper, on the platform, in the Legislature, and in the halls of Congress. They are discussed in the pulpit, in the class-room, by the fireside, and by the wayside.

The well-being of the present and the security of the future depends upon the views which we entertain respecting them. There never was a time in the history of the world when more depended upon the intellect and the morality of men. The aggregate of material wealth, with all the potent influences associated therewith, has grown within the present century out of all proportion to any increase which ever preceded it. The diffusion of knowledge, which is by no means convertible with education, has created hopes and stimulated desires such as never existed before. Questions have arisen and problems have presented themselves which were never dreamed of centuries ago, except in the cell of the recluse, or the study of the philosopher, and then in relations and under conditions which differ widely from the environment of to-day.

The growth of free institutions, the inalienable birthright of the English speaking stock, has changed the whole structure of modern society. More than six centuries have elapsed since Magna Charta was extorted from King John, the "ablest and most worthless of the Angevin Kings." That piece of barbarous Latin with its rude signatures of illiterate barons has done more for the divine plant of human liberty than all the classics of antiquity. To it England owes her House of Commons, America her Declaration of Independence and her Constitution, and the States of modern Europe their dearly bought and highly prized systems of parliamentary government. To the same parentage belongs the derivative freedom of the Dominion of Canada, and the other great dependencies which form the most magnificent colonial empire which the world has ever seen, each one in various stages of development, containing the germ and the potency of an independent nationality, whose influence will profoundly affect the civilization of the future.

One hundred years ago the English tongue was spoken by 12,000,000 of people,

Now it is the language of 100,000,000, and they the noblest, the freest and the mightiest peoples in the world. Among other nations and other races, free institutions may still be said to be on trial with by no means any thing like certainty what the issue will be. But among the English-speaking stock on the other side of the Atlantic and on this, and in the far-off but thrifty and vigorous and ambitious young States of the South Pacific, well-grounded hopes exist that the roots of a genuine, healthy freedom have struck so deep, and the plant has attained, under circumstances of great trial, such healthy, vigorous growth, that the question of the capability of man for self-government is now, under proper conditions, no longer a problem but a certainty. I have said "under proper conditions," and I use this language advisedly. No people can long be free unless on these conditions—*intelligence* and *morality*—that is, they must know their rights, and they must, in their action, be guided by a sense of duty. There are fanatics, whose zeal outruns their intelligence. There are hypocrites, who simulate a sense of duty in order that they may trade upon the credulity and patriotism of their fellow men. When these in any considerable numbers are invested with the privileges of the franchise, they endanger the existence of the fabric of society and of the nation. When these constitute a majority of those who are invested with the privileges of the franchise, they make self government impossible.

Now, I believe the English-speaking stock to be capable of self government. Why? They have been addressing themselves to the solution of this problem for seven hundred years. During the age of Henry and Frederick Barbarossa, while the Emperor of Germany was on his way to Canossa to place his crown in the hands of the Roman Pontiff, the barons of England were extorting civil freedom from their kings and refusing to allow the intervention of the Pope in the religious affairs of the kingdom. While Louis XIV was exhausting the treasure and wasting the blood of his people and abolishing their parliaments, the English parliamentarians and the Scotch Covenanters were bringing one Stuart to the block because he encroached upon the privileges of Parliament, and sending another into exile because he overrode the barriers of the Constitution.

And later still, when the French republic, having exhausted itself under the ruthless tyranny of Robespierre, Danton and Marat, was handing itself in weariness and despair over to the victor of Marengo, bound hand and foot in chains of its own forging, the American people were putting their Constitution into working order, and consolidating the great Republic under George Washington and Alexander Hamilton. Why this difference? The French republic owed its existence to the principles enunciated by Diderot and Rousseau and Helvetius and Thomas Paine; the American Republic to the rights of man, as evolved in Magna Charter, Habeas Corpus and the Bill of Rights, and to the duties of man as evolved in that greatest of all books, the Bible.

But the enemy is coming in like a flood. The Socialism of Most and Fischer and Spies is akin to the Nihilism which assassinated Alexander of Russia, and to the Commune which attempted to wrap Paris in conflagration, while the French people were

writhing in the agony of mortal conflict. This is an un-English and an un-American doctrine. How shall we counteract it? By educating the head and the heart of America. If we cannot assimilate and make good citizens of the Socialist and the Communist when he comes to our shores, we must tie his hands that he do no mischief. We must make the lump of such quality and character by building on the basis of intelligence and religion and morality, that the mischievous leaven which these enemies of society and of mankind seek to infuse shall be harmless. To this end the school-house and the church must exist in every district and township, from the pine forests of Canada to the orange groves of Florida. This magnificent tongue of ours, the tongue of Shakspeare and Milton, of Burke and of Webster, of Byron and Tennyson, the noblest development of human speech ever spoken on this planet, must be in the future as it has been in the past, the vehicle for thoughts, noble and virtuous and loyal. It must continue to be the tongue of a people who inherit the spirit as well as the traditions of Runnymede and Bannockburn, of Saratoga and of Waterloo.

In these schools our youth must be taught to know themselves; they must be taught to know Nature, of which they form a part; they must be taught to know God, the author of Nature and of man. We owe it to ourselves and to posterity, so to educate the children of this generation that the lamp of intelligence shall be transmitted with a brighter light and a ruddier glow, that the ideas of obligation and of duty may be strengthened and enlarged, and that power and wealth may be subordinated to beneficence. No country in the world has made more rapid progress in providing all the requisite conditions for a broad, liberal education than these United States have done within the last forty years. This is especially true since the close of the late civil war. Her great institutions of learning have within that period "gone forward by leaps and bounds." Within the limits of this Commonwealth substantial progress has been made. But what has been done is only an earnest and an augury, I trust, of what is to follow.

Ere long we shall follow the example of the older States, and cultivate science and literature, not for their money value only, but for their own sake, to expand the faculties, enlarge the range of mental vision, and widen the domain of human knowledge. In this auspicious present, I see the promise of a yet more auspicious future. May it be ours to aid to roll away the stone in order that intelligence, ennobled by virtue and inspired by duty, may rise to rule the world.

[1886]

ADDRESS ON COMMENCEMENT DAY

BY JAS. K. PATTERSON, PH. D., F. S. A.,

PRESIDENT OF THE STATE COLLEGE OF KENTUCKY.

[Published by order of the Board of Trustees.]

In the absence of Governor Knott, who was invited to address you, I propose to occupy your time for a few minutes with a brief retrospect. It is the custom with all engaged in mercantile pursuits and in manufacturing enterprise, to take an inventory of stock at stated periods, and from conclusions, based upon trustworthy data, to determine whether their business be prosperous or the reverse; whether they be holding their own, advancing or losing ground, and in the light of the information thus obtained, to determine the policy of the future.

This is not, by any means, the first time that the College has taken a retrospect of its operations. This is done by the Board of Trustees annually, but on no previous occasion have the public been taken into the confidence of the College authorities as I propose to do to-day.

Twenty-one years have elapsed since the Agricultural and Mechanical College was established. These Colleges owe their existence to the act of Congress of 1862, donating lands to the States for this purpose, in proportion to representation. The allotment to Kentucky was 330,000 acres—a magnificent endowment if it had been judiciously and economically managed. The State committed the mistake of attaching the College created under the act to one of the denominational colleges of the Commonwealth, instead of putting it at once upon an independent basis. The land scrip was sold for fifty cents per acre, the proceeds invested in Kentucky six per cent. bonds, of which the State Treasurer became the custodian, and the income from this invested fund was directed to be paid over annually to the Trustees of the Kentucky University, the institution to which it was attached, so long as the connection existed. The Legislature reserved the right to dissolve the relation at any time. The Legislature required that the Kentucky University should provide, within a reasonable time, a farm worth not less than $100,000, for the use of the Agricultural College for experimental purposes, and a Mechanical Department for practical instruction in

the Mechanic Arts. The first condition was in part met by the citizens of Lexington and vicinity, who subscribed the money for the purchase of the farm. The second was in part met by a donation for the erection of buildings and the equipment of a Mechanical Department. The State, moreover, advanced $20,000 to set the Institution going. In 1866, twenty years ago, the Agricultural College opened. Its matriculates increased from year to year till, in 1869–70, the maximum was reached. From that year its attendance began to decline, owing to causes the discussion of which are not appropriate to this occasion. In 1878, the Legislature of that year sent a committee to Lexington to investigate the condition of the College—its relations and its work. They found the number of students to be about 75. They found that its Mechanical Department had practically closed. They found that its Agricultural Department consisted of ordinary farming and gardening, with no attempt to do experimental work. They found that adequate College buildings had never been provided; that the title to the estate purchased as its site was vested in the Kentucky University. The committee unanimously reported to the Legislature, advising the dissolution of the relationship at the end of the collegiate year then current. When the dissolution was effected, the Agricultural College was just where it had been thirteen years before. It had its endowment fund in the custody of the State Treasurer, viz, the proceeds of the sale of 330,000 acres of land at fifty cents per acre. But it had nothing else. It had no buildings, no laboratories, library, museums or physical apparatus. It had no farm, no shop. The State found that the $20,000 which it had advanced was irrecoverably gone. The question then came up, what shall the State do with it? The Legislature appointed a commission of eleven men to do three things: to make arrangements for its provisional existence till the meeting of the next Legislature; to advertise for and receive bids from those towns which desired to have the College established in their midst; and to prepare and present to the next General Assembly the outlines of an Institution, such as the dignity, the traditions and the educational wants of the Commonwealth required. These duties they discharged. Bowling Green and Lexington were competitors for the location of the College. The latter offered to the Legislature of 1879–80 the City Park, the present site, and $30,000 in city bonds, to be used for the erection of buildings, which offer the County Court supplemented by $20,000 in county bonds, to be used for the erection of buildings or the purchase of land. Bowling Green offered $30,000, and a connection with a local institution, Ogden College, such as the State had formerly made with the Kentucky University. The commission accepted the offer of Lexington, and the Legislature accepted and ratified the recommendation.

The Legislature then proceeded to re-organize the College upon a basis entirely undenominational. It gave it a broad and liberal foundation. It provided for its internal growth and expansion. It provided for such departments as its income, present and prospective, could adequately sustain, with additions, enlargements and specializations, such as future conditions might make possible. It made provision for a board of twelve trustees, who are appointed by the Governor and confirmed by the Senate. It required that a full and complete report be made to the Legislature biennially within one week after it convenes.

The Legislature of 1879–80 also sent a committee to Lexington to ascertain and report the probable expenditure necessary for the effective operation of an Institution such as by charter they had created. It was confessed on all hands that the income from the proceeds of the land scrip was entirely inadequate for this purpose.

The committee unanimously recommended the further endowment of the College by means of a tax of one-half of one cent on each one hundred dollars of taxable property in the Commonwealth. This recommendation was embodied in a bill which passed both branches of the Legislature and received the signature of the Governor. Under these provisions, with this prospective income, the College was re-organized.

During the collegiate session of 1880–81, the following departments were constituted: Mathematics and Astronomy, Natural History, Civil History, Mental and Moral Philosophy, English Language and Literature, Latin and Greek Languages and Literature, French and German Languages and Literature, Chemistry and Physics, Agricultural Chemistry, Practical Mechanics, a Normal School Department, a Commercial Department and a Preparatory Department, with a Principal and Assistant. Contracts for the College buildings were let within the proceeds of the city and county bonds given for that purpose. As the buildings advanced in their construction, it became painfully apparent that the estimates and contract prices would be largely exceeded, mainly on account of the failure of some of the contracting parties, and the necessity of reletting the contracts under circumstances disadvantageous and onerous in the extreme. Still the Board of Trustees and the Faculty were not discouraged.

Our embarrassments were happily known only to ourselves, and the Trustees believed that an economic management of their resources would enable them to come out all right. The departments were well filled; the attendance had more than trebled in comparison with that of the last years of our connection with Kentucky University. Every point was strained to provide machinery for the Mechanical Department, chemical and philosophical apparatus, and to lay the foundations of museums and to provide such other material appliances as were indispensable to make instruction effective.

Meanwhile a storm was brewing of which we had little dreamed. In October, 1881, it became known that the synod of Kentucky, controlling Centre College, had taken measures adverse to the State aid given by the Commonwealth to the State College. Later on it was surmised that the authorities of Central University were disposed to make common cause with Centre College, and later still, ominous indications came from another college in a neighboring county and town.

It was expected that the new College buildings would be completed and ready for occupancy late in the autumn. The Legislature was to convene on the 28th of November. Hon. Henry Watterson, of the Courier-Journal, had been invited to deliver the address upon the dedication of the College, and the intention was to invite the Legislature to be present. The correspondence with Mr. Watterson made it doubtful whether, on account of his business engagements, he could accept the invitation, and on the 17th of November, I went to Louisville to confer with him in person.

On the morning of the 18th, while in Louisville, I read in the columns of the Courier-Journal a manifesto issued by the denominational colleges of Kentucky, six in number, assailing the principle of State aid to the State College, and calling upon the people of the Commonwealth to insist on the repeal of the tax levied for its benefit. It is not my purpose to discuss this paper. I concluded that I could not do better than to remain in Louisville one day longer, and to answer in the next issue of the Courier-Journal the appeal of the presidents of Colleges and presidents of boards of trustees whose names were appended to the document. The arguments in favor of repeal appeared on the 18th. On the 19th the plea for the maintenance of the State College likewise appeared. The Senators and Representatives, who were expected to receive and digest the appeal of the colleges against aid to the State College in the brief interval between its reception at their homes and their departure for the seat of government, had only one day less in which to consider the plea of the State College for the continuance of State aid.

On the assembling of the Legislature, it soon became manifest that the State College question would be one of the questions of the session.

Shortly after the Legislature assembled, a bill was introduced to repeal the tax levied for the benefit of the College. Early in January the subject was brought before a committee of the House in an elaborate argument by Dr. Beatty, of Centre College, to which argument reply was made by the President of the College a few days later. In addition to the question of expediency and justice of State aid to an Institution owned and controlled by the Commonwealth, the question of the constitutionality of the tax was raised and argued before the committee by an ex-Chief-Justice, one of the ablest lawyers at the bar. Reply was made by counsel. For weeks and months the assault and defense went on with unflagging energy. When finally the matter came before the House for action, the motion for repeal was laid on the table by a handsome majority, and thus the famous legislative contest of 1881-2 ended. After the adjournment, however, suit was brought in the Chancellor's Court in Louisville to test the constitutionality of the act. Simultaneously a test case was made in the Circuit Court of Magoffin county. The decision of the Chancellor's Court and of the Magoffin Circuit Court both affirmed the constitutionality of the tax. Appeal was taken, and the case argued before the Supreme Court in the Spring of 1883. But no decision has yet been reached by the Court of Appeals.

The cause of the College, the cause of superior education for the industrial classes, has thus far triumphed all along the line. Three successive Legislatures have refused to disturb the settlement of 1879–80.

Let us now look at the relative status of the College in 1882 at the conclusion of the great legislative contest and to-day. Had the assailants known our financial embarrassment, it would materially have compromised our prospects and weighted us in the struggle. On the completion and equipment of our buildings we found ourselves $35,000 in debt. Nearly half of this amount was due to the professors of the College, whose salaries remained for that year unpaid. $7,000 were borrowed from the Northern Bank on personal security to meet the most pressing obligations and notes exe-

cuted for the balance. So stood the case at the close of the fiscal year 1881–2. How stands the case to-day? Every cent of the obligations of t' e College, principal and interest, has been paid. Thousands of dollars have meanwhile been expended in addition for laboratory equipments for microscopes, spectroscopes, polariscopes and other material. Three well equipped laboratories for general chemistry, organic chemistry and agricultural chemistry, and for the experimental station, have been provided. Within the last year the Normal School has been strengthened by doubling the effective work of the department proper. Within the last year, too, the most important step which has ever been taken towards realizing the idea of agricultural training and experiment was taken by the Executive Committee, viz, the establishment of an experiment station for work exclusively experimental. Under the charge of a competent director its bulletins have already attracted attention from widely different quarters and have taken rank among the best publications of the kind in the country. Under the auspices of the director a measure requiring all fertilizers used in the Commonwealth to be analyzed at this station, and by the officers of this College, with safeguards for the protection of the farmer, was passed by the Legislature. Every package sold henceforth in Kentuc' y will bear the *imprimatur* of the College and bring the fact of its existence and its work home to every purchaser in the State. Moreover, the effective work of the Preparatory Department an indispensable feature of the Institution, has been largely increased since 1882.

We have no controversy with the denominational colleges of the land We bid them God-speed in their work. There is room for them and for us. We believe that the net result of the contest has done them good as well as us. It has stimulated them to provide for the necessities of the youth of Kentuc y by the effort to increase their endowments, to lengthen their cords and to strengthen their stakes. Under a mistaken apprehension of injurious competition resulting from the free scholarship, cheap tuition and enlarged facilities provided by the State College, they assailed the justice, the expediency and the constitutionality of State aid to a State Institution. These fears were groundless. Their patronage instead of diminishing has grown, and they, as we are more prosperous now than they were four years ago.

Twenty-one years is the limit of minority. The State College has attained its majority. It stands erect to-day, having passed through a struggle for existence the severity of which no one knows so well as he who now addresses you. There have been periods when for weeks at a time I did not know the satisfaction of a sound night's sleep, undisturbed by the difficulties and dangers which beset the State College. That period is past. The State College has survived all and is here to stay. Its Trustees never despaired. Its Faculty bore privation, and borrowed money to supply the want of unpaid salaries. We have survived our perils, paid our debts, enlarged our sphere of educational activity. This is the net result of twenty-one years, and with pleasure and pride I present you this balance sheet to-day. We are, so far as we know, in peace and charity with all. This much we know, we are not voluntarily, and never intend to be, a disturbing element in the educational interests of Kentucky. Our mission is to extend the boundaries of human knowledge by instruc-

tion and experiment, to aid the youth of the Commonwealth, especially the hardy, the industrious, the energetic, whose means will not provide an education elsewhere, with an education equal to the best that can be gotten within the limits of Kentucky or out of it. The State College has made a good beginning in this direction. It will, while not excluding classical instruction, address itself mainly to those branches of learning which are most nearly related to industrial enterprise. While not neglecting those sciences which relate principally to the cultivation of the mental faculties, it will address itself mainly to the work of instruction and discovery in those departments which concern themselves with Nature and natural processes, with the physical sciences, with the laws of matter, with the laws of organization, animal and vegetable. It will, moreover, endeavor to prepare its students, by means of a sound disciplinary training in civil history and in moral and political philosophy, for entering upon the privileges and responsibilities of citizenship in this mighty nation.

I can not allow this occasion to pass without saying a few words suggested by the circumstances in which we find ourselves to-day. In one form or other, questions connected directly or indirectly with education meet us on every hand. They meet us in the newspaper, on the platform, in the Legislature, and in the halls of Congress. They are discussed in the pulpit, in the class-room, by the fireside, and by the wayside.

The well-being of the present and the security of the future depends upon the views which we entertain respecting them. There never was a time in the history of the world when more depended upon the intellect and the morality of men. The aggregate of material wealth, with all the potent influences associated therewith, has grown within the present century out of all proportion to any increase which ever preceded it. The diffusion of knowledge, which is by no means convertible with education, has created hopes and stimulated desires such as never existed before. Questions have arisen and problems have presented themselves which were never dreamed of centuries ago, except in the cell of the recluse, or the study of the philosopher, and then in relations and under conditions which differ widely from the environment of to-day.

The growth of free institutions, the inalienable birthright of the English-speaking stock, has changed the whole structure of modern society. More than six centuries have elapsed since Magna Charta was extorted from King John, the "ablest and most worthless of the Angevin Kings." That piece of barbarous Latin with its rude signatures of illiterate barons has done more for the divine plant of human liberty than all the classics of antiquity. To it England owes her House of Commons, America her Declaration of Independence and her Constitution, and the States of modern Europe their dearly bought and highly prized systems of parliamentary government. To the same parentage belongs the derivative freedom of the Dominion of Canada, and the other great dependencies which form the most magnificent colonial empire which the world has ever seen, each one in various stages of development, containing the germ and the potency of an independent nationality, whose influence will profoundly affect the civilization of the future.

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[Education and Empire, 1903]

Address of Welcome.

DELIVERED AT THE

Kentucky Chautauqua Assembly,

JUNE 28, 1887,

By James K. Patterson, Ph. D.,

President of the State College of Kentucky.

Members of the Chautauqua Assembly, Ladies and Gentlemen,—A half or even a quarter of a century ago such an assemblage and such an institution would have been impossible. I see before me to-day men and women, young and old and middle-aged, from mountain and from valley, from hill and from dale, from all parts of the commonwealth, and even from beyond. Half a century ago the means of travel did not exist for bringing together such an assemblage. Half a century ago the mental acquirements and the intelligence did not exist upon which to found an institution of such character and of such proportions. The schoolhouse was rude, the instructor comparatively unlettered. A few of the larger towns could boast of an academy, and all the higher institutions of learning could be counted on half the fingers of one hand. Now the common school is found by the dozen and the score in every county. Every county

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town has its seminary or high-school, and some in counties which I could name have more than one well equipped and well maintained, while the higher institutions dispense a good general education, and carry their students far beyond the limits of the learning then known. Sciences and systems of knowledge, the shadowing outlines only of which were then beginning to be known, have since grown into recognition, and now form part of the general education of our young men and women. The boundaries of then existing knowledge have been, with each succeeding year, pushed back farther and farther, and new realms have been won from what seemed to be the "void and fathomless infinite." Materials out of which all history, ancient and modern, have grown have been collected, sifted, compared, and adjusted, and Prehistoric Archæology now forms the ample background upon which rests all our knowledge of the past. The structural forms of all sentient existence, apparently endlessly varied as they are, have been carefully assorted, the accidental discriminated from the permanent, the functional from the organic, and the magnificent sciences of Comparative Zoology and Anatomy have been evolved and placed upon a basis durable as the everlasting hills.

Fifty years ago our knowledge of language was limited to the few forms existent in Western Europe, and to the classic and sacred tongues. To-day languages that were dead and buried and embalmed for three thousand years, traced upon sepulchral

papyri, or engraven upon basalt and granite and baked clay, have been exhumed, deciphered, and interpreted; and to-day the whole history and thought and politics and social life of the inhabitants of the valleys of the Nile and Euphrates, of the dweller in Accad and Iran, are as well known to scholars as the exploits of Agamemnon, the victories of Cincinnatus, the laws of Draco, or the Licinian rogations.

The comparative method has been applied to living languages and dead, to those that form the vehicle of intercourse among the modern nations of the earth and to those which serve as media of communication for the Samoyed of Siberia, the Nez Perce of North America, and the sable occupant of the valley of the Congo, and the root words which form the basis of all these families of speech have been reduced to systematic unity, and the splendid achievements of Comparative Philology have thrown floods of light upon the early habits of mankind, upon their systems of thought and jurisprudence, laying bare the foundations upon which all the religion and morals, the metaphysics and science of these latter ages are built.

The caves of the valley of the Dordogne, the shell mounds of Denmark, the lake dwellings of Switzerland, the cromlechs and kists of Western Europe, the barrows of England, and the great mounds of America have disclosed their treasures and revealed the existence of men long before Aryan or Semite had left their original homes.

They followed the chase, they protected themselves from the savage beast and the still more savage climate, they told of deeds of war and blood, and no doubt too of love, around their lonely camp-fires, and they buried their dead, too, like Abraham in the cave of Machpelah, with, let us hope, some fore-gleams of immortality. Their names have perished with them; but they did not, rude though they were, live in vain. The materials which they have left fit in and form imperishable elements in the great structures of Ethnology and Anthropology which the men of this generation have built.

And, passing the limits of this globe, and the men and things upon it, and the records in stone under it, the men of our time have gone out into the universe beyond. If they have found within the limits of this tiny sphere life without limit and life without end, they have found, too, that the corner-stones upon which the illimitable universe is built are identical with those that form rock and river, beast and bird and man, here below. The atom of oxygen and the atom of hydrogen are the same in the corona of the sun, in the luminous body of Sirius, and in the far away star-dust of the nebulæ, as in the disentombed fossil and the tear of affection that trickles down the human cheek. The spectroscope and the telescope have revealed space without limit and identity of workmanship, infinite variety in unity, throughout the universe.

What wonderful opportunities belong to the men and women of this generation! You have fallen

into the line of march. You handle themes and discuss subjects of which your grandfathers and grandmothers never dreamed. You may not yet be original investigators. Original investigation and discovery are the province and the privilege of the favored few and require moreover a life-time of devotion and service. But you can enter into possession. Discoveries in science and achievements in literature, when once made, become the common heritage of the race. You can acquire and make your own by diligent reading and diligent study what others have brought into the common stock of this universal heritage.

In this money-making age, when men, and sometimes women, too, are making haste to be rich, I hail with satisfaction the movement of which this is the outcome. You show by this organization, spread all over the country and numbering its votaries by hundreds and by thousands, that this is not an exclusively materialistic age; that mankind rises above the material to the intellectual, the moral, and the spiritual. You show, too, that this manifold organization addresses itself to many of the felt wants of the day. You not only acquire, but you desire to impart. You arrogate no exclusive monopoly in your acquisitions, but you bring all to a common stock and aim to make them the possession of all. You are not only anxious to provide the material of knowledge, but by organized effort to provide those to whom it is communicated with the best means and methods of imparting it to others.

You address yourselves to the training of the intellect, to the development of the heart, to the cultivation of the taste, to the subjugation of the passions, and the growth of a wholesome sentiment. All these agencies and these activities are needed to counteract the crass materialism of the tendencies of this age. If knowledge runs to and fro and is increased, so does the hunger for wealth and the thirst for gold.

Colossal fortunes are made and lost, making men mere accumulating and calculating machines, drying up the milk of kindness in the human soul, leaving it a weary, worn, and blasted thing, without sympathy, all the nobler feelings extinguished, like the scarred basalt or granite which have survived the internal fires which burned up all else around them. To this tendency literature, and art, and science, and philosophy, and religion come as the proper antidote.

The literature and language of your own country deserve special attention. No language is more copious, more flexible, richer in powers of expression, or richer in the vast wealth which it contains. In it are embodied the noblest thoughts in prose and in verse. The many-sided Bard of Avon, of whom Christopher North once said, "Millions of men have some genius, thousands much, hundreds more; the stars are out by twos and threes in the highest heaven of invention, but only one by night, the moon, by day the sun," thought and wrote in this tongue. To him there is no equal in all the fields

of classic or of modern prose or verse. The language of Macaulay and Bolingbroke, of Raleigh and Spenser, of Tennyson and Longfellow, of Bancroft and Gibbon, of Goldsmith and Whittier, one hundred years ago the language of twelve millions of people, to-day the language of one hundred and twenty millions, and destined one hundred years hence to be the vehicle of intercourse for one billion of mankind, is your native speech and mine. No language ever spoken or written contains so much of wealth as this. To the nations, whose heritage it is, men look for the conservation of all that is worth having, liberty of thought, liberty of speech, free institutions, the just co-ordination of freedom with authority.

You can bear a noble part in this work of the present and the future. Let it be yours to assimilate the heritage of the past, the heritage of a thousand years of noble thoughts and noble deeds, to amplify and transmit it to those who shall come after, worthy descendants of the illustrious ancestors from whose loins you sprang. At the beginning of this meeting I perform the grateful task allotted to me by a too-partial directory of bidding you welcome. Here, under the shadow of schools for both sexes provided by private and public beneficence, I bid you welcome. They address themselves to the attainment of the same ends by more rigorous methods, perhaps, and for a time, at least, by a more exclusive devotion to the subjects, literary and scientific, which claim their attention. With them

for four years it is the one serious business of life, with you a recreation from mental and bodily toil.

I bid you welcome under the shadow of the column, not far distant, erected to commemorate the memory of a man whose name and memory you venerate second only to that of the father of his country, who made Kentucky a household word by every hearth-stone throughout the length and breadth of this mighty country, revered for his talent, revered for his matchless powers at the bar and the forum, still more revered because he "would rather be right than President."

I welcome you in the midst of this old historic town, coeval with the memorable struggle which made these commonwealths free, and made of them collectively the grandest and freest and mightiest nation on earth.

I welcome you under these kindliest of skies and in the midst of an agricultural profusion, with actualities and possibilities such as no equal area in the union of the States can surpass.

May this inaugural Assembly be one of happy omen to Kentucky, a new link forged to bind all within this broad domain together in industry, in wealth, in intelligence, in morality, and in religion, an important step in the era of universal progress to the happy goal which has formed the ideal of the great and good in every age and clime.

"For I doubt not through the ages
One unceasing purpose runs;
And the thoughts of men are widened
With the process of the suns."

writhing in the agony of mortal conflict. This is an un-English and an un-American doctrine. How shall we counteract it? By educating the head and the heart of America. If we cannot assimilate and make good citizens of the Socialist and the Communist

for four years it is the one serious business of life, with you a recreation from mental and bodily toil.

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[Education and Empire,
[1903]

PRESIDENT PATTERSON'S ADDRESS.

Gentlemen of the Association of Agricultural Colleges and Experiment Stations:

I thank you for the honor which you have conferred upon me in selecting me to preside over your deliberations during the present session.

The highest distinction within the power of this body to bestow is not to be lightly esteemed and I can only wish that I had been more worthy of it.

I propose to occupy your attention tonight for a brief space by some thoughts on the work of the Colleges and Universities which this Association represents, and the influence thereof upon the present and future of the American people.

Many men distinguished by learning and experience have in years gone by addressed you from this chair. Some having sown the seed which others in due time will reap, have already passed over to the majority; others happily are still with us to animate by their zeal, encourage by their example and stimulate by their attainments.

Like the pioneers of freedom in the western world; like the founders of the great republic; like the statesmen who laid the foundation of the system of education which this association represents today—these men have builded wiser than they knew and results which they could not have anticipated have followed.

Not visionary doctrinnaires, but practical men, they addressed themselves to use to the best advantage the material ready to their hands and as new material accumulated incorporated it with the structure as it grew—maintaining the original idea of utility and preserving the architectural symmetry of the fundamental conception.

The organization of this association was a happy thought. These annual meetings have brought together a body of workers and of thinkers, whose thoughts and achievements contributed to a common stock, have become the common heritage of all. Happy intuitions, intelligent, scientific forecasts have been patiently experimented upon, translated from the hypothetical into the actual—accepted as accredited results and added permanently to the stock of human knowledge.

Of some the relationship became immediately apparent. They gravitated at once into position; discovered their proper place in the order of things—filled a space hitherto unoccupied, bridged over a hiatus, supplied a missing link.

Others did not immediately yield to classification and possible affinities required further investigation. But assailed from this side and from that in the crucible and by the spectroscope a stubborn isolation could not long be maintained and in the end the most refractory yielded to the analytic of the human intellect and the potency of the human will.

But how greatly have these activities been stimulated by mutual conference and mutual cooperation—a hint in discussion has struck a spark

which ignited the fuel into a flame; a bow drawn at a venture has found a joint in the harness and penetrated the vitals of an unsubdued fact; a stray seeed dropped into a generous soil has under the influence of sunshine and rain sprung up and in due time brought forth fruit—first the blade, then the ear and at length the full corn in the ear.

Alittle over forty years ago a new departure took place in education in America; until then classics, literature and philosophy had been the dominant features of college work The natural sciences were still in their infancy; scientific men had, however, for more than half a century been working along scentific lines; a priori deduction had given place to induction founded upon observation and experiment. The atomic theory of Dalton; the correlation of physical forces worked out laboriously and brilliantly by Helmholtz, Joule and Tyndal; the uniformitarian hypothesis of Sir Charles Lyell; the spectroscopic analysis of Kirschoff and above all the far-reaching generalizations of Darwin and Wallace had made a new epoch in scientific discovery. It recalled the spirit of adventure which roused into feverish activity the boundless energy and heroic endurance of Henry the Navigator, Vascoda Grama, Christofer Colombo and Alphonse Albuquerque four centuries before. A new world of ideas seemed to dawn upon mankind with the introduction of the telegraph, of railway construction, of steam navigation and the application of scence to the industrial arts. The age of the Utopia of Sir Thomas More and of the new Atlantis of Bacon divested of fantasy and clothed in the habiliments of decorous sobriety, seemed to have dawned upon mankind.

The stimulus given to immigration brought hundreds of thousands annually to our shores and the impulse given to transcontinental migration, through the development of the railway system east of the Mississippi transferred hundreds of thousands annually from the Atlantic and middle states to the fertile lands stretched out in forest and prairie, ready to receive and reward the hardy and industrious pioneer with comfort and plenty. The rich gold fields of the West, acquired by conquest and purchase; the annexation of the great empire of the Lone Star State; the boundless domain between the Mississippi and the Rockies—inviting capital and enterprise for pasturage and cultivation; all contributed to develop a feeling of unrest and a longing for better things. The long pent-up energies of a young, vigorous, self-reliant people broke beyond the geographical limits which had hitherto bounded their labors and rewards and swept a living tide of humanity over hill and valley, over mountain and plain, beyond lake and river into the illimitable lands of the near and middle and far West—from the Alleghanies to the Mississippi and Missouri; from the Mississippi and Missouri to the great Amercan desert, the Rocky Mountains and the shores of the Pacific ocean. And thus the wave of settlement, adjusting itself to peaceful industry laid the foundations of

new states, planted new industries, brought vast stretches of hitherto unproductive lands under cultivation; opened up the treasures of the mine; multiplied the lines of communication and poured the agricultural and mineral wealth of the great west into the commerce of the world. ¶ Concurrently with these recent economic changes resulting from the operation of natural causes economic changes of equal magnitude were brought about through fiscal legislation at home and abroad. The establishment of free trade in Great Britain opened the markets of that country to American agricultural products, stimulating to an unwonted degree production at home and correspondingly depressing agriculture in the British Isles. American wheat and corn monopolized the supply of breadstuffs to the British artisan, building up and controlling a market into which no other competitors could enter on equal terms. Concurrently therewith the protetctionist policy adopted by the United States not only rendered this country independent of foreign supplies, but enabled her in the end to become in many of the chief products of the mine, the forge, and the loom a formidable competitor for the chief part of the commerce of the world. ¶ Under these conditions, vaguely apprehended by the majority, but apprehended with more or less clearness of vision by a few of the farsighted statesmen of the country, the Morrill law of 1862 was passed by the Congress of the United States.

The demand for a system of education adapted to the needs of the time, which should go beyond the requirements for classics, law, medicine, divinity and letters; an education which without proscribing or neglecting classical and philosophical studies, should utilize for the public good the known and discoverable laws and processes of nature, for the increase of production and the multiplication of the comforts and necessities of life. This demand the Morrill law was intended to satisfy, and upon this foundation more than fifty state colleges and universities are established.

Mr. Morrill saw that in the rapid alienation of the public lands through settlement and gratuitous allotment to railway corporations the public domain was rapidly being exhausted. He accordingly determined to dedicate a part of this rapidly diminishing public domain to the education of the American people, along new lines and according to the necessities imposed by geographical and economic conditions peculiar to the western hemisphere. He provided that land script should be given to the several states in proportion to population for the endowment of institutions of learning, wherein should be taught those branches of learning related to agriculture and the mechanic arts, without excluding classical and other scientific studies, and including military tactics, for the education of the industrial classes in the several pursuits and professions of life. This was a radical departure from the old idea of education. It was a conception of University work such as had never yet been thought out by any thinker and whose realization had never yet been attempted. The existing body of human knowledge, wheth-

er of mind or of matter, hypothetically assumed or actually realized, was to be available for appropriation by the learner; and the far greater domain of nature, unknown or partially known, invited the investigator through observation and experiment to new fields of discovery. The old institutions looked doubtfully and not quite sympathetically on the new education. They gravely shook their heads at the credulity of those who thought that investigation in those branches of science relating to agriculture and the mechanic arts could be carried beyond the merest rudiments or would be productive of results at all commensurate with the expenditure of time and money proposed. But when within a few years they saw an interpretation given to the legislation of Mr. Morrill which did not confine Mechanic Arts to blacksmithing, carpentry and kindred handicrafts—which went beyond the still more advanced conception of manual training and discovered its ultimate application in Engineering—Mechanical, Electrical, Civil, Sanitary and Mining; when they saw as preliminary and preparatory to these extended courses in Mathematics, Chemistry and Physics, reaching far above and beyond those in the older Colleges and Universities they began to show more consideration for the new and to ask "Can any good thing come out of Nazareth?" When, moreover, they saw that the foundations of a Science of Agriculture were being laid in extended courses of Botany, Comparative Anatomy and Physiology, Biology, Chemistry, Entomology — that through these, barren fields were made fertile the products of animal and vegetable industry improved in quality, multiplied in quantity and increased manifold in commercial value, the exclusiveness of the old tacitly acquiesced in a modified recognition of the new. Silently, steadily, resistlessly the new has moved on regardless of the contempt, the pity and tolerance of the old. Ere long the new institutions, retaining for the most part the classics and the philosophies of the old, established Chemical, Physical, Biological and Engineering laboratories on a scale of expenditure and completeness far beyond the resources of the old; they set the pace for scientific study and investigation in America. By their bold experiments and stupendous results they startled the old institutions out of their complacent lethargy and roused them to an activity hitherto unknown. They made it manifest that classical and philosophical attainments and dicipline could exist side by side with thorough training and far reaching acquirements in Natural Science and that these latter found an application in the development of Agriculture and Manufacturing industry out of all proportion to the original conception on which the legslation of 1862 was based.

A few of the older Universities—originally denominational but long since secularized — Yale, Harvard, Princeton, Columbia, with prestige large endowments and wealthy alumni, who have contributed freely to enlarge the sphere of their capability and activity; and a few recently founded and endowed by individual munificence on a scale of unprecedented

liberality—Johns Hopkins, Leland Stanford and Chicago University stand well to the front and maintain each a staff of workers in the field of investigation who are the peers of any in the land. Most of the others, especially those which are dependent upon denominational support have fallen hopelessly to the rear. The Colleges and Universities established under the Congressional act of 1862, whose areas of activity were enlarged by the supplementary legislation of 1887 and 1890 have grown so rapidly that they are now recognized in most of the states as the chief exponents of the higher education coupled with the practical education which finds expression in ever multiplying bushels of wheat and bales of cotton and tons of steel—an education which conditions and renders possible the supremacy of America in productive activity and commercial enterprises. But our scientific achievements and their translation into material wealth must not be content with these triumphs. The last forty years—a period coincident with the life of these institutions—have witnessed an increase in population and in wealth such as the dreams of the most sanguine could not have ventured to anticipate. No parallel for it exists either in ancient or modern history, either in the old world or the new; and the actually realized power and wealth of the nation are but the beginning of greater and mightier things yet to be. Within another half century our population will have quadrupled; our wealth increased in more than corresponding proportion, and our strength on land and sea such that no power or combination of powers will be able to gainsay or resist. In this mighty onward march the State Colleges and Universities will lead the van. But they must do more than point the way which leads to material wealth and dominion. Problems relating to mind and matter of surpassing interest to mankind are pressing for solution and to their solution the scientists and laboratories of these Colleges and Universiites must contribute an adequate if not a preponderant share.

I have seen it stated that the theory set forth in Prof. Osborne Reynolds' "Sub Mechanics of the Universe" "that not a flawless continuous ether, but a granular structure of the spaces of the universe that not only explains all observed phenomena and the cause of gravitation but reveals the prime cause of the physical properties of matter" finds for the present one of its chief facts of interest in the fact that few if any of living mathematicians are capable of following his demonstrations and none are strong enough to attack it. Sir William Crookes, in an address to the International Congress for Applied Chemistry at Berlin, June 4th of this year, said that chemists now admitted "the possibility of resolving the chemical elements into simpler forms of matter or even of refining them away altogether into etheral vibrations of electrical energy." He further declared that "a number of isolated hypotheses as to the existence of matter in an ultra-gaseous state, the existence of material particles smaller than atoms, the existence of electrical ions or electrons, the constitution of Rontgen rays and their

passage through opaque bodies, the emanations from Uranium and the dissociation of the elements were now welded into one harmonious theory by the discovery of Radium." He added that if the hypothesis of the electronic constitution of matter were pushed to its logical limit it is possible that we are now witnessing the spontaneous dissociation of Radium and if so must begin to doubt the permanent stability of matter." If this be so the "formless mist" must once more reign supreme and the visible universe dissolve.

Sir Oliver Lodge in the Romanes Lecture delivered at Oxford on the 14th of June, suggested that atoms of matter are actually composed of concentrated portions of electricity which could exist separately or in association. Seven hundred such electrons inviolent orbital motion among themselves would constitute an atom of hydrogen; 11200 electrons would form an atom of oxygen and 150,000 an atom of Radium. We have on this theory arrived at the ultimate chemical particle, various combinations of which form all the infinitely diverse aspects of matter. Sir Oliver observes that "the attraction of this hypothesis is that it represents a unification of matter and a reduction of all material substance to a purely electrical phenomenon." This electrical theory of matter involves two consequences, a continual increase in the velocity of the constituents of an atom and the ultimate instability of those constituents. There is thus a state of flux and decay "in the foundation stones of the universe, the elemental atoms themselves." Sir Oliver thinks, however, that there is at the same time a system of reaggregation at work which constitutes a sort of regenerative process which will preserve the universe by the creation of new forms of matter in the place of forms that have been dissolved. If these things be so it can no longer be said "that the ultimate details of atomic constitution are beyond our scrutiny." But granted that these details are known the mysteries of the universe are still unsolved. What is the nature of electric phenomena? What are those things which can evolve out of structureless simplicity the infinite complexities of the earth and heaven? Does a directive force—intelligent and eternal become the necessary postulate for a rational conception of the universe? Are we warranted in concluding with Tennyson that

"Only that which made us meant us
to be mightier by and by
Set the sphere of all the boundless
heavens within the human eye;
Sent the shadow of Himself, the
boundless, through the human soul
Boundless, inward in the atom, boundless outward in the whole."

We are manifestly on the threshhold of mighty discoveries. What part will the American intellect play in the investigation and solution of these problems? What part will the Colleges and Universities of this association play in the unfolding of this stupendous drama? In the laboratory of the chemist and the physicist the work must be done. To this end we need skilful workers, clear thinkers, prophetic men with trained intellects

and scientific imaginations. To this end we need special endowments; but special endowment for research means large expenditure for the best material facilities which ingenuity can devise and skilled workmanship can construct. It means also highly disciplined and trained investigators whose time is not occupied with the drudgery of instruction but which is devoted entirely to original work. These conditions necessarily imply large expenditures and the means for this must be obtained from the liberality of the nation and from the generosity of individuals. We must encourage the study of higher mathematics in order to develop men who shall be able to follow and interpret the mathematics on which the theory of the "Sub-Mechanics of the Universe" rests. We must create in our laboratories the Curies and the Kelvins and the Crookes and the Clark-Maxwells, the Rutherfords and Bancrofts and Oswalds who shall grapple with and if possible solve the mysteries of the physical universe. This, I trust, will fall largely to the lot of the Colleges and Universities which we represent today. Let us hope that from their halls shall issue the honored few; from their ranks shall arise the heroes of science who in the achievements of these last and greatest results shall be welcomed to join the ranks of the immortals.

With the accession of the Tudors in 1485 the influence of England in continental affairs had materially diminished. The days of Crecy and Poitiers and Agincourt with the passing of England's heroes—the Black Prince and Henry V. had also passed away. The Treaty of Pecquini had left England none of her continental possessions except Calais and this too, was to pass to the House of Valois before Tudors ceased to reign. The ascendency of Spain was unquestioned. Even after the abdication of Charles V. the Spanish monarchy was the most powerful in the world. The vast over-sea possessions which that monarch had inherited from Ferdinand and Isabella he transmitted, enlarged and consolidated to his son Philip. But the growing sea-power of England after the accession of Elizabeth was destined ere the close of the century to give the Spanish power a fatal blow. The defeat of the Armada sealed the fate of the Spanish supremacy and proved that something more than prestige and gold was needful on which to build national power and national prosperity. From 1588 the star of Spanish dominion gradually declined and the scepter was by degrees transferred to mightier hands. England followed close upon the track of discovery, but more than a century passed before any permanent settlement was made by her in the new world. Though she entered later on the race of transatlantic adventure than either Spain or France, yet she was destined to outstrip all her competitors in colonial dominion. The colonies founded during the reign of the successor of hte Great Tudor Queen were established by men not impelled by the lust of gold but by men who sought political freedom and liberty to worship God according to their conscience. They carried with them love of home, reverence for law, a deep sense of the inalienable rights

of man and the conviction that in their veins flowed the blood of Alfred and of the Barons who extorted the Magna Charta from King John on the field of Runnymede; and here, with these convictions and these traditions they laid the foundations of what in the immediate future will be the mightiest nation which the world has ever seen. The Revolution of 1776 broke the political bonds which united the original colonies to the mother country; but it did not break the bonds of blood, of inherited traditions, and of the glory which attached to the common inheritance. All the glorious ideals of the race have quickened, enlarged and intensified; and have found realization to a degree which could never have been attained within the narrow limits of the original home in the old world. The immemorial heritageof freedom, brought by Angle and Jute and Saxon from the banks of the Saale to those of the Thames and the Humber and the Dee, and after ages of growth within the British isles transplanted to ampler fields in America has found its ultimate development in the great nation of whose origin and history we are all proud today. And it may surely be a source of legitimate pride to the mohter country "that the great empire which neither the ambition ot Louis XIV nor the conquering power of Napoleon could dismember, received its first rude shock from the courage which she had communicated to her emancipated offspring and that amid transatlantic wilds grew up a race of men who have established real liberty" on the principles which they inherited from ancestors who were the countrymen and compatriots of Bacon and Sidney, of Hampden and Oliver Cromwell.

The last trace of Spanish dominion on the American continent was obliterated four years ago by the decendants of men who harried and plundered the Spanish main in the days of Drake and Effingham, of Frobisher and Sir John Hawkins. The one then as now represented the Latin race with its spasmodic activity and ephemeral ideals; the other the sturdy Anglo-Saxon stock with its sturdy perseverance, its unflagging energy, its uncompromising love of freedom and its corresponding hatred of oppression. And this Anglo-Saxon stock by its inherent vigor and its intelligent foresight and its undaunted spirit of enterprise is the coming race in whose hands lie the destinies of civilization. In its veins the sap swells high today and it will swell high tomorrow.

The future of mankind lies not with the Mercurial Latin-Celtic race, nor with the crafty Mongol, nor with the perfidous Slav, but with the self reliant, freedom loving, God fearing men who preferred exile and poverty to affluent, inglorious, conformity; and who emancipating themselves from the idols of the cave and the idols of the market buckled on their freed spirits the harness of mind.

In the United States of today even the busiest and most actively employed in the intervals of leisure stop to enquire whence they came, what they are and whither they tend. The apprehension has been felt and express-

ed that we are too much given up to the acquisition of wealth, too material, that we care nothing for the past, are absorbed in the cares of the present and clothe the future in the draping of the accumulated gain built upon the foundations which we have laid. The hundreds have grown into the thousands, the thousands into millions; we look to a future when the latter shall have expanded into billions and then the golden age in another sense than that of the ancients will have superceded and supplanted all others and wealth, not brains, will rule mankind. But wealth in the second generation if not in the first looks anxiously for a background of respectability. This is a wholesome feeling and a healthy indication. The wealthy long for something more than mere wealth to differentiate them from the masses. Energy and capacity and ability to accumulate wealth were indispensable but these must have had an antecedent existence in the family. Heredity and atavism are assumed as the necessary conditions and these are sought for in family history. Family traditions, family records, title deeds, names and surnames, on this side of the Atlantic and on the other are eagerly examined, studied, collated, and translated into genealogies embodied in family trees with all the accessories of crests, mottoes, armorial bearings and coats of arms. These ideas are not incompatible with Republicanism. The Washingtons and Jeffersons and Adamses and Winthrops of colonial times were proud of their title deeds and genealogies and descent from the gentry and gentlemen and nobility of the mother country. Not only the leaders in the American revolt of 1776 were gentlemen and the sons of gentlemen, but most of the non commissioned officers and men were of reputable English and Scotch and Irish descent. Gentlemen fought and won in the Revolutionary contest. In no subsequent war in which the United States has been engaged did the armies of the republic contain so large a proportion of gentlemen. What then is called the modern craze for genealogy is a healthy conservative mental condition an effort to discover and if not to discover to make a place in the annals of recorded or unrecorded gentility. Fortunately the original contributory elements which make up the history of the Great Republic are not so difficult to discover. The early history of Puritan Pilgrim and Cavalier is well known. The politico-religious ferment which led to the emigration of the one and the spirit of adventure which led to the voluntary expatiation of the other are matters of history.

Other contributory elements from Germany and Scandanavia and central and eastern Europe have swelled the population of this newer and mightier England which occupies the best half of the North American continent, but the basis, the back-bone, the brain of the country remains and will remain Anglo-Saxon. Our history thus finds its roots in the history of the people of the old world and preeminently in that of middle England, which stands mid-way between the Saxon of the Saale and the Saxon of America. Through our relations with them Robert Bruce and Bannockburn

are ours; Hastings and Runnymede, Evesham and Crecy, Bosworthfield and Marston Moor,Blenheim and Culloden. Through them we inherit the glory of an inalienable birthright in the common law, in the growth of parliamentary government, in the reformation of Knox and the martydom of Latimer and Ridley. Through them we claim an equal inheritance in Wickliffe and Bacon and Shakespeare in Newton and Boyle and Harvey; in Burleigh and Halifax and Chatham—while we allow them to share the greatness of those who are peculiarly our own, Franklin and Washington and Longfellow, Andrew Jackson and Abraham Lincoln.

Now inasmuch as the students in our Colleges and Universities are or should be educated not as scholars and scientists only, but as citizens who will be concerned in shaping the destinies of the greatest people whom the world has ever seen, it is not less incumbent that adequate provision be made for the attainment of the one end equally with the other. The State University must be what Ezra Cornwell in founding the University which bears his name wanted it to become, viz: a place where everything could be taught which it is possible to teach, and where everything could be learned which it is possible for one to know.

I would urge then, with all the insistence which I may, the necessity that history and political philosophy with all their correlated subjects should become a special feature of the University and Collegiate instruction which we represent. In many they are already distinctive features. They should be made distinctive and obligatory in all.

Within the last 200 years history has been made rapidly in America. For a time almost isolated from contact with European nationalities and in touch with the old world mainly through official relationship, political life developed without interference from abroad. The theory of the New England Commonwealth gradually became more political and less theological; the limits imposed upon religious freedom gradually relaxed and political freedom became more unrestrained. They were law-abiding but the laws to which they subjected themselves were of their own making. So strong, however, was the traditional respect for law and order and so conservative were they when least restrained by external authoritythat their legislation never tended to sap the fountains of the Commonwealth nor impair the obligations of contract. Legislation was generally along the lines of precedent, following the recognized principles of the Common Law and adhering closely to the rights and duties laid down in the great charter of English freedom. When under new conditions new legislation was needed for which no precedent existed, known to the law-makers, the ample shield of the spirit of the Common Law and of Magna Charta was invoked to cover them. So in the interpretation of the law by the judge on the bench, if statute law did not exist to meet the cause in action, the Common Law was so interpreted as to apply and

the spirit of jurisprudence came to the relief of the dispenser of justice. And this was exactly what happened hundreds of years before in Wessex and Kent and East Anglia and Mercia and Northumbria. The principles of law and equity had grown up silently in the community enlarging in their applications as new conditions arose and became imbedded in the hearts of Englishmen ages before they found articulate expression in the laws of Ina and Offa, Alfred and Ethelred; ages before the charters of John and Henry and Edward placed the seal forever on the recognized and inalienable rights of Englishmen. This spirit and these traditions they brought with them to the new world. England alone of all the world could supply such colonists and England alone of all the world could continue without exhaustion the work of colonization on such a scale as to assure ultimate success. The puritans of the North and the Cavaliers of the South, reinforced in later times by the sturdy Scot from the Lowlands and the Highlands and later on by the equally hardy Scots of Ulster formed the basis of American nationality and a nobler ancestry the world has never seen. The characteristics of the first settlers remain the predominant characteristics of the typical American of today, and however affected by subsequent infusions from continental sources remains in large measure unmodified. This propotency of race and of blood is manifest in every phase of the history of the American people. Only people of Anglo-Saxon blood, Anglo-Saxon endurance, and Anglo-Saxon devotion to freedom could have maintained and carried the struggle for independence to a successful issue against the power of the mother country. Only people of Anglo-Saxon blood could have mained and successfully concluded the second trial of strength with the might of the British Empire in the war of 1812. Only the descendants of this heroic stock could have routed the armies of Mexico and planted the stars and stripes upon the ramparts of Chapultepec and Churubusco and in that terrific contest fought out forty years ago for the maintenance of the integrity of the Republic, when armies larger than those engaged at Marengo, Wagram, Austerlitz, Jena or Waterloo met each other on the field of battle, the men on both sides who led them to victory or defeat, and the men who followed them were in the main the descendents of the pioneers whose ancestors had lived for thirty generations within the four seas of Britain. Lee and Jackson and Stuart and Hampton and Gordon, McClellan and Grant and Sheridan and Sherman and Thomas are as thoroughly British names as Cromwell and Marlborough and Wolf and Wellington. With this people, its noble ancestry, its inspiring traditions, its stupendous achievements and its glorious history, I would have the most ample provisions made in every institution in this Association for its students to become acquainted. The educated American should know the history of his own people in itself and in its relations. We go back beyond 1776, beyond 1620 and 1607. The roots of our being are identical with those of the patriots who worked out

patiently and laboriously for 600 years the problems of parliamentary government, of the relation of the subject to the state, of taxation to representation, of the coordination of liberty and authority. English history before 1776 belongs as much to Americans as to Englishmen, and American institutions are unintelligible if dissevered from their rational relationship. The American constitution without the prior existence of Magna Charta, Habeas Corpus and the Bill of Rights would have been impossible.

When Lord Beaconsfield returned from the Congress of Berlin he gave utterance to a felicitous expression which roused to an intense self consciousness the hearts of the British people. "Libertas et Imperium" struck a note which vibrated through the British Isles. They felt that they had achieved Empire through freedom. I would strike a kindred note here today. I would have this Association adopt the motto: "Education and Empire." Freedom we have. Freedom forms the basis of our national existence, the air which it breaths, the inspiration of the life which it lives. But the inspiration and the vitality of freedom and of Empire must henceforth be intelligence, developed, strengthened, exalted, purified.

Not long since a conference of allied colonial universities was held in London. There were present men like Lord Kelvin and the leader of the House of Commons, eminent representatives of learning and science, men high in authority in the old universities of the mother country and men of distinction in the more recently established universities of the King's over sea dominions. Mr. Balfour announced the object of the meeting to be "An alliance of all the universities that in an increasing measure are feeling their responsibilities not merely for training the youth which is destined to carry on the traditions of the British Empire but also to further those great interests of knowledge, scientific research and culture without which no Empire, however materially magnificent, can really say that it is doing its share in the progress of the world." What the statesman of the kindred people beyond the Atlantic seek to do we have already been doing for years. This Federation of Colleges and Universities has been addressing itself to realize the objects set forth in the language just quoted, viz: "the further ance of the great interests of knowledge, scientific research and liberal culture without which no Empire, however materially magnificent can really say that it is doing its share in the progress of the world." No such federation of educational agencies and activities as this association of ours has ever been seen. It is the first, the greatest, the most far reaching in its aims and the most successful in its results. It has long since passed beyond the embryonic stage. Embracing within its scope all that is valuable in the old and incorporating it with new ideals it presents to the nation and the world a system complete because all embracing and inspired by the vigor of youth goes on conquering and to conquer.

SPEECH

OF

PRESIDENT JAMES K. PATTERSON

OF KENTUCKY UNIVERSITY

Before Circuit Judge Stout Holding Court In Frankfort.

(Published by request.)

Following is the argument of James K. Patterson, President State University, before the the Franklin Circuit Court, September 25, 1908, on the Constitutionality of the appropriation made for the State University by the late Legislature:

May the Court Please:

Inasmuch as I am not a licensed attorney, I esteem it both an honor and a privilege to be allowed to present my views on the case under consideration before your honor.

The Attorney General, whose official utterances I read with pleasure, because of their purity of language and elegance of composition, holds, or seems to hold, that the change of name from "College" to "University" affects seriously, if it does not destroy the validity of appropriations made to the University. He allows the constitutionality of appropriations made to the College, during the former period of its existence, but holds that the College, as a corporation, is dead, in consequence of the change of name, and that appropriations made for the University, which takes its place, may not claim the constitutionality and sanction conceded to those made for the Agricultural and Mechanical College. I shall attempt to show that the University idea existed implicitly, if not explicitly, in the original act of Congress making provisions for the establishment of the land grant colleges, of which the Agricultural & Mechanical College of Kentucky was one; that the Agricultural & Mechanical College still exists in the University; that the continuity of the institution is unbroken and its identity unimpaired. I shall further attempt to to show that the inhibition contained in Articles 49 and 50 of the Constitution, does not apply to the appropriations made to the University by the last General Assembly; that the appropriation did not involve or imply a loan, and hence does not come within the scope of the inhibition expressed in articles 49 and 50 aforesaid.

What is known as the Morrill Act, approved July 2nd, 1862, made an appropriation of public lands to each State in the Union, in proportion to representation in Congress, the interest accruing from the proceeds of the sales, of which should be appropriat-

ed by each State, which might take and claim the benefit of the Act, for the endowment, support and maintenance of at least one college where the leading object shall be, without excluding other scientific and classical studies and including military tactics, to teach such branches of learning as are related to Agriculture and the Mechanic Arts, in such manner as the Legislature of the States may respectively prescribe, in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions of life." The language quoted above allows the widest lattitude of interpretation. Certain subjects must be included in the course of instruction provided under the Act, namely, those branches of learning related to Agriculture and Mechanic Arts, and military tactics. These are obligatory. Other scientific and classical studies may be included, ad libitum.

Indefinite provision is thus made for expansion. The institutions thus founded may provide instruction in Agriculture and the Mechanic Arts and military tactics alone. They may go farther. They may include within an ampler range and a wider scope any other science, any other, which subject may be taught, or is thought desirable to be taught. The institutions founded may remain colleges only. They may expand into universities of the largest proportions.

That the Legislature of Kentucky understood the trust in this sense, is evident from Section 3 of an Act approved March 13, 1878. In order to understand the significance of this section, it may be observed in passing that the Agricultural and Mechanical College, when established in 1865, was made one of the Colleges of Kentucky University, the State reserving the right to dissolve the relationship at any time. In 1878 the commission appointed by the Legislature of that year, with instructions to report upon the advisability of maintaining the connection with Kentucky University, unanimously reported in favor of a severance. A commission was then appointed to secure a location for the Agricultural and Mechanical College. Section 3, forms a part of the Act aforesaid, and contains definite and precise instructions in regard to the nature of the institution to be re-established and placed upon an independent basis. The language is as follows:

"Said commission shall ascertain the number of departments of study necessary for the effective operation of a first class State University, such as the geographical condition of the Commonwealth, her agricultural and mineral resources, her influence and dignity require to be constituted for the education of her sons, the plan of organization, salaries of professors and instructors, plan, cost and equipment of college buildings, experimental farm, mechanical department, horticultural department, laboratories, museums, and cabinets, and to report the same to the next General Assembly."

It will thus be seen that in 1878, fifteen years after the trust was accepted, the Legislature of that day had in mind the development of the original Agricultural and Mechanical College contemplated in the Act of 1862. The Agricultural and Mechanical College, pure and simple, did not meet the education wants of the Commonwealth. An institution of University proportions and prepared to do University work was required . In 1880, when the institution was placed upon an independent footing and established in Lexington, the half-cent tax voted for its maintenance, yielded an insufficient income upon which to establish a University. From that time on until 1890, the constitutionality of the tax was in doubt and not until the institution obtained formal recognition in Article 184, of the

new Constitution, was its maintenance by State aid placed beyond question.

Section 2, of the Act of 1880, gives to the Board of Trustees of the reorganized College the utmost latitude in regard to the scope and compass of the work for which they may provide. "Said Trustees shall have power to determine from time to time the number of departments of study or investigation which the College shall comprise, with the scope of the organic act of Congress or acts supplementary thereto donating land script for the endowment of Agricultural and Mechanical Colleges; the relation which each department or group of departments shall sustain to each other and to the whole; to devise, allot and arrange the distribution of departments or groups of departments with the designation appropriate to each and to devise the means required for their effective instruction, administration and government."

Under this authority, the authorities of the College have provided those subjects related to Agriculture and the Mechanic Arts. They have expanded these far beyond the original requirements of the Morrill Act. They have added classical and other scientific studies. They have provided for investigation as well as instruction. They have grouped the departments established into courses of study under Deans and sub-faculties, with the designation appropriate to each. All the machinery of university work, has been in operation for years, and all this through a natural process of growth, development and expansion. These institutions must grow, if they are to keep pace with the progress of the age and the requirements of society. An institution which taught today the science, the literature and the art which formed the body of the recognized knowledge and instruction of half a century ago, and taught nothing more, would be an anachronism, and the institution which shall confine its instruction fifty years hence to the body of recognized knowledge of today will be equally an anachronism then. You are not in your legislation and judicial construction devising means for embalming a corpse, but for maintaining the life and vigor and growth of a healthy and symmetrical organism. Educational institutions are like States. They grow and when they cease to grow, they decline and perish. This is the fundamental conception of American colleges and universities. The common schools grow, or should grow, academies and high schools grow, colleges and universities grow, and the college and the university as they grow and lift themselves to a higher plane, lift common schools and academies in high schools each to a higher level. The kind and character of the college and university determine the kind and character of all subsidiary and preparatory work. The character of the University forms the index of the intelligence and moral elevation of a people. What made Scotland, with her rigorous climate and large extent of barren soil, the most intelligent and most progressive of her contemporaries? The answer is, her universities—Glasgow, St. Andrews, Aberdeen and Edinburgh. These lifted her parochial schools and grammar schools to a higher level, during the 17th and 18th centuries, than obtained in England, France or Germany, and lifted the masses of her people far above the corresponding strata in any other part of Europe. What has made Virginia famous for one hundred years? The famous university founded by Jefferson. What made barren New England such a power in this nation and enabled her to wield an influence for 150 years out of all proportion to area or population? I answer, Yale and Harvard.

These celebrated institutions in America have all grown. From small beginnings many of them have attained collossal proportions. The land grant colleges established under the Act of 1862 are now contesting their hitherto undisputed supremacy. They are now instead of following, forging to the front and setting the pace for higher education in America, and in the world. They are surpassing them in income, outstripping them in numbers and excelling them in the excellence of their work. Think of Cornell, with an income representing at 5 per cent. a capitalized endowment of $39,000,000, the Universities of Illi-

nois, Wisconsin, and California, with incomes representing endowments of $21,000,000, the Universities of Michigan and Minesota with incomes representing $16,000,000, and Ohio, Missouri, Nebraska, Iowa, incomes representing endowments of $10,000,000 to $12,000,000. Twenty years ago these were relatively small institutions, doing under one name or another collegiate work only. Now they are full fledged Universities adding to collegiate work, work in original investigation and research.

Section 4, of the Act of the last General Assembly, approved March 17, 1908, changing the name from Agricultural and Mechanical Colege to that of State University makes distinct provision for the continuance of an Agricultural College and of a College of Mechanical Arts as integral parts of the university. This is a feature common to all Universities organized under the Land Grant of 1862, They retain distinctive colleges for agriculture and the Mechanic Arts as integral parts of the university organization, co-ordinate in dignity and importance with other courses of instruction. Indeed in very many of the land grant universities, they are the most notable features of university instruction. For example, Nebraska, California, Minnesota, Tennessee and West Virginia.

In opinion addressed to Auditor of Public Accounts, the Attorney General expressed the opinion that the agricultural college is dead. I have shown that there is a college of agriculture and a College of Mechanic Arts. These form the nucleus of the university. The former has enlarged its sphere of operations, including much more than was comprised in the Act of 1862, agricultural and organic chemistry, origin of soils, chemical analysis of soils, soil physics, variation and improvement of plants, principles of stock breeding and stock feeding, dairying, entomology, analysis of fertilizers, administration of pure food law. It has since 1887 incorporated the Experiment Station as one of its departments and employs for this purpose alone a staff of more than a score of men and women. In the face of these facts and these activities, reaching out all over the Commonwealth, is the Agricultural College dead?

The primitive conception of mechanic arts has developed into mechanical engineering, civil engineering, electrical engineering, rural engineering, mining engineering and civil engineering. It no longer confines itself to blacksmithing and carpentry. It does not discard these, but upon mathematics, chemistry and physics it builds the professional and industrial activities which form the important factors in modern material progress. It has educated dozens and scores of men who build your railroads, span your rivers, open your mines, supply your cities with reservoirs and traction lines and lighting plants. It supplies men who devise and build your machinery, reach out in investigation and discovery, adding increment by increment to the mass of knowledge and material wealth of the State and of the nation. Are these evidences of death? Visit the university today. You will find the Agricultural College in new and enlarged quarters, with increased matriculation and increased facilities for work. Vis it the various departments of engineering. You will find former material facilities outgrown, new buildings in process of construction and plans under consideration for the enlargement of old ones. Enlarged equipment in physics, chemistry and engineering machinery. You will find increased matriculation pressing into these departments for technical and practical training. Are these evidences of death? Movement, activity, energy, these are not the characteristics of death, but of life, intense, intelligent and triumphant, a life growing, expanding, reaching out to new conquests over matter and space and time. Dry up the springs of vitality, by withholding the sustenence which is the condition of life, and death ensues. This you may do and dissolution will follow. But this happily has not yet come to pass, and I am fain to believe that under your construction and interpretation of the statute, it never will. The Agricultural College and the College of Mechanic Arts live in the University a life vigorous, full and intense and long may they

live for the glory of Kentucky and the good of her sons.

If there be any law more firmly established in human consciousness than another, it is the law of continuity, and the law of identity. This old earth that we inhabit has during millions of years, undergone many changes. We might say that in a certain sense, it has grown and developed, at any rate, it has undergone transformations which have fitted it for the abode of animal and vegetable life, and for continually developing higher forms of life. But who will say that the continuity of its existence has been broken or its identity destroyed? It is the same earth which formed one of the planetary spheres at the dawn of the creation when "the morning stars sang together and all the sons of God shouted for joy." Its continuity will be maintained and its identity remain until destruction ensues and it is dissipated into the original star dust from which it was formed.

Continuity is broken and identity destroyed only through dissolution. So with an institution of learning Like the plant, the tree, the animal, it is the subject of transformation and growth and expansion, but the continuity of its life remains, its identity is unimpaired. "First the seed. then the blade. then the ear, then the full corn in the ear." The child becomes a boy, a lad, a man, a middle-aged man, an old man. Is the continuity of his life broken or his identity destroyed? When the girl becomes the maiden, and the maiden the wife, changing her name in marriage, is the continuity of life broken or identity destroyed? Most married ladies nowadays at least, would vehemently resist the assumption that marriage and change of name involves absorption and dissolution.

A modern State, a city, a railway corporation, a banking establishment, a municipal creation does not lose its identity or break the continuity of its existence by the adoption of a new constitution, a change of charter or by the amendment of their articles of incorporation. All the obligations and rights attaching to the antecedent status remain unimpaired. The colonies became the United States. Charters gave place to constitutions. The articles of confederation under which they won their freedom gave place in 1787 to the present constitution. Did the States or the Nation lose their identity or was any break made in the continuity of their existence by these political transformations?

The county of Fincastle became the District of Kentucky, the District of Kentucky the State of Kentucky, and now all legislation, all executive action and all judicial processes run in the name of the Commonwealth of Kentucky. Is there any break in continuity or any loss of identity here? In 1824 the State of Indiana founded and endowed an institution for higher learning which it named the Indiana Seminary. It grew rapidly and in 1827 its name was changed to the Indiana College. Its continued growth warranted a still further change of name and in 1838 the Legislature changed its style and title to the Indiana State University. So I might illustrate from Harvard, Yale, Princeton, Columbia College all these within the last forty years have changed their names from College to University. The present University of Illinois, after its establishment, changed its name to its present title. But the proposition is so plain and the argument so incontrovertible that it seems useless to pursue it further.

It seems to me that Sections 49 and 50 of the Constitution are wholly inapplicable to the law making appropriations for the State University and the Normal Schools. The appropriations made for them were believed to be quite within the revenues. A committee, consisting of the promoters of the measure, with statistics complied by the Auditor of Public Accounts, and the Auditor himself, waited upon his Excellency the Governor, to assure him that the appropriations were within the revenue. My information is that Auditor James told the Governor he could take care of them. Had the belief existed that the appropriations exceeded the revenue and that these payments must be met by a loan at a stipulated rate of interest, in bonds maturing at a date set forth in the loan, and that the propos-

ed loan exceeded $500,000, and if the General Assembly had passed an act authorizing a loan of more than $500,000, in order to meet the obligation, then the constitutionality of the loan would depend on an affirmative vote of the people. But none of these conditions existed. The appropriation of $500,000 is not payable in a lump sum, but by installments extending over three fiscal years, a loan to provide the money was never suggested, and it is quite certain that no steps will ever be taken in that direction, either by the present General Assembly or by its successor.

It is a fundamental principle in all civilized communities that the obligations of contract entered into in good faith shall be unimpaired. The State of Kentucky in accepting the fund provided by Congress in 1862 accepted it in good faith with all the obligations expressed and implied in accepting the trust. The Commonwealth has established the institution required. The General Assembly of 1880, with the knowledge that the large land grant had been practically wasted, imposed a tax, the proceeds of which is applied for its maintenance. Since then the Federal Government has made additional gifts and the Commonwealth additional appropriations. Will the State now break faith with the Federal Government and with its own people by repudiating through its highest judicial authority its implied collateral and reciprocal obligations on the flimsiest of all possible pretexts, the change of name and the fiction of a loan? The State University has now under contract and under process of construction a building for physics and civil engineering, on the basis and on the faith of the appropriations made to it for buildings. Must we be compelled, through failure of the State to meet its obligation, to the university, to repudiate the obligations undertaken in good faith and bring the work to a standstill? We have expanded our courses of study and added a new one, that of law. We have enlarged our instructional force on the faith of increased revenue. Must we contract our sphere of operations, discharge our recently employed professors, with a threatened suspension at the end of the year, in order to discharge our liabilities? If you thus deal with our appropriations, what shall hinder any tax payer from testing by injunction the validity of any appropriations made by the last General Assembly or by preceding General Assemblies for the Colored Normal School, the Institution for the education of the Deaf and Dumb? If Articles 49 and 50 of the Constitution militate against appropriations for us, equally so do they against appropriations made for them, and not only for them, but for all other purposes The alleged inhibition is far reaching. It does not stop with us. All appropriations made contribute to swell the aggregate of which we are only a part.

The institution which was the State College and is now the State University has been the subject of discussion and contest in the General Assembly, in the Constitutional Convention and in the courts. It has been traversed at every step, halted and made to show its passports at every turn. Heretofore it has emerged successful from every contest. I sincerely hope that the cause of progress which it represents and its good fortune will carry it through this crisis also. It has had the good will of the Legislature, the judiciary has by the wisdom and rectitude for its deliverances upheld and sustained the action of the General Assembly, and the Executive has given it an enlightened and sympathetic support. The College and the University have not disappointed the public expectation. Its alumni are found everywhere loyal, capable and well equipped, confident in the assurance of educated talent and worth, and having nothing to learn from the best representatives of the best schools in America. They take prizes out of all proportion to their numbers and acquit themselves to the full measure of the most exacting requirements. They are making a name for Kentucky, of which Kentucky will be proud. Let the good work go on. Give us the conditions for success and success is assured. Let the scholars and professional men and women who issue from the halls of the university as from the college, maintain the reputation of

the Commonwealth in the arts of war and in the arts of peace. We are now in a certain sense at the parting of the ways. A favorable opinion from this court will give the university an impulse forward which will be felt for years, an adverse opinion, a check which may require years to overcome. Progress is not always in a right line, sometimes in a curve, but it still remains a moral as well as a mathematical truth that a straight line is the shortest distance between two points and that time is saved and energy conserved by following he straight line, rather than the curve.

dup of 3rd address — different printing!

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1909.

CONSTITUTIONALITY OF THE TAX

FOR

THE STATE COLLEGE

GENTLEMEN OF THE COMMITTEE OF THE A. & M. COLLEGE, AND GENTLEMEN OF THE GENERAL ASSEMBLY:

I listened with much pleasure to the eloquent and learned advocate who presented the plea of the protesting colleges on Wednesday last to this honorable Committee. I am not sure that a better presentation could have been made. I came expecting to hear a dispassionate, lucid statement, a full and impartial exposition of the law, a critical analysis of the organic statute, out of which all subsequent legislation has grown, and I was disappointed. The presentation was skillful, ingenious, and forcible, with a good deal of the political, less of the constitutional, and more of the popular species of conventional oratory than either. Indeed, I could not help thinking that the inherent tenuity of the constitutional plea was dexterously padded and wadded with extraneous matter which none would know better than Judge Lindsay, were he on the bench, how to brush unceremoniously away as irrelevant dicta. Of course it is no part of the duty of an advocate to assume the judicial ermine, and with this no one who heard the distinguished ex-Chief Justice would charge him. But it seems to me that the attorney for the protesting colleges presumed too much on the credulity of his audience and their ignorance of the history of education in Kentucky as well as of the Constitution.

He began by saying that the intention of the authorities of the State College is to rival the great colleges of the East; that my argument and the report of the Board of Trustees both warrant this conclusion. Now I submit that nothing I have said, and nothing said by the Board of Trustees, warrants the conclusion. I do not say that I would not gladly see such an institution in Kentucky. But whether that statement be true or the reverse, is altogether outside of the constitutionality of the tax. This much,

however, may be said, that in regard to an institution projected on an income of $26,000 a year, there is no need for any one to lose his equanimity through apprehension of its excessive growth, especially when such growth is dependent upon the liberality of the Legislature of Kentucky. Our people have not as yet any extravagant ideas about expenditure which need cause the denominational colleges serious alarm.

In order to establish the assumptioon that the Legislature of 1865 did not intend to include classic and other scientific studies in the curriculum of the Agricultural and Mechanical College, Judge Lindsay quoted from the act of the Legislature of that year, which specified the studies made obligatory by Congress. From this he infers that classics were intended to be excluded, and yet just the opposite is the fact. The advantage which Kentucky University offered by the proposed alliance was, that her College of Arts should provide all the classical instruction, and the State branch all the scientific instruction required by both, and thus, by the concentration of capital and the division of labor, realize the greatest possible results from the least possible expenditure. From the very beginning all the students of each College had free access to all the classes of the other, and for thirteen years this order of an interchange on equal terms, existed, as every professor knows.

In the reorganization, it was not deemed expedient to offer less advantages than had been enjoyed while the alliance with the denominational college existed. This discussion was also foreign to the constitutionality of the tax. Equally unfortunate was the reference of Judge Lindsay to the early history of Transylvania University. When, in 1825, the Legislature was invtied by the message of Governor Desha to consider the condition of Transylvania University, the evil plight into which it had fallen was due largely, if not exclusively, to the denominational war waged remorselessly against it by sectarian animosity and jealousy. In that warefare, the church to which I belong played no unimportant part. Had the State sustained and cheered Transylvania as she ought, and not left it a prey to ecclesiastical rancor and denominational hate, Transylvania would be to Kentucky to-day what Harvard is to Massachusetts, and Yale to Connecticut. It was brought into politics—how? Because assailed by the churches then, as State College is now, and because of the parsimonious

support given to it by the State at the instance of clergymen, who stood by with lugubrious visage and ecclesiastical scowl. The ministers of that day prevailed. The curse of Meroz rang through the land. Transylvania was handed over to the doctors, not of physic, but of divinity, with the inevitable result that always attends clerical ministrations when applied to State institutions—decline, decadence, extinction. Like the patient whose tombstone records: "I was well; the doctors thought I might be better. I took physic, and here I am."

All this, however, was quite irrelevant to the constitutionality of the present tax levied for the benefit of the State College.

Equally unfortunate is the statement, that when the Convention which framed the present Constitution sat, the question was discussed whether the views held by Dr. Robert J. Breckinridge on education should find expression in the article adopted on education. Whether the funds existing or to be created should be used exclusively for common schools, as that expression is commonly understood, or whether any other educational institutions should find recognition or support, was never before the Convention. I make bold to say, that in all the debates, extending over two days, no such question was discussed; no such question was raised; no such question suggested.

The distinguished counsel for the opposition says that, as a consequence of this discussion (which did not take place), the Constitution declared in favor of poor men's schools and against rich men's schools, and, by his emphatic reading and iteration of the phrase *"purposes of education,"* in article eleven, declared and insisted that this was the fact. Now, not a word was said in the Convention of poor men's schools being fostered by the State in opposition to rich men's schools, or of lower education in opposition to higher. Common schools and common school education alone were before the Convention, and not one word was said, from beginning to end of the debates, about State aid to seminaries, academies, colleges, or universities, either by way of approval or condemnation. Leaving out of account the opposition made by some of the members of the Convention to any system of common schools, the only question raised was, whether the Constitution should incorporate a guarantee for a two-cent tax, and enjoin such additional taxation as would inaugurate the common school system within five years. Many of my auditors, after the eloquent

presentation by Judge Lindsay—more eloquent than accurate—will be surprised when told that these were the only matters which divided the Convention. All except a few were in favor of a system of common schools. All except a few were desirous of securing a constitutional guarantee for the existing capitalized school fund; and among the latter, the only question of difference was, whether a constitutional guarantee should also be made for the then existing two-cent tax, and as much more as would be required to put the system in operation within a given time.

Judge Lindsay alleges that the original draft of the article on education failed to satisfy the Convention. That is true. But it is not true that the original draft failed to satisfy the Convention for the reason that he assigns, viz: that the members resolved that there "should be no effort to sustain such an institution as Transylvania." By what authority is this statement made? From what data is this conclusion drawn? No such question had been raised; no such question had been thought of. I will tell you why the original draft failed to satisfy the Convention. It was because it contemplated a guarantee for the tax already levied, in order to supplement the income from the capitalized school fund. This contemplated guarantee for the two-cent tax the opponents resisted, and this was the sole and exclusive question in dispute.

The distinguished counsel having laid down such a dictum in regard to the original draft and its failure to satisfy the Convention, then proceeds to say that no rule of constitutional construction will allow us to interpret *"purposes of education"* otherwise than he endeavored to impress upon you. To this I now deisre to address myself, and I ask your patient attention. I hope to prove to your satisfaction, from an analysis of the article itself, and not by any torture, as the gentleman apprehends, that *"purposes of education,"* upon which he lays so much stress, means, and can mean, "common school purposes" only. I shall then show you, from the Debates in the Constitutional Convention, and from the language of the author of article eleven, that the phrases "common school system," "educational purposes," and "purposes of education" were used synonymously throughout; and lastly, that any other interpretation is absurd.

About the close of his constitutional address on Wednesday night, Judge Lindsay observed that there are precedents for legislative action shaping, amending, modifying, and abrogating preceding

legislation, on constitutional grounds. This is true. But here the distinguished advocate got his legislative cart before his judicial horse again. The word "white," he tells us, was excluded by legislation from the section which defines the qualifications of jurors. But the initiative was not taken by the Legislature. The initiative was taken by the State courts, after the deliverance of the Federal courts; and after the courts, Federal and State, had declared the exclusion of colored citizens from juries unconstitutional. the State Legislature brought the statutes into conformity with these judicial deliverances. But, in the case of the tax for the benefit of the State College, the distinguished gentleman asks you to reverse the order of procedure which he quotes, and insists upon the State Legislature anticipating the action of the courts, and sitting in judicial judgment upon the acts of its predecessors. In all these matters he seems to me to have been singularly unfortunate or singularly ingenious in getting things wrong end foremost. I am sure this is not the order for which Judge Lindsay has the credit of doing things upon the bench, and I can account for it only on the ground of the inherent badness of his plea, and the desperate necessity of making the "worse appear the better reason."

The reference to John Hampden, and the suggestion that the attorney of the aggrieved colleges was here to play the part of the English patriot in protecting the people of Kentucky from illegal taxation, was not quite warranted by the facts. The cases are neither analogous or parallel. Hampden's resistence was not to a tax authorized by Parliament, the constitutionality of which he questioned, but to the payment of an impost which was levied and collected by the Crown without authority of Parliament. This resistance, too, he made not as an attorney for the clergy of his diocese, but as an individual. The man to whom 4,000 of the yeomanry of England came to give support and countenance when threatened with arrest and prosecution in Westminster Hall, the man who received his death wound on Chalgrove field when holding at bay the fiery cavaliers of Rupert—admired when living, lamented when dead—lived the champion of the rights of the people, and died a martyr to liberty, because of his own *personal* convictions of right, and not because of the retainer's *fee* which he carried in his pocket. I would not be understood to make any reflections on this. Far be it from me. The profession of an

advocate is a noble and an honorable one, and no man in Kentucky has a more honorable record than the distinguished ex-Chief Justice. But an advocate, however able and honorable, does not become a Hampden or a Franklin or a Henry because he happens to be retained on one side or the other on any question involving the construction of the article on education in the Constitution of Kentucky.

I could not help thinking that the distinguished counsel for the prosecution was carried away by the presence of the Aarons and the Hurs, who, on Wednesday night, held up the hands of the champion of the Church while leading them forth from the galling bondage of the half-cent tax out of the Egypt of their discontent into the Canaan of unrestricted ecclesiastical monopoly and control. Already, in prophetic vision, the wilderness was traversed, the Amalekites destroyed, the Jordan passed, and the walls of Jericho were seen tumbling down. No wonder that facts and fancies got mixed in the legal as in the clerical brain.

The opponents of the State College assail the constitutionality of the tax levied for its support, relying upon their interpretation of an expression which occurs in the first sentence of article eleven in the Constitution. The first part of section one is as follows:

"The capital of the fund, called and known as the 'Common School Fund,' consisting of $1,225,768.42, for which bonds have been executed by the State to the Board of Education, and $73,500 of stock in the Bank of Kentucky; also the sum of $51,223.29, balance of interest on the school fund of the year 1848, unexpended, together with any sum which may be hereafter raised in the State, by taxation or otherwise, for purposes of education, shall be held inviolate for the purpose of sustaining a system of common schools. The interest and dividends of said funds, together with any sum which may be produced for that purpose, by taxation or otherwise, may be appropriated in aid of common schools, but for no other purpose."

Their argument is, that all the dividends accruing from the capitalized school fund, amounting to $1,350,491.71, shall be expended exclusively for common schools, or in aid thereof. They argue further, that the proceeds of all taxes levied for common schools, shall be applied exclusively for the use of common schools, or in aid thereof. They argue further, that the clause,

"together with any sum which may be hereafter raised in the State, by taxation or otherwise, for purposes of education, shall be held inviolate for the purpose of sustaining a system of common schools," forbids the Legislature to raise by taxation a fund for the maintenance of any institution such as the Agricultural and Mechanical College. They hold that it does this on one of two alternative grounds—first, that the tax cannot be imposed under this act; second, that if imposed, it cannot be applied to the purpose designated in the act, but must go into the common school fund.

I undertake to show that their construction of the clause "together with any sum which may be hereafter raised in the State, by taxation or otherwise, for purposes of education, shall be held inviolate, for the purpose of sustaining a system of common schools," is erroneous; that the Constitution is altogether silent on the question of State aid by specific tax to such an institution as ours, and I shall endeavor to do this by showing that the expression "purposes of education" means, and can mean, only "purposes of 'common school' education.' I shall show, first, that a fair analysis of the entire article warrants this construction; secondly, that the entire essence and language of the Debates in the Constitutional Convention, and especially the language of the author of the article on education in the Constitution, demonstrate beyond the possibility of a reasonable doubt, that the phrase "purposes of education" means, and can mean, only "purposes of 'common school' education;" and lastly, I shall show that a contrary interpretation would fasten upon the framer of the article, and those who adopted it as a part of the Constitution, an absurdity and a dishonesty of purpose with which a fair interpretation cannot charge them, and commit the framer of the article, and the party of compromise which he led, to an enlargement of the common school fund which they never intended, and which they would have promptly repudiated had any man in the Convention suggested it.

I have to premise that this argument which I submit is an unprofessional one. It is not couched in the techincal language of the bar, with which I am unfamiliar. It can lay no claim to any voluminous array of authorities, decisions, or reports; but if law, constitutional and municipal, be the embodiment of the ideas of justice and common sense inherent in man, the articulate pro-

jection in language of his inalienable and inherent rights, and existing in the human soul before they find expression, and if the proper interpretation of these, when so formulated, be by language under the guidance of reason, then I claim for the interpretation and construction which I present to you to-night your impartial consideration, even though it be not the work of a professional jurist or of a feed attorney.

The original of the school fund described in article 11 of the Constitution, whose inviolability this article was designed specially to guard, came from the General Government. The government of the United States had accumulated in the National Treasury a very large sum of money, $28,000,000, chiefly from the sale of public lands. This accumulated treasure was distributed by act of Congress June, 1836, among the several States on certain conditions. The State of Kentucky accepted her share on the conditions proposed, and by section 9 of the act approved February 27, 1837, consecrated $1,000,000 of the money received to the cause of education. On February 16th, 1838, the Legislature reduced the amount to be devoted to school purposes from $1,000,000 to $850,000, which sum was invested in the internal improvement bonds of the State.

After the financial crisis of 1837 had passed, and the State had recovered in some degree from pecuniary disaster, Kentucky embarked in an extensive system of internal improvement, designed to increase the general wealth. The funds necessary to carry on her extensive operations were raised by the public credit. When the State become embarrassed by these operations she looked around for relief, and reasoning with herself that the bonds representing the principal and nucleus of the school fund constituted a debt due to herself, she determined to relieve herself to the extent of this indebtedness by cancelling the debt, not by its payment to the Board of Education, but by obliterating the evidences of the debt. Accordingly, by an act approved February 10, 1845, she ordered all the State bonds held by the Board of Education to be delivered to the Governor of the Commonwealth, and by him to be burned. The act, however, under which they were burned, directed that lists of the burned bonds be prepared, and that these lists should be held and taken in place of the bonds which had been burned. On February 29, 1848, chiefly through the exertions of Dr. R. J. Breckinridge, then Superintendent of Public Instruc-

tion, an act was passed by which the State issued a bond for $308,268.42 to the Board of Education, for arrears of interest on the burned bonds up to January, 1848, and in 1849, by act approved on the 26th of February of that year, made further reparation by designating the net proceeds of certain public works as a fund to pay interest on school bonds.

The sacredness of the original debt was also recognized, and the preserved copies of the original bonds 1, 20, 21, 22, 23, and 24 accepted and recognized as evidences of the original indebtedness to the Board of Education.

These, together with $73,500 in bank stock and the bond unnumbered, bearing interest at 5 per cent., dated December 20, 1848, executed to the Board of Education for the sum of $308,-268 42, chiefly for arrears of interest from the date of the burning of the bonds above mentioned, constitute the aggregate of $1,225,768,42, mentioned in article 11 of the Constitution.

When the Constitution of 1799 was adopted, there was no public or common school system in Kentucky. Its existence was not anticipated by the framers thereof; and hence, there is not a line in the Constitution of 1799, from beginning to end, in relation thereto or in anticipation thereof. When, therefore, through the munificence of the General Government, a beginning for a common school system had been made, the funds which were set apart for this purpose having no constitutional safeguard thrown around them, were liable, as the issue proved, to be invaded, and applied to other purposes at the caprice of the Legislature, with no remedy from the courts or elsewhere.

While the public mind was still excited in regard to the invasion of the school fund, the Constitutional Convention of 1849 was called. Provision had been made for the restoration of the fund, principal and interest, and in addition thereto a tax had been voted for common school purposes of two cents upon each $100 of taxable property. The experience of the past ten years had demonstrated the necessity of protecting and safeguarding these funds, not only the restored principal and interest of the original fund, but the proceeds of the two-cent tax, and of all other taxes levied for the support and maintenance of the common schools. The integrity and inviolability of these funds could not be accomplished by the ordinary processes of legislation. Hence the necessity that the Constitution should deal with the subject, and that a security,

fundamental in its character and thorough-going in its efficiency, should be devised, whereby the disasters and humiliation of past years should be impossible. To this task the framers of the Constitution addressed themselves, having in view the integrity and inviolability of the common school fund, and that alone. The circumstances in which article 11 of the Constitution had its origin, and which called it forth, have no reference to any contest, except the contest in regard to the integrity and inviolability of the common school fund—no reference to any kind of schools except common schools—no reference to any kind of education, whether inferior or superior, related to or concurrent with the common school system. Hence the article, according to every canon of interpretation, must be interpreted according to the meaning of its authors, and this can only be gathered from the circumstances of its origin, the evils it was designed to remedy, and the purpose it was intended to accomplish.

First, a fair analysis of Article 11 shows that, by "Purposes of Education," Common School Education only is meant.

A careful reading of article 11 warrants, I think, the belief that its authors had no other sort of education in their minds than "common school" education; that they had no anxiety to prevent aid being given to any other education; but that their sole desire was to guard and maintain the integrity of the fund known as the "common school" fund, with any increase that might accrue to this fund from any quarter whatsoever, whether by taxation or otherwise. I believe that a careful examination will show that wherever the word "school fund" occurs, *"common" school fund* is meant, that wherever the word "school" occurs, *"common school"* is meant, and that wherever the word "education" occurs, *"common school" education* is meant. Indeed, the caption of article eleven, as interpreted by the marginal summary, shows that only *"common school* education" is intended to be considered in the article. The marginal summary is as follows: "The capital of the common school fund to be held inviolate." The whole design of article eleven would seem to be to assert and maintain the integrity and inviolability of the common school fund. If this be true, then everything foreign to this idea would be *necessarily* excluded by the rule of interpretation which applies to all writings alike. Let us see what the prababilities are from induction and analogy.

The words "school fund" occur four times in article eleven,

and only once is it prefixed by the qualifying expression "common," and yet it is apparent that *"common" school fund* is meant throughout. The word "fund" is used three times in the singular and plural, and in every instance not only *"school" fund* but *"common school" fund* is meant. Indeed, in the first instance of its use, it is defined as *"common school" fund,* a meaning intended to attach to it throughout. The word "school" is used five times in the singular or plural; in four of these with the prefix "common" expressed, while in the fifth "common" is manifestly understood. In the phrase "Board of Education," in line five (I refer to line *five* in the Constitution, as printd in the General Statutes), "common school" is undoubtedly understood. The phrase, if fully expressed, would certainly be "Board of 'Common School' Education," because this is the only sort of education under discussion, and the only kind of education in the State controlled by the State through a board denominated the Board of Education. All analogy, then, would seem to require the prefix "common school" before "education," in the twelfth line. This presumption is rendered still stronger by the fact that, in the second sentence of article eleven, the phrase "that purpose" means a *single purpose* already supposed to be clearly before the reader, and as no other single purpose is under contemplation than common school education, "purposes of education" is intended to have a singular meaning, which can be only if "common school" is understood as a qualifying and limiting prefix to be supplied before "education." The second sentence, viz: "The interest and dividends of said funds, together with any sum which may be produced for *that purpose,"* by taxation or otherwise, may be appropriated in aid of common schools, but for no other purpose," is but a repetition of the idea contained in the first sentence of section one, with this difference: the first defines the sources of income, and for what purpose these sources of income shall be held inviolate; the second sentence defines the proceeds of these sources of income, and directs to what purposes these proceeds shall be applied. There is a remarkable parallelism in these two sentences, to which I call your attention. In sentence one the capitalized principal of the school fund is described, viz: three items, amounting to $1,350,491.71. This has its parallel in sentence two, in which the proceeds of this capitalized principal is described, viz: "interest and dividends of said funds." In sentence

one the supplementary funds guaranteed by the Constitution as applicable to the end contemplated, are defined as "together with any sum which may be hereafter raised, by taxation or otherwise, for purposes of education." This has its parallel in sentence two, in the expression "together with any sum which may be produced *for that purpose,* by taxation or otherwise." Now note the words *"for that purpose."* For what purpose? Evidently, "common schools." Do not the words "for that purpose" express the scope and limit of the taxation discussed in article eleven? Undoubtedly. *"That purpose"* is a single purpose.

The scope and limit of taxation here discussed are coextensive with and bounded by that single purpose, whatever that single purpose be. That purpose is undoubtedly "common schools," and the scope and limit of the taxation here discussed must undoubtedly be for "common schools." If this be so, then the scope and limit of the taxation discussed in the parallel clause of the sentence preceding, must be of like extension and limits, viz: for "common schools." There is certainly not a plurality of purposes considered in the first, and only a single one in the second. "That purpose," in the second, is manifestly retrospective. The word "that" is conclusive on that score. "That purpose" being single, must, of necessity, refer to a single purpose already in the minds of the framers of article 11. What else could it be? Now, no parallel idea exists, and no single purpose exists, brought before the mind of the reader by the previous sentence, than the purpose evidently referred to, viz: "common schools." If this be so, then "that purpose" must be "common schools" previously expressed, and common school education. "Common schools," and "common school education," then constitute the single purpose, the antecedent unit in thought—the single idea. All other ideas are excluded, all other purposes are excluded, and taxation is limited in its scope and bounds by this single idea, "common schools."

As a condition precedent to their construction, they must hold that the phrase "purposes of education," in the first sentence, includes common school education, and all other sorts of education. But the expression, "that purpose," in sentence second, is fatal to their construction. Now, "that purpose," being single, refers to a single antecedent, and that purpose, meaning only common schools, must refer to an antecedent which means common schools. Suppose their construction correct, and to be the meaning in the

minds of the framers of the article and of the members of the Convention who adopted it, what should we have in place of "that purpose?" If the phrase, "that purpose," was intended to refer to a plurality of purposes, and not to a single one, what would be its character and form. It must have been "those purposes." Then the implication, the presumption would be, that the reference was to common school purposes and other purposes of education. But, inasmuch, as the singular "that" defines and limits us to one purpose antecedently expressed, we are forced to conclude that only one purpose was intended by the antecedent, and the character and scope of that purpose is defined and limited by the retrospective reference.

The fact would seem to be that the qualifying and limiting expression "common school," constantly in the minds of the framers of the Constitution, was sometimes expressed and sometimes omitted, apparently for no other reason than to avoid its too frequent repetition. "Purposes of education," then, would mean "purposes of *'common school'* education;" nothing less and nothing more. Indeed, from this induction and anaolgy, no other meaning seems probable. I might almost say, no other meaning seems possible. The clause in the Constitution, upon the interpretation of which the constitutionality of the tax depends, and which reads: "Any sum which may hereafter be raised in the State, by taxation or otherwise, for *purposes of education,* shall be held inviolate for the purpose of sustaining a system of common schools," would then read: "Any sum which may hereafter be raised in the State, by taxation or otherwise, for *purposes of 'common school' education,* shall be held inviolate for the purpose of sustaining a system of common schools." This interpretation harmonizes entirely, and is altogether consistent with the idea that the whole scope and intent of article eleven is to guard and maintain and defend the integrity and inviolability of the common school fund. Indeed, in the marginal summary above quoted, this is declared to be the aim and compass of the article. It does not admit anything irrelevant. It excludes every consideration not germane to itself. This common school fund is to be preserved inviolate. No appropriations are to be made at its expense. It is to be applied sacredly and exclusively to the single purpose for which it was levied, and to no other. This exhausts the significance of the article. It deals with one subject, *one purpose,* and no

other. It excludes the consideration of all other subjects, all other purposes. On everything else it is silent than on the single subject of "common school education," and the *single purpose* of maintaining the integrity and inviolability of this fund. All other sorts of education, and all other funds, or purposes relating thereto, are ignored. Had the framers of the Constitution intended to prohibit taxation for any other kind of education than "common school" education, the prohibition would have been direct, explicit, and precise, and either in a separate paragraph or in a proviso. It would have been in some such language as the following: *Provided, however, That no tax shall at any time be levied for the support, endowment, or maintenance of any academy, high school, seminary, college, or university, or for the equipment, outfit, or ordinary expenses of any of these, on any pretext whatsoever.* Had the Constitution intended to prohibit a tax for any of these purposes, it would doubtless have used such prohibitory language as the above.

Inasmuch, then, as money raised by taxation or otherwise for "common school purposes" can be applied only to "common school purposes," and to no other, the Appellate Court decided correctly in the cases of Collins vs. Henderson, and Commonwealth vs. Collins, cited by Judge Lindsay. The court held that no part of the common school fund could be applied to pay for Collins' book. It was the duty of the court to see that the integrity of this fund was unimpaired, and that money raised for this special purpose could not be applied to another.

But it is an altogether different thing when it is alleged that money raised by taxation or otherwise for the aid of an institution, the existence of which was not anticipated by the framers of the Constitution, must either be thrown into the school fund, a purpose for which it was not raised, or forbidden to be raised at all. The imposition of the tax does not diminish the common school fund; its non-imposition does not enlarge it. The common school fund is wholly unaffected thereby.

The plain intent and meaning of article 11, then, seems to be to guard the common school fund for purposes of common school education, from whatever source derived, whether invested funds, stocks, or taxation for common school purposes, and that this fund shall be applied to its legitimate uses, and to these only; and this exhausts the significance of the article. It does not certainly

mean that the Legislature of Kentucky is to be estopped from making provision by taxation or otherwise to aid and maintain an institution, to the aid and maintenance of which Kentucky has pledged herself by accepting the trust from the Congress of 1862, with all its conditions expressed and implied. The Constitution is altogether silent on such a question as the imposition of a tax for the maintenance of such an institution. So the Constitution is altogether silent on the maintenance of the institutions for the blind, for the deaf and dumb, and for the feeble-minded—institutions sustained by taxation or otherwise. The Constitution does not prohibit the maintenance of these by taxation or otherwise any more than it prohibits the maintenance of the State College by taxation or otherwise. And if it be construed to prohibit the support of the Agricultural and Mechanical College by taxation or otherwise, it as certainly prohibits the support of these institutions, which are as surely educational as this. These institutions differ from asylums for the insane in kind, not in degree. The latter have as their primary object the treatment of mental disease and physical disease, in so far as mental disease is determined by physical derangement. Physical restraint is merely accessory to this idea. But in the institutions for the blind, for the deaf and dumb, and for the feeble-minded, established and maintained by the State, the primary object is education, not medical treatment. The inmates of these institutions are taught such branches of education as will enable them to make a livelihood, as will expand and invigorate their faculties, as will bring them into relation with the known and the knowable. Nor are they, in the common acceptation of the term, common schools. Neither in their organization, management, supervision, or maintenance, are they common schools, or analogous to common schools. They have each their Boards of Trustees, directors, commissioners, or managers; they each have a corps of instructors; they each report to this General Assembly; they each draw the funds for their maintenance direct from the revenues of the State. They are supported, if not by a specific tax, otherwise, that is by appropriations from the State Treasury, which owes its annual replenishing to direct taxation. They are supported then by taxation or otherwise, and the end and aim of this support and maintenance are "purposes of education." The construction which the adversaries of the State College ask

you to place upon the phrase "purposes of education," will, if admitted, apply to them as certainly as to us. And yet some of these institutions were, if I mistake not, in existence when the Constitution was framed, and when the contemporaneous construction adverted to by Judge Lindsay took place.

Secondly. The essence of the Debates, and the language used by all the gentlemen who participated in the discussion of the Report of the Committee on Education in the Constitutional Convention, demonstrate beyond the possibility of a reasonable doubt, that the phrase, "purposes of education," in article eleven of the Constitution, means and can mean only "purposes of common school education"

When the subject of education was reached in the Constitutional Convention Monday, December 10, 1849, the first section of the report of the Committee was read, as follows:

"SEC. 1 The diffusion of knowledge and learning among men being essential to the preservation of liberty and free government, and the promotion of human happiness, it shall be the duty of the General Assembly to establish, within ——— years next after the adoption of this Constitution, and *forever* thereafter keep in existence, an efficient system of common schools throughout this Commonwealth, which shall be equally open to all the white children thereof."

The debate was opened by Mr. Hardin, who opposed any system of common schools. In the course of the discussion, the following gentlemen spoke:

Mr. Proctor said: "I promised my constituents, when a candidate for a seat in this convention, that, if elected, I would use my best exertions to secure the incorporation of a clause in the Constitution which would permanently secure to the people of this Commonwealth not only *the fund set apart by the General Government for the purposes of education* in Kentucky, but that also which the people, in their magnanimity, had voted to tax themselves with at the August election, 1848, for that purpose." (Page 885, Debates Constitutional Convention.)

Again: "I believe that if there is any question that has been settled by the people, and any one subject on which they require prompt action by this Convention, it is that a *school fund shall be permanently secured* by a constitutional provision." (Ibid.)

Again: "But, sir, no sooner is the proposition submitted to

this Convention to secure to the people of this Commonwealth the *school fund* of the State from the control of the Legislature, than the herculean voice of my venerable friend is raised in opposition to that proposition." (Page 886, Ibid.)

Again: "Mr. President, I believe that the adoption of a provision in the Constitution for the permanent security of the *school fund* of this Commonwealth is demanded by the people of the State"

Again: "But, sir, I believe that the people did understand this measure, and that they require and did expect of this Convention, that we will secure by a constitutional provision not only the fund set apart by the General Government to the State *for purposes of education*"—

Mr. Hardin—"The gentleman is mistaken. Congress did not declare to what purpose this fund was to be applied."

Mr. Proctor—"My friend informs me that Congress did not designate the object of this fund at the time of setting it apart to the States. Well, sir, it is known to all that it was the general understanding of Congress, at the time of setting apart to the States the surplus revenue, that it was to be applied to the *purposes of education,* and our Legislature, acting upon this understanding, at its first session after Congress set apart this fund to us, dedicated it by a solemn act for *that purpose* alone."

Again: "For my part, Mr. President, I am anxious to see this report adopted in the Constitution, and I shall by every act of mine endeavor to secure this *school fund* by a permanent provision in the Constitution."

Again: "If, sir, it is right that the money which was set apart to the State of Kentucky by the General Government, and which was originally intended for the *purposes of education,* should be applied to that purpose alone, why, I ask, should we leave the matter to the future control and management of the Legislature?"

Mr C. A. Wickliffe—"One of the things which seems to excite a great degree of interest is this of common schools. I am the friend of education, and claim the responsibility of an agency in setting apart the $850,000 from the United States revenue for the *purposes of education* when the country is prepared to appropriate it."

Mr. Root said: "If there was any one subject on which I was

thoroughly and fully instructed, it was to rescue from the vacillation of the legislation of the State the *common school fund,* solemnly dedicated to *purposes of education* by the Representatives of the people in 1837, and place it beyond the control of the Legislature of the country."

Hon. C. A. Wickliffe, after the discussion had proceeded to some length, offered the following substitute for section 1 of the Report of the Committee on Education, to which special attention is called:

"All the funds which have been or may be collected, and which have been set apart for *common school purposes,* shall be held sacred, subject to be regulated by the General Assembly, and applied and disbursed as shall seem best to effect the object of general education."

Had Mr. Wickliffe any such idea in his mind when he offered this amendment, as Judge Lindsay endeavored to make you believe the other night? In this amendment he uses *"common school purposes,"* the identical phrase uesd in the original draft. He also uses "general education" as evidently synonymous with it, for he states expressly that the object for which the fund was set apart should be kept sacredly in view.

And as if in anticipation of such a question of constitutional construction as the present, Mr. Wickliffe said:

"There is no substantial difference between the amendment which I offer and the second clause of the report. [See Report, page 377, Const. Debates.] I go with the committee, and every friend of education on this floor, to set apart and dedicate the fund for *educational purposes* which has either been accumulated by taxation or which was originally set apart by the law of 1837." (Page 901.)

Here the phrase "educational purposes" is used retrospectively, and, being so used, can only mean "common school purposes," because no fund had been accumulated by taxation, and none had been set apart by the law of 1837 except for "common school purposes." Mr. Wickliffe, the author of article eleven, then used "educational purposes" in the debate pending the discussion of his amendment, as the exact equivalent of "common school purposes"

Again, while this discussion was still pending, Mr. Wickliffe said:

"If I understand the report of the committee, it is that, while they do the same thing which I propose [not a different thing, as Judge Lindsay asserted the other night], they make it obligatory upon the Legislature to establish and keep in existence this system through the Commonwealth. If that is complied with, taxation will be necessarily involved to the extent stated by my friend from Logan, or nearly to that extent. I am unwilling to impose that (by constitutional guarantee*) upon the Legislature; I would leave that to the tax-paying power in the Commonwealth. * * * * * * * * * * *
But if you adopt the whole of the report of the committee, you impose necessarily the duty upon the Legislature, from which they cannot escape, to put into operation this system within five years after the adoption of this Constitution. I offer no hostility to education in my amendment, for I appeal to the zeal I manifested in setting apart originally the sum of $850,000; but I am unwilling to impose the taxation which must be imposed to put this in operation in five years." (Page 901.)

Here Mr. Wickliffe sets clearly forth wherein he agreed with the Committee who reported the original draft of the article on education, and wherein he differed from them. "There is no substantial difference," says he. "I go with the committee and every friend of education to dedicate the fund which has been accumulated by taxation, or which was originally set apart by the law of 1837" for educational, that is, common school purposes. Wherein, then, did he differ from the committee? It was, in his own language, that "while they do the same thing which I propose," they make it obligatory upon the Legislature to establish and keep in existence this system throughout the Commonwealth. This would involve taxation, and a good deal of it. This taxation Mr. Wickliffe did not propose to make obligatory upon the Legislature by a mandate of the Constitution. If made mandatory, they cannot escape from it. "If" said he, "you adopt the whole of the report of the committee you impose necessarily upon the Legislature a duty from which they cannot escape, to put into operation this system within five years after the adoption of the Constitution."

Now you will observe that no such discussions, suggestions, or

*"By constitutional guarantee" is inserted in parenthesis, and is not in the original.

apprehensions as Judge Lindsay dwelt upon the other night formed any part of the subject-matter before the Convention. The only question which divided the Convention was the necessity of a constitutional guarantee for the then existing tax, and such additional taxation as would be necessary to place the system in operation within a given time.

After further discussion, Mr. Wickliffe said:

"What does the amendment which I propose contemplate? It is that the fund which has been collected, the $850,000, the $73,000 of bank stock, and any other and every other fund collected *for educational purposes,* shall be devoted by the Legislature to that object, and when so devoted, it shall remain sacred, and be appropriated to no other purpose or object than the diffusion of a general system of education."

Now, it must be admitted by every one that Mr. Wickliffe's explanation of his substitute was designed to unfold articulately and explicitly what the substitute contained implicitly. The thing defined and the definition must be absolutely equivalent. The thing defined is made up of a certain complement of characters; the definition unfolds these characters. The thing explained, or made plain, contains within it a certain complement of characters which, in the explanation, are made to stand out clearly, distinctly, and unambiguously. Nothing appears in the definition which did not exist in the thing defined, and conversely, nothing exists in the thing defined, which, if the definition be adequate, is wanting in the definition. The notion, "man," for example, contains a certain complement of characters, qualities attributes, which go to make up the idea "man." These are material, organized, sentient, vertebrate, mammal, rational, moral. If "man" is mentioned, these qualities or characteristics immediately suggest themselves; and conversely, if there be an enumeration of these characteristics, exhaustive, neither deficient nor superfluous, attention is at once fixed on "man" as the embodiment of all. The thing defined is equal to the full complement of all its characters; and conversely, the full complement of all its characters is equal to the thing defined. So "gold" embraces such characters as metal, yellow, ductile, malleable; of such and such specific gravity; melts at such and such a temperature; forms chemical combinations in such and such atomic proportions. If gold be adequately defined, all the qualities are enumerated; and con-

versely, all the qualities, when enumerated, give one the equivalent idea, "gold;" and so with plant, mineral, fish, horse. The definition, if adequate, contains an exhaustive enumeration of the qualities which make up the thing defined; the thing defined is equal to all its qualities. The absolute equivalence of the two is a principle in law as in logic.

In the explanation given by Mr. Wickliffe of his substitute, there is a remarkable parallelism throughout. Certain phrases had been used by all who participated in debate as synonymous. These phrases, wherever they occurred, were quite well understood. They had been used again and again by members on the floor. These phrases occur in the substitute, and in the explanation, and your attention is particularly directed to them. I arrange the substitute and the explanation in parallelel columns, that the parallelism may be properly exihibited:

SUBSTITUTE.	EXPLANATION.
All the funds which have been (collected),	It is, that the fund which has been collected—the $850,000 the $73,000 of bank stock,
or which may be collected, and which have been set apart	and any other and every other fund collected
FOR COMMON SCHOOL PURPOSES,	FOR EDUCATIONAL PURPOSES—
shall be held *sacred*. subject to be regulated by the GENERAL ASSEMBLY, and *applied and disbursed* as shall seem best to effect the object	shall be *devoted* by the LEGISLATURE to that object; and *when so devoted it shall remain secure and be appropriated to no* other purpose or object than
OF GENERAL EDUCATION.	the DIFFUSION OF A GENERAL SYSTEM OF EDUCATION.

In this equivalence of expressions "the funds which have been collected or may be collected," in the substitute, is explained in the explanation to mean "the $850,000, the $75,000 of bank stock, and any other and every other fund collected."

The object for which these funds have been collected or may be collected is stated in the substitute to be "common school purposes," in the explanation "educational purposes." "Shall be held sacred" in the one has its parallel, "shall be devoted," in the other. "General Assembly" in the one has its parallel, "Legisla-

ture," in the other. "Shall be applied and disbursed" in the one has its equivalent, "appropriated," in the other. "To effect the object of general education" in the one has its equivalent, "to no other purpose than the diffusion of a general system of education," in the other.

But a special significance attaches to this parallelism, and absolute equivalence of expressions in the substitute explained and the explanation when it appears that Mr. Wickliffe, on withdrawing the substitute and submitting, as an amendment, a paper which was subsequently adopted as article eleven of the Constitution, uses "educational purposes" in its equivalent form, "purposes of education." This being the only difference, that what is substantive in the one is adjective in the other, *i. e.,* "purposes of education" in article eleven takes the place "educational purposes" in the explanation, the exact equivalent of the one to the other being patent to all. Mr. Wickliffe then uses "purposes of education" as the equivalent of "educational purposes;" and he himself defines "educational purposes" to mean "common school purposes." This makes the proof complete.

All through the Debates of the Convention there is not a line to show that the committee who reported the bill, or the members of the committee and others who participated in the debate extending over two days, used "funds" in any other sense than "common school funds;" "school" in any other sense than "common school," or "educational purposes" in any other sense than "common school purposes." The chain of proof seems conclusive and irrefragible.

No other kind of "schools" than "common schools," no other "education" than "common school education," no other kind of purposes than "common school purposes," were under consideration or thought of from beginning to end of the debate.

In this debate it must be borne in mind there were three views represented:

1. Those who opposed common schools *in toto,* and who opposed any recognition of the system in the Constitution.

2. Those who advocated a constitutional guarantee for the school fund derived from the General Government, amounting to $850,000; for the bond issued by the State for arrears of interest, amounting to $308,000; for the bank stock, amounting

to $73,000; and also for a tax specific in character of a certain number of cents on each $100 of taxable property.

3. Those who advocated a compromise, and who proposed to provide a constitutional guarantee on all the bonded funds, viz: $850,000, $308,000, and $73,000 in bank stock, but who refused to incorporate a guarantee for the tax proposed.

The first was represented by Mr. Hardin, the second by Mr. Taylor and Mr. Proctor, the third by Mr. Wickliffe.

The first refused a guarantee for anything; the second asked a guarantee for everything; the third conceded a guarantee for existing funds, and while refusing to incorporate a requisition for a specific tax, was willing also to guarantee, for common school purposes, the *proceeds of any tax* which the Legislature, in the exercise of discretionary power, might levy for the use of common schools.

The first would be hampered by no constitutional guarantees whatever, either for the existing school fund or for any prospective addition thereto from any quarter whatsoever.

The second affirmed the necessity of a guarantee for the existing stocks and bonds, known as the common school fund, and likewise for an addition thereto, which should be created by constitutional provision, and guarded by constitutional guarantee.

The third conceded the guarantee for existing funds only, but refused to create by constitutional provision anything additional thereto. While, therefore, the third party, the party of compromise, the party whose amendment was ultimately accepted, and which is identical with article 11 of the Constitution, conceded much more than the first, its concessions fell short of the demands of the second. It refused to make the tax compulsory under the Constitution. It allowed, however, a constitutional guarantee for the integrity and exclusive application to common school purposes of the *proceeds of any tax* which might be levied for common school purposes by the Legislature. This limits and defines its scope and intent. It takes no cognizance of any tax levied for any other purpose whatsoever, nor of the proceeds of any such tax. It concerns itself neither with the purpose of any other tax, nor with the application of its proceeds.

The amendment which was submitted by Mr. Wickliffe, and which was subsequently adopted as article 11 of the Constitution, introduces no new feature which was not contained in the

substitute. The substitute was submitted as a substitute for section one of the original draft. The amendment incorporated the substance of the substitute proposed for section one, and, in addition thereto, the substance of the remaining sections of the original draft, with certain modifications not germane to this discussion. This is an important point. Mr. Wickliffe had declared, in language as emphatic as could be expressed, that there was no substantial difference between the second clause of the report of the committee and his substitute—that the only point of difference was the guarantee for the tax already levied, and for additional taxation necessary to carry the system into operation within a given time; that in other respects the report of the committee proposed to do exactly what he proposed. When, then, he submitted the amendment which was adopted as article 11, he embodied the substance of his substitute for section one of the original draft, there was no change of opinion—no shifting of ground. He adhered persistently to the position he had taken at the beginning without advance and without retreat. He was rigorously and honorably consistent from beginning to end.

A proposition to throw into the common school fund the proceeds of a tax levied for an altogether different purpose, and to guarantee its application to a use for which it was never intended, would have appeared so monstrous that no party to the debate would for a moment have entertained it, and a proposition to forbid taxation for any other purpose, on the plea that, if levied and collected, it should become part and parcel of the common school fund, would have appeared equally monstrous. No party to the debate would have tolerated it, and no more effectual method could have been devised to defeat the constitutional guarantee for the common school fund.

The author and mover of the substitute, which was ultimately adopted as article eleven, was not the man to tender more than the Committee had reported and insisted upon. The party of compromise would have abandoned him at once had they suspected that his substitute, under pretense of guaranteeing less, covertly and by indirection proposed to guarantee much more, viz: not only the capitalized school fund, and the proceeds of whatever taxation might, in the discretion of subsequent Legislatures, be imposed in aid of common schools, but beyond and above this, the proceeds of some other tax which might be levied

for some other purpose outside of the common school fund and common school system.

What Mr. Wickliffe's substitute proposed was a middle course between those on the one hand who insisted upon a guarantee for the capitalized school fund, together with any fund which might arise by taxation *heretofore* and *hereafter* imposed by the General Assembly in aid of common schools; and those, on the other hand, who refused a constitutional guarantee for any and all of these. And this he did by conceding the guarantee asked for the capitalized fund, and for any fund that might arise by taxation *hereafter* imposed by the General Assembly. He refused to include a guarantee for any fund that might arise from taxation *heretofore* imposed, inasmuch as that guarantee might hamper and embarrass future Legislatures; but he was quite willing to include a guarantee for any fund which might arise from taxation hereafter imposed by any subsequent Legislature, of a character well defined, for common school purposes, and to maintain its inviolability for that purpose, and that alone. How absurd, then, to credit him and the party he led with an intention to foist into the common school fund, covertly or by indirection, something which did not belong to it, which was wholly foreign to the ideas entertained by every gentleman who discussed a guarantee for the common school system, and which would have surprised and shocked every member of the Convention. The gentlemen who claim this interpretation can surely never have read the circumstances or the conditions under which article 11 originated. A contrary interpretation imputes to them a dishonesty and disingenuousness of purpose of which we must acquit them.

Lastly, a contrary interpretation imputes to the framer of the article, and to those who accepted it, an absurdity, with which they could not have been justly chargeable. If the phrase "purposes of education" in article eleven mean what the opponents of the tax for the benefit of the State College allege, then it must be said that no prohibition in any written instrument in the English language was ever expressed in terms so awkward and by a method so indirect. The work of the common school, as commonly understood, is one thing, that of the State College is another. They differ in degree, not in kind. They are related as inferior education is related to superior. We may designate the one as "A," the other as "B." It is admitted on all hands

that the State may provide by taxation for the aid and maintenance of "A." The opponents of the State College hold that, by the provisions of article eleven of the Constitution, the State is forbidden to make provision by taxation for "B." If their contention be just, how does the Constitution provide for this prohibition? Not in direct terms, certainly. Not by saying that "no tax shall at any time be levied for the support of any high school, seminary, college, or university, or for the equipment, outfit, or expenses of any of these, in whole or in part." But it does it in this clumsy and indirect way, viz: No aid shall be given to "B," but if it be levied for the benefit of "B," it shall go to "A."

Of if the other alternative be taken, we have it thus:

Aid may be provided by taxation or otherwise for "B," but if it be so provided, then it shall not go to "B," the party for whom it was provided, but it shall go to "A," the party for which it was not provided. Or to take the more familiar phraseology with which some of your are familiar—John Doe and Richard Roe. It is admitted on all hands that maintenance may be provided for John Doe. It is, however, held by some, that such maintenance may not be provided for Richard Roe. How is the prohibition made out? This way: Aid and maintenance shall not be provided for Richard Roe, but, if so provided, it shall go to John Doe. Or if this construction is objected to, and the affirmative held, we have the following: Aid and maintenance may be provided for Richard Roe, but, if so provided, it shall go to John Doe. We are at a loss to know whether Richard Roe should complain most of the loss of aid and maintenance, or of the interpretations and methods by which it was compassed. Seriously, is this sort of nonsense, this sort of fast and loose verbiage—denying, promising, tantalizing; affirming, promising, and capriciously forbidding—the construction which Judge Lindsay would have you put upon article eleven of the Constitution? Such an article, brought to a *reductio ad absurdum,* as this fortuitous combination of Law and Gospel would have you believe, would seem rather to be the work of lunatics than sane men. I do not so lightly esteem the wisdom and common sense of the framers of the Constitution.

The interpretation which I have the honor to submit, makes no such enormous draft on your credulity; it violates no canon

of interpretation; strains no phraseology; accepts the historical and political circumstances of the times in which it was framed as the back-ground, and the ideas dominant at the time of the adoption of the Constitution as the mould in which it is cast. The interpretation is consistent; postulates nothing; accepts nothing; rests upon no hypothetical fictions, and especially does it give you a result which may be characterized as common sense in opposition to the sublimated nonsense which the opposition would have you believe the essense of wisdom.

Finally, this interpretation is in perfect accord with the canon of interpretation given by Blackstone. Says he:*

"The fairest and most rational method to interpret the will of the legislator is by exploring his intentions at the time when the law was made, by *signs* the most natural and probable. And these signs are either the words, the context, the subject-matter, the effects and the consequence, or the spirit and reason of the law."

Tried by this rule of interpretation, I have no hesitancy in submitting the preceding construction of the Constitution to any competent body of lawyers in Christendom. The higher the character of the tribunal for learning, experience, and probity, the better for my purpose. Common sense, and the sense of right common to all, form the foundation of all jurisprudence and of all construction of law. Hence, it does not necessarily follow that one must be a trained jurist in order to be competent to give an opinion upon an article in constitutional, or a statute in municipal law. One who is trained in the processes of thought, and familiar with the import of language, can do this fairly well. And when such interpretation corresponds exactly with the canons given by the greatest of commentators, the presumption is that it is correct. The common sense which interprets, and the comman sense to which it appeals, will alike brush away the flimsy web of technicalities woven by an ingenious advocate, and stand upon the solid substratum of fact and common sense.

If, gentlemen of the Legislature of Kentucky, you desire to apply to the purposes of a liberal and practical education the

*Judge Lindsay, in his reply on the Friday following, repudiated Blackstone's canon of interpretation as obsolete, "even though he had had it patented." In another part of his reply he said: "Blackstone was an authority several hundred years ago." This will be news to most readers.

fund received from the General Government by the State, to supplement its deficiency in order to render it effective; to carry out in a liberal and magnanimous spirit the trust accepted in 1865; to realize the expectation created in 1879; to go on in the good work begun in 1880; to fill the halls which await your sons with a vigorous, hardy, self-reliant youth, and to provide them with such facilities and opportunities as the geographical position of Kentucky, her agricultural and mineral wealth, her traditions and influence and dignity demand for those to whom you will ere long hand over the administration of the affairs of this Commonwealth, and to do all this in a spirit generous, comprehensive, catholic, then stand by your College. Nurture it, cherish it, build it up, and make it your glory and pride.

But if you care little for the present, and less for the future—if you are indifferent to your trusts, preferring stagnation to activity, ignorance to culture, denominational vassalage to progress, expansion, vitality, freedom, then withdraw the aid which now vitalizes your scant income from the Congressional fund, cut down the emoluments of your College to meet the demands of the clergy, write upon your statute books that Kentucky is too miserly or too obsequious to clerical menace to maintain an institution worthy of her, send the flower of your youth beyond your own borders to obtain the education which the Church will not allow you to give them at home. This is the alternative placed before you to-day.

Let Kentucky rouse from her slumber, shake off her lethargy, and in the provision which she makes for the education of her sons dare to be free.

"Learning is an addition beyond nobility of birth. Honor of blood, without the ornament of knowledge, is but a glorious ignorance."

Restore the glory of the olden time, when the flower of the young men of Kentucky and of the Mississippi Valley flocked to Transylvania—when from her venerable halls went forth the men who ruled the destiny of your own and neighboring States. Lay broad and deep the foundations of such an institution as will reflect honor upon you, and shape the characters of your sons in culture, in self-reliance, in honor, in duty, and generations to come will venerate your names.

ARGUMENT

MADE BY

President Jas. K. Patterson

BEFORE

THE SENATE COMMITTE, FEB. 15,

ON THE

PROPOSED CHANGE OF NAME FROM A. & M.

COLLEGE TO STATE UNIVERSITY.

ARGUMENT.

In the life of institutions as in that of individuals varying conditions require constant readjustment of relations. The village grows into the town, the town into the city. The youth develops into the lad and the lad into the man. The Academy expands into the College and the College into the University. The government of the village differs necessarily from that of the city. The responsibilities and duties of the youth differ from those of the man. The functions and relations of the Academy differ in equal degree from those of the University.

The State institution which I have the honor to represent before your committee has undergone a similar transformation. It now possesses lands, grounds, buildings, laboratories, stock and equipments equal to $500,000, all the accumulation of the last twenty years. When detached from Kentucky University, with which it had an unfortunate connection for thirteen years, it had absolutely nothing. It was then quite contented with the modest designation of a College. But the Legislature of 1878 in the Act providing for its future location and for its additional endowment from lands appropriated by Congress looked forward to the time when it should grow into a University and so provided.

We desire respectfully to represent to your honorable body that we believe that the time has come when the name of this institution, hitherto known as the A. & M. College of Kentucky should be changed to that of the State University. Allow me to state briefly the reasons why such change should be made, and then to consider the objections thereto :

1. It has since 1880 grown far beyond its proportions at that date and has attained a development unparallelled in the history of education in this Commonwealth.

2. It has now eight distinct courses of study leading to a degree. If one course of study leading to a degree entitles an institution to be called a College, surely eight distinct courses should entitle it to be called a University.

3. This is the only institution in Kentucky owned, managed and administered by the State.

4. These two ideas should find appropriate expression in its name. If then it is doing University work its claim to be recognized as a University is beyond cavil. If it belons to the State, the State should have recognition. On these grounds the name asked for is just and right, viz.: "State University."

The objections come from Kentucky University, a denominational institution in which the State has no pecuniary interest and over which it has no control. They allege as a ground of protest :

That that the names "State University" and "Kentucky University" would lead to confusion.

To this it may be replied that almost all the patronage of Kentucky University outside of Fayette County comes from members of the Christain Church, and not one in one hundred is likely to lose his way and land in the State University. If he did the State University authorities would be glad to assist the unfortunate youth to find his proper habitat. Per contra not one in a hundred of the county appointees sent to the State University would be likely to drift to the Kentucky University. If so, the question of the payment of fees would speedily reveal his mistake, and the Kentucky University would be most happy to hand him over to his proper enviroment. As a matter of fact in relation to the past a few—and considering the matriculation lists of both institutions—a very few mistakes have been made, but they led to no confusion. An occasional application has been made to me for entrance by an applicant whose evident intention was to enter Kentucky University. I promptly informed him that this was not his intended destination, and directed him how to find his way thither. Occasional cases have occurred where a student mistook Kentucky University for the State College, but President Loos, to whose loyalty and unfailing courtesy I bear cheerful testimony, uniformily sent the lost sheep to our fold. I have no doubt that his suceessor would do the same if occasion required. I may without impropriety say in this connection, as an evidence of our neighborly disposition, that the State College has invited the Kentucky University to inform its under-graduates that they may upon graduation enter any one of our advanced post-graduate courses free of tuition fees and upon

identical conditions with our own, and that not a few have availed themselves of the privilege. Students from the Bible College who were preparing for the missionary field have been received without fees to instruction in the Mechanic Arts while yet pursuing their Biblical studies in order that they might be able to impart to their converts in heathen lands the rudimentary principles of material well being. Surely this manifests a disposition to assist instead of to hamper the growth and development of our sister institution. With such spirit how could we be suspected of a likelihood to take any advantage of the ignorance or want of experience of a student who had lost his way? It is not by petty practices of this sort that great institutions are built up. What is true of persons is also true of occasional letters which find their way here through mistake. But the postmaster would know too well the distinction between State University and Kentucky University to make many mistakes of that sort. And if the mistake be made by writer or sender of mail matter occasional errors of address would be speedily rectified as heretofore. Their apprehensions and fears in this respect are groundless. Shades and thadows are sometimes conjured up and float before our vision, but in the futile attempt to combat them they vanish into thin air.

The change of name would aid in building up every course of study in the institution. We believe that its good effect would be especially notable in building up the Agricultural, the Mechanical and the Normal Training courses of study. Greater prestige and dignity of designation would be additional inducement to students and all courses would feel the benefit of the additional impulse.

Increased numbers would advertise its liberal provisions and its thorough training more and more widely. Tnis increase and expansion would serve as a wholesome stimulus to other institutions within the sphere of its activity and would determine them in the future as it has done in the past to a higher energy and a broader activity. The apprehensions of the friends of Kentucky University are wholly groundless. Years ago they expressed the belief that our success would be detrimental to them. All the

colleges in the Commonwealth made common cause with them and shared in their alarm. What has been the result?

Not as they apprehended, but just as I predicted, that the success of the State College, so for from being injurious to them or to the other denominational colleges would stimulate them to greater activity, would determine them to provide better courses of study and more of them, to man them with their best men and provide themselves with the best equipment. Every college in Kentucky has by this stimulus been lifted to a higher plane in its ideals and in its work. They have been reaching out for larger endowments. They have brought themselves more into line with the necessities of the age. They have sloughed off the old habiliments and arrayed themselves in more modern dress. The late President of Center College told me only a few months before his death that his college had more than doubled its endowments and income within the last fifteen years. The prosperity of one institution does not imply the decline of its neighbors. The State College has brought the blessing of education to hundreds of men and women of small means in the mountains and valleys from the Big Sandy to the Mississippi who never would have found admission to any other college in the Commonwealth, who are now among the best agriculturists, the best civil engineers, the best mechanical engineers, the best scientists, the best lawyers, the best physicians and the best teachers in Kentucky.

What is the reflex influence from this? Why to stimulate men and women to educate themselves n order to enter upon the struggle for existence with all the power, moral, mental and physical which God has given them cultivated to the end that they may overcome difficulties and become potent factors in shaping their own destiny, the distiny of their nation and the destiny of mankind. These will be called to enlarge the area of mental and moral vision, to swell the ranks of intelligent creators of wealth, to become the captains of industry and leaders of men in the Cabinet and in the field, to push forward the boundaries of knowledge, to make the world better and to leave it better than they found it.

In all this you look to your own cherished institution to play

no unimportant part. When the right of her Alumni to leadership is challenged at home or abroad, when they are asked to show their passports and to justify their claim on the basis of scholarship and discipline let the parchment which certifies their honors and vindicates their title be the highest which the Commonwealth can bestow—at once worthy of her dignity and of their desert. They will come into competition with men from the East and from the West—from Maine to California and from the Lakes to the Gulf. Let their shields bear a cognizance and carry a prestige equal to those borne by the sons of New York or Wisconsin, of Ohio or of Louisiana.

For a longer period than the Hebrew Patriarch served for his beloved Rachel we have patiently and assiduously worked and waited. Now that we have won our spurs we ask the modest privilege of wearing them.

In the infancy of the Commonwealths which make up the American Union schools of learning, when founded, made little or no distinction between academies, colleges and universities. They forgot that a certain number of well manned departments was essential to the constitution of a college and a certain number of well defined and distinctive courses of study was essential to the college and a certain number of well defined and distinctive courses of study was essential to constitute a university, that the scope and compass of the one were wider and more comprehensive than those of the other. Hence the name of college or university was adopted as suited the fancy and the caprice of the founders. But as education advanced distinctions commensurate with the facts were made. The advanced institutions of learning which comprised one or two well defined courses of study leading to a degree came to be recognized as a college, the advanced institutions containing from two to six courses of study leading to a degree and which moreover provided advanced courses of study beyond graduation, leading as a recognition of post-graduate work to an advanced degree were recogized as a university. We hold that the General Assembly is bound in justice to recognize these facts. It owes to itself, to its sons, to the public to confer on its educational institution which by virtue of Section 14 of its Charter is constructively the head of the common school system

of Kentucky, a style, title and designation commensurate with the scope and character of its work. If it be nothing more than a college let it remain a college in name. If it be in fact an institution doing university work give it the style and designation to which it is entitled.

On the authority of Professor Neville I make the statement that there is no other denominational university in America that bears a State designation.

On the authority of Professor Shackleford I make the further statement that the most intelligent men in the Christian Church concede that the name Kentucky University is a misnomer.

I make the further statement on the authority of the recognized organ of the Alumni, the Cloverleaf, that the Alumni Association have for some time past been agitating for a change of name from Kentucky University to Transylvania University on the ground that their present name is a misnomer.

But we do not ask or suggest that Kentucky University change its name, if they chose so to do we certainly shall oppose no obstacle.

The essence of our contention is this: Are we doing University work? If so, we merit the title "University." Are we a State Institution? If so, we are entitled to State recognition. Neither of these propositions can be seriously contested. We are doing University work. We are a State Institution. Therefore we are a "State University" and as such are entitled to the style and title of the State University.

The idea that this designation will either breed confusion or injure Kentucky University is utterly groundless.

U. S. DEPARTMENT OF AGRICULTURE,
OFFICE OF EXPERIMENT STATIONS,
A. C. TRUE, DIRECTOR.

General Drift of Education at the Land-Grant Colleges.

BY

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[1900]

GENERAL DRIFT OF EDUCATION AT THE LAND-GRANT COLLEGES.

By J. K. Patterson.

The law of Congress approved July 2, 1862, which made provision for the establishment, endowment, and maintenance of agricultural and mechanical colleges, set forth in section 4 of the act that "The leading object shall be, without excluding other scientific and classical studies, and including military tactics, to teach such branches of learning as are related to agriculture and the mechanic acts, in such manner as the legislatures of the States may respectively prescribe, in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions in life."

In this section certain lines of work are made obligatory, viz, "military tactics," those branches of learning "related to agriculture," and those branches of learning "related to mechanic arts." Of these three it may be conceded that, while all are obligatory, "agriculture and the mechanic arts" are relatively of primary importance and "military tactics" of secondary importance. There are certain other lines of work which are permissive, viz, "the scientific and classical studies." It is, I believe, a fair interpretation of the two groups that the obligatory is considered the more important and the permissive the less important, so far as the purposes of the act are concerned. The intent is set forth in the concluding lines of the section, viz, "to promote the liberal and practical education of the industrial classes in the several pursuits and professions in life."

It will be observed that it is within the exclusive competency of the legislatures of the respective States to determine whether the colleges established under the act shall be limited and bounded by the obligatory features of the act or whether they shall, in the exercise of a wise liberality, make provision for the inclusion of "other scientific and classical studies;" also, if they adopt the latter alternative, then the institutions founded under the act make their instruction liberal as well as practical.

It may not be inappropriate to consider for a few minutes how far the intentions of the founder have been realized.

Many of the institutions founded under the act have large incomes, accruing partly from the interest on the proceeds of the land grant, partly from liberal appropriations from the respective States. In some instances State aid surpasses the income from the legislation of Congress.

In a meeting in Washington in 1885, when I expressed the conviction that compliance in good faith with the organic law required daily instruction in military science and daily drill I was met with a storm of dissent from every quarter of the house. The idea of daily military drill and instruction was scouted and ridiculed. After a few years military instruction grew somewhat more in favor. Some colleges had military instruction twice each week; some three times; some every day. The college which I represent has maintained the principle of daily drills and military instruction, and has required every man during his college connection to do military service.

The good results of military instruction in the land-grant colleges were apparent during the war with Spain and the military operations subsequently in the Philippines. Every State in the Union was able through its agricultural and mechanical college to provide the necessary number of officers for the contingent which it fur-

nished for the increase of the Army, many of them quite as well educated and quite as capable as graduates of West Point. The wisdom of Senator Morrill's forecast was thus justified by results.

Irrespective of providing an educated military reserve, I believe that military instruction in these colleges is a good thing in itself and in its relations. It is a valuable element in physical training; it inculcates promptitude and exactness, promotes grace and dignity of movement, and, above all, enjoins and compels obedience and submission to wholesome discipline and restraint—one of the most important lessons to be learned in any country and especially in our own, where the coordinate ideas of liberty and authority are but imperfectly understood. For these reasons, but briefly expressed, I believe that every land-grant college in America ought to make the military feature of coordinate obligation in dignity, and should endeavor to make the military instruction as thorough and comprehensive as the act of 1862 intended that it should be.

When the statute of 1862 was passed the country was in the throes of a great national crisis. Military considerations were paramount. There was abundance of material out of which to make soldiers, but the material when listed, or later on drafted into the service, was raw and undisciplined. The officers elected by the regiments and subsequently confirmed by the States and by the War Department were as little fitted for command as the men whom they were appointed to lead. The majority of them knew nothing about the requirements for a good soldier; they could not drill the men; they could not instruct them in tactics; they knew nothing about strategy. Senator Morrill saw the necessity of providing officers, and that too out of all proportion to the ability of the Military Academy to supply. Officers who would be thoroughly drilled and able to command on the field; officers who should be well versed in the modern science of warfare. The thought suggested to him the propriety of making the colleges founded under the act military schools, schools for making soldiers as well as schools for scientific agriculturists and scientific mechanicians. The country could not afford to keep a standing army of half a million men with the proper complement of officers under arms, but it could afford at inconsiderable expense to provide for the military instruction of all who matriculate in these colleges and thus have thousands and tens of thousands of men ready at the call to arms and capable of shaping into companies, and regiments, and brigades, and divisions, and corps, and armies the volunteers and conscripts of future days. Thus the military feature was engrafted on the land-grant colleges and made a coordinate and obligatory feature of their organization. But a reaction set in after the close of the war. Men were wearied with civil strife. After four years of continuous warfare they were ready to sheath their swords and devote themselves to the ways and arts of peace.

The military feature of these colleges became generally unpopular and the amount of military instruction was reduced to a minimum, if not eliminated altogether. Between 1885 and 1897 there was a gradual revival of interest in military matters in these colleges. The War Department held out prospects for promotion to students who had graduated with honor in military science and the governing boards of the colleges and universities gradually became conscious of their duty under the law. The consequence of this awakening was that when the Spanish American war came on hundreds of educated men, well drilled in the manual of arms, familiar with tactics and strategy, were available for officers, not only in the volunteer, but in not a few instances for the Regular Army. In discipline, in aptitude, in knowledge of military science, in all that goes to make an able, intelligent, and capable officer, the graduates of land-grant colleges were able to hold their own with the best West Point men. I say this, and I say it with pride, not to disparage the graduates of the Military Academy, but in justice to our own men.

It may be well in this connection to say that by judicious and cooperative effort there is a strong probability that an appropriation can be had from the Government for establishing schools for marine engineering in connection with the existing schools of mechanical and electrical engineering which will enable the land-grant colleges to educate men for this branch of the naval service and thus to do for the Navy what they are now able to do for the Army.

Of the two objects in the mind of the author of the act of 1862—namely, the scientific development of agriculture and the application of science to the mechanic arts by providing instruction in those branches of learning relating thereto the mechanic arts seem, as measured by ultimate results, to attract more students and to graduate more students in full and relatively complete courses in the ratio of 4 or 5 to 1. In many of these colleges students in the application of science to agriculture can not be had for long courses of study. These latter have been abridged from four years to three, from three to two, from two to one, from one year to a few months or even weeks. These

truncated courses of study, necessarily meager and partial, supply some practical knowledge, but do little in the way of either scientific instruction or education. I have had occasion to collect college statistics for other purposes and find that of 20 or 30 representative colleges the number of those who completed regular courses of study which led to the bachelor's degree in agriculture and in engineering in 1900 were about 126 in the former and 620 in the latter. This seems to show that the trend of education in the land-grant colleges, so far as the purpose of the founder was concerned, is in the direction, not of agriculture, but of the mechanic arts. In some of these colleges the graduates in classics and in other scientific studies outnumber both the one and the other. This seems to indicate that though agriculture is encouraged by farmer's institutes and all the machinery which ingenuity can devise for its upbuilding and growth, farmer's do not care to educate their sons in agriculture, or the sons object to the kind of education specially provided for them. Farmers in most parts of the country, I think, prefer when they send their sons to college, to educate them for professional life, as lawyers, clergymen, physicians, engineers, or anything, indeed, but farmers. On the other hand merchants, bankers, professional men, gentlemen of fortune and gentlemen of leisure prefer for the most part a liberal education for their sons, though many place them in engineering schools.

The aggregate agricultural productions are large, but few farmers are rich. They are not rich in the sense that merchants and contractors and manufacturers and iron-masters and railroad magnates are rich. Many of them are, it is true, well off. But of the thousands of millionaires and multimillionaires in America how many of them became rich by farming? This I imagine is the main reason why the agricultural side of the land-grant colleges do not flourish as the mechanic arts and scientific branches and classical and philosophical subdivisions do. If then I were to sum up the work of the colleges outside of the experiment stations, I should say that engineering and classical education and philosophical training take the lead, and that agriculture follows, oftentimes with a halting, limping gait and considerably behind. From many points of view this is to be regretted. I can not but look on the agriculturist as the mainstay of the country, and that upon his education and intelligence and patriotism the perpetuity of free institutions depends. An approximately correct diagnosis may lead to a remedy.

The scientific instruction in these colleges outside of agriculture and the mechanic arts has had a great and gratifying development. Those sciences which deal with matter and with life in their broadest extent have been cultivated for their own sake and not because of their relation to agriculture and the mechanic arts. The boundary lines between the known and unknown have been pushed back from year to year, enlarging the domain of realized knowledge to a degree which could not have been anticipated a generation ago. The far-reaching generalizations of Darwin and the practical discoveries of Pasteur, with their manifold applications in theory and practice, gave a notable impulse to discovery based upon observation and experiment. In these the land-grant colleges have taken the lead in America. They have, moreover, been largely instrumental in stimulating increased attention to natural science in many of the older institutions of the country. Harvard and Yale and Princeton and Columbia have followed the example, though somewhat reluctantly at first, of the colleges established under the act of 1862, and have spent large sums of money in equipments for physical, chemical, and biological instruction and research. They have not, however, been able to keep pace with the State colleges and universities in scientific investigation and instruction. These latter institutions, drawing largely from the liberality of their respective commonwealths, have had resources at their command which even the best of the old universities with their princely endowments were unable to equal. The effect has been to liberalize and widen the scope of university work, and to modify the character of the old scholastic training by the introduction of a much-needed leaven drawn directly from the daily operations of nature in her own great laboratory. While the land-grant colleges have given a wholesome stimulus to scientific investigation and discovery in the older colleges and universities, these latter have been instrumental in causing the State institutions to introduce a large element of liberal culture into their courses of study. Philosophy, literature and classics, and modern languages and comparative philology, Aryan and Semitic, find adequate recognition in most of the higher institutions founded under the act of 1862. These are permitted by the organic law, and in connection with the scientific courses afford educational facilities unsurpassed on the Western Continent. Classical and philosophical training have held their own for centuries. The natural sciences have not superseded them, nor are they likely to do so. As a means of mental development and of mental discipline, of the cultivation of the mind as an instrument for the perfection of thought, Latin, Greek, logic, and metaphysics have no superior, and it is doubtful whether they have or will have an equal.

The roots of our modern civilization go back to the language and literature and philosophy of the "dead but sceptered sovereigns who still rule our spirits from their urn." It is impossible to dissociate ourselves from the civilizations of the distant past. And in this age of intense devotion to material things, to the multiplication of the products of the field and the forge and the loom, to the improvement of the facilities for intercommunication; in this age of steamships and railroads and telegraphs; of manufactures and commerce reaching out to the ends of the earth and seeking new spheres of influence and new fields of enterprise; in this age of intense devotion to the accumulation of wealth, it is well that the desire should exist to educate and develop the intellect on lines that do not stimulate and impel its possessor to transform his brain into a mint for the coinage of gold and silver. For this purpose classics and the liberal arts—the humanities, as they were very properly designated—provide the necessary conditions and supply the proper counterpart. The bread and butter sciences are needful, nay indispensable, but "man does not live by bread alone."

To build machinery for agriculture, for manufactures, for locomotion, is well. To breed poultry, to fatten pigs, to develop beef in cattle and speed in horses, to multiply the return from the fields of wheat and corn and cotton and cane, increase the comforts and conveniences and well-being of life. These are the material conditions of civilization and refinement, but these are not ends in themselves; they are means to the attainment of a higher end. They should rightly subserve the development of the intellect, the growth of intelligence, the discipline of the mental faculties, the quickening of the moral powers, the cultivation of the æsthetic powers, to the end that the true, the beautiful, and the good should find symmetrical and harmonious growth. Then would we understand and live for the sublime truth that "on earth there's nothing great but man, in man there's nothing great but mind." Then would be realized the ideal of the founder to provide an education at once practical and liberal "for the industrial classes in the several pursuits and professions in life." Culture and refinement and intelligence and humanity and an enlightened patriotism will then be possible in the homes of the masses as well as in the stately mansions of the classes. In the former rests the hope of the future, and not in the wealthy few whose accumulated fortunes are counted by tens and hundreds of millions.

"Ill fares the land to hastening ills a prey
Where wealth accumulates and men decay.
Princes and lords may flourish or may fade;
A breath can make them as a breath has made.
But a bold peasantry—their country's pride,
When once destroyed can never be supplied."

Commencement Address
State University of Kentucky.
...1908...

By President James Kennedy Patterson.

I think it not inappropriate, before the conclusion of these exercises, upon this auspicious occasion, to say something in reference to the State College of the past. This will form the necessary prelude to a brief reference to the present and may form the basis of a reasonable forecast for the future.

During the presidency of James Buchanan, a bill was introduced into the Congress of the United States by Justin S. Morrill, then a member of the House of Representatives, the object of which was to appropriate a part of the rapidly diminishing domain then known as the public lands to endow and to build up a system of schools throughout the Union, which should devote themselves to the education of the industrial classes, especially in agriculture and the mechanic arts. In 1857 Agriculture in America may be said to have been in its infancy, and the great manufacturing establishments which have become sources of untold wealth to the people of the United States were also in their infancy. The plea could then very well be made that they required the fostering care of the Government to protect them from injurious competition with the products of foreign countries. The object of Mr. Morrill was to build up an intelligent and industrious citizenry, who should utilize to the utmost the inexhaustible resources of the great agricultural communities of the United States of America, and to lay an in-

telligent basis upon which to establish and maintain productive industries through educated and intelligent artizans. This measure, although passed by both Houses of Congress, was vetoed by President Buchanan. During the second year of the Civil War, Mr. Morrill again re-introduced his bill, and although the country was then engaged in the most gigantic struggle that had ever taken place on this continent, Congress found time to legislate upon matters of far-reaching import, not only to that generation, but to the generations to follow. Mr. Morrill's measure carried with it an allotment of public lands, 30,000 acres for each representative in Congress to the several states of the Union, the proceeds of which should be applied to found and to endow colleges in each state, "wherein should be taught those branches of learning related to agriculture and the mechanic arts, without excluding the classics and other scientific studies, and including military tactics, in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions of life." Provision was made that when the states then in revolt had been re-established as members of the sisterhood of states, they also should be made the beneficiaries of this munificent provision. Upon this foundation all the great institutions of the country founded since 1860, with the exception of Johns Hopkins, Leland Stanford, and the University of Chicago, have been established.

In almost all the states of the Union, these agricultural and mechanical colleges became the nuclei around which have grown up institutions of a scope and compass much wider and much more representative of educational necessities in their respective states than was originally intended by Mr. Morrill. The agricultural colleges of Michigan, Kansas, Pennsylvania, Massachusetts and Iowa have been content to remain agricultural and mechanical colleges pure and simple. Their states have voted large sums of money for their upbuilding and they have attained a degree of excellence comparable with the oldest established

and best managed agricultural colleges of the Old World. They have given to mechanic arts, however, an interpretation far beyond that originally contemplated in the organic law of Congress. While giving instruction such as would enable the mechanic to become an expert journeyman in carpentry and a skilled worker in metals, they have gone far beyond these simple conceptions. They have developed into technical schools of a high order, embracing engineering in all its phases and in all its relations, Mechanical, Electrical, Civil, Mining, Sanitary and Municipal. Many of them have equalled and not a few of them have surpassed the famous schools of technology of the East. With this interpretation of the principles of science as related to the mechanic arts and the principles of science as related to agriculture, they have been contented and have gone no farther. Other institutions, such as the Universities of Illinois, California, Missouri, Ohio, Wisconsin, Minnesota, and Cornell, have added to instruction in agriculture and the mechanic arts, classics, modern languages, elaborate courses in history, economics and sociology, English literature, biology, botany, physics, endowed and equipped upon a scale enabling them to do work of equal value with those of the older universities of the nation. They have expended thousands and millions of dollars upon the establishment of libraries and the creation of laboratories and the collection of museums whereby original research has been encouraged and prosecuted with a degree of success far surpassing the expectation of their promoters. A large number of these institutions have likewise added professional schools, law, medicine, dentistry and pharmacy, their object apparently being to embrace within the scope of their educational activity and resources all the knowledge of the time and to make provision for extending the boundaries of knowledge in every possible direction.

Kentucky made no effort to establish an agricultural and mechanical college until after the close of the war. The land scrip allotted to this state, amounting to 330,000 acres, would

if it had been judiciously located among the vacant lands of the west, have formed the basis of an endowment fund, large and ample for the necessities of the institution, especially during its earlier years. The Commonwealth, however, in the management of this delegated trust, committed two great mistakes. The land scrip representing this magnificent domain was turned over by the Legislature to the Sinking Fund Commissioners, who employed an agent to dispose of it for what it would bring upon the market. It was sold for fifty cents an acre and the proceeds of the sale invested in Kentucky State bonds, the interest of which, amounting to $9,900 per annum, was applied for the maintenance of the Agricultural and Mechanical College. This sacrifice of the fund given by the general government was the first mistake. The second mistake consisted in attaching the Agricultural and Mechanical College to a denominational school, making it a branch of Kentucky University, instead of placing it upon an independent footing. This was done by the Legislature of 1865. The Legislature, in forming the partnership with Kentucky University, reserved the right to withdraw the Agricultural and Mechanical College at any time that the public interests might demand. The relationship continued for thirteen years, namely, until 1878, when the General Assembly intervened and dissolved the connection, placing it in 1880 upon an independent footing and providing additional means through the imposition of a tax of one-half of one cent on each one hundred dollars of taxable property for its maintenance. The institution was when detached from Kentucky University, in the condition of a bankrupt, who through an ill-omened partnership of thirteen years had lost both time and money and when liquidation was ended, emerged from the partnership with nothing at all.

When the College began operations as an independent institution in 1880, its faculty was small, only six in number, its matriculates few and ill prepared for college work. Indeed, five out of every six were unfitted for college work and had to be pre-

pared in the Academy before entering the Freshman Class. $9,900 per annum, accruing from the congressional scrip fund, added to $17,500 per annum received from the proceeds of the tax, made a fairly good working income with which to begin. Indeed, the amount seemed so large that ere two years the denominational colleges of the Commonwealth took alarm and insisted that the Legislature of 1882 should repeal the tax and compel the College to limit its operations within an income of $9,900. After a fiercely fought contest, extending over three months, the movement to repeal was defeated. That was the first contest and the greatest contest in which the State College was during its history of twenty-eight years, involved. Its very existence, pending the legislative struggle, hung in the balance. Both its present and its future were by many of its friends despaired of. The belief prevailed that in the course of a few years it would have to close its doors and hand back to the general government the miserable pittance of an income which was all that the gross mismanagement of the Commonwealth got from an endowment of 515 square miles of public lands,

The City of Lexington had given the ground upon which the State University now stands. In addition to that, the city and county had given $50,000 for the erection of buildings. These buildings were in process of erection when the legislative contest opened. Misled by the architects employed, the amount of money at their disposal was found to be wholly inadequate to the completion of the college building and old dormitory. Their progress was arrested half-way, the college treasury was exhausted and the income from the State in imminent danger of being cut off. At this juncture the Board of Trustees were at their wits' end, they knew not which way to turn. An effort was made to obtain a loan from one or more of the banks of the city, to enable them to complete the buildings. They were met by the objection that the College had nothing to offer as security, either as realty or collateral. At this juncture, I intervened.

By economy I had succeeded in putting aside a small margin every year to the credit of profit and loss, and these assets, not very large, but representing about all I had, I placed at the disposal of the College. I went to the Northern Bank, put up my own securities, borrowed the necessary amount of money for the completion of the buildings and placed it in the hands of the Executive Committee. This tided over the difficulty so far as buildings were concerned, and to the surprise of the friends of the College and the discomfiture of its assailants, the House of Representatives laid the motion to repeal upon the table. The College was saved and its future apparently assured.

Pending the motion to repeal the tax, the opposition believed that they had discovered that the tax was unconstitutional, "that no money could be raised by taxation or otherwise for purposes of education other than in the common schools." This constitutional provision appeared upon its face to be absolutely prohibitive. An elaborate argument was made by Judge Lindsay, the attorney of the associated colleges, before the joint committee of the House and Senate. At the conclusion of his argument, the case of the College appeared absolutely hopeless. The Executive Committee had made overtures to some of the most distinguished lawyers in the Commonwealth, among others, John G. Carlisle, to defend the constitutionality of the Act. He declined to undertake the defense, because he believed that it would be impossible to sustain the constitutionality of the tax, either before an inferior court, or the Court of Appeals. Though not a lawyer, I ventured to make an argument before the Committee, at the conclusion of which the opinion of the large majority of those present was that Judge Lindsay had failed to make good his plea.

After the Legislature adjourned, the question of the constitutionality of the tax was raised in Louisville, Mrs. W. W. Hill refusing payment. The case came into the Chancellor's Court; the six protesting colleges were represented by Judge Lindsay, Alexander P. Humphrey, Bennett H. Young and James Trabue.

I was allowed by the Court to file as a brief the argument in reply to Judge Lindsay which I had made before the legislative committee and when the case came to the Court of Appeals, a like courtesy was extended. The composition of the Court was manifestly hostile to the College, but through the good offices of Judge Pryor, the case was held up until 1890, when its constitutionality was affirmed, Judge Holt delivering the opinion. He did me the honor to say that he decided the constitutionality of the Act upon the lines which I had laid down and upon the argument which I had presented in my brief.

Between 1882 and 1890, the College grew, not rapidly, but steadily, a better class of matriculates entering year by year, a smaller proportion in the Academy and a larger proportion in the college proper, but we were not left undisturbed. Efforts were made during every meeting of the Legislature in the intervening period to procure the repeal of the Act. The judgment of the court affirming its constitutionality in 1890, discouraged these efforts. Thereafter the biennial motion to repeal was introduced for several successive Legislatures, but the opposition grew less and less, until in 1898 it practically ceased. Meanwhile the income from the half-cent tax had been growing from year to year.

In 1887 the Congress of the United States passed an Act establishing Experiment Stations and appropriating $15,000. annually therefor. The State College of Kentucky shared in this beneficence of the general government. The Experiment Station was put upon a substantial footing, the income from the Station in connection with the income from the fertilizer law, provided the necessary funds for its effective operation. These two sources of income have been enlarged in subsequent years by the passage of the pure food act, the management of which is vested in the Station, and by the passage of the Adams Act by Congress, giving an additional annual increment of $15,000 per annum.

In 1890 a measure was introduced by Hon. Justin S. Morrill of Vermont for the further endowment of Agricultural and Mechanical Colleges. $25,000 per annum was given to each state which had availed itself of the benefits of the Act of 1862, but the full amount of $25,000 did not come to the State College. By the terms of the Act two alternatives were presented, either to admit colored students upon a footing of equality with the white, or to divide the appropriation of 1890 with them upon the basis of population. The College, of course, chose the latter, and 14½ per cent of this fund was and is applied to the maintenance of the colored school at Frankfort. In 1906 a further annual appropriation of $25,000 was made by the general government to each state upon identical conditions with those of the Act of 1890. In 1900 the Legislature appropriated $60,000 for the erection and equipment of a gymnasium and for the construction of a home for young women. Two years later $30,000 was added for the young women's home, and out of this fund, namely, $60,000, a very handsome and commodious building has been erected and equipped for boarding and lodging the young women matriculates of the College. In 1904 an additional $15,000 was appropriated annually by the State Legislature for income, and in 1908 $20,000 more, making in the aggregate from all sources, tuition fees included, a total income of about $125,000.

The city and county gave the grounds and the money in 1880 for the erection of buildings. Since then additional buildings have been added, until now, instead of two, there are fourteen buildings upon the college campus, with the prospect of two more during the present biennial period. The equipment for Mechanical and Electrical Engineering is the best south of the Ohio River. The Departments of Chemistry, Physics, Botany, Biology, Geology, Anatomy and Physiology, Languages, Ancient and Modern, Metaphysics, Ethics and Physical Culture, are second to none in the South. The faculty of instruction numbers nearly fifty persons. The heads of departments rank

among the ablest in the country, while the majority of the assistants are developing a talent for instruction which places them in the line of promotion. In the meantime, 250 acres of land have been bought for experimental purposes, representing an actual outlay of about $100,000, and an actual present valuation of about $130,000. The College Campus, with buildings and equipments, represents about $850,000.

All this, you will observe, has been created and developed within the last thirty years in the face of the fiercest and most determined opposition. Indeed, I make bold to say that no land grant college in America and no institution East or West, North or South ever encountered so many obstacles and survived. Through all its vicissitudes, its friends never faltered, and while at the close of each session of the General Assembly, they hoped that they had encountered and overcome the last assault, they had learned by experience, while secure of the past, to distrust the future and prepare for whatever the next succeeding Legislature might have in store for them.

A wholesome impetus was given to the College by the passage of the Ferguson Bill in 1893, making provision for the payment of traveling expenses and free tuition to county appointees. This wise legislation disarmed the opposition of the outlying counties and secured for the College a continuous supply of most excellent material. Some years thereafter, the affiliation of the best high schools of the Commonwealth with the State College brought annually a large number of well prepared students, honor graduates of their respective schools, and representative of the best culture and traditions of their respective cities and counties. Increasing income, as indicated above, enabled the College to strengthen its existing departments and accomplish larger and better results than had been possible before 1890. Moreover, the success attained by the alumni and the facility with which they obtained good positions with remunerative

compensation added largely to the prestige of the College and increased its matriculation list from year to year.

Thus, when the transition from the style and title of State College to State University took place, the University had a solid foundation upon which to rest and an honorable background behind it. The antecedent period had been stormy, the clouds from above frequently lowered, casting a shadow and a gloom over its present possibilities and its future prospects, but these from time to time lifted and through the rifts the sun shone ever and anon, indicating that even the darkest day may have gleams of light to cheer those who had been sitting in the shadows.

And now a word or two with reference to the future. I find that by looking over a report which I made to the Trustees in 1889, after making a tour of some of the Universities and Colleges in the North and West, that their endowments and income and prospects at that time, though bright as compared with ours, were not by any means so bright as are ours today. The income of the Ohio State University at that time, exclusive of the expenditure for the maintenance of the Experiment Station, amounted to $68,000. It is now $450,000. The income of the Agricultural College of Michigan was $63,000. It is now $288,000. The income of the University of Wisconsin was then $190,000. It is now $1,100,000. The income of the Agricultural and Mechanical College of Kansas in 1889 was $45,424. It is now $203,000. The income of the Missouri University was then $70,000. It is now $556,000. The income of the State College of Kentucky was then about $30,000. For the next fiscal year it will be $125,000. While we have not kept pace in growth of income with these other institutions, we have still, considering the undeveloped interest in education which obtained then and which to some extent obtains still, made very commendable progress. From this comparison, I think that we may anticipate with some degree of confidence a future for the State University of Kentucky commensurate with the successes of the past and with a

well grounded belief that in the no distant future we will far surpass them.

One word, before we pass to the distinctive feature of University work. After the establishment of the Normal Department in 1880, as one of the integral departments of the State College, wherein provision was made for education of teachers, I brought the question of admitting women to the State College before the Board of Trustees. Judge W. B. Kinkead, to whom I had previously communicated my views, gave me his cordial support. I represented that inasmuch as a large number of the teachers of the Commonwealth were women, that they could not, upon any fair interpretation of the statute, be excluded. On the contrary, that they must be included within the scope of the instruction given by the College. The Board of Trustees somewhat reluctantly acceded to my view and the doors of the Normal Department of the College were opened to women. Ere long it was found expedient no longer to confine them to the privileges of normal school work, but to open all the departments of the institution to them. Since that time they have formed a very appreciable percentage of the matriculation of each year, on the average, say, about twenty per cent. No distinctive courses for women have been provided, but all the courses of instruction leading to a degree and all the departments thereof have been made available to them upon identical conditions with males. A very considerable percentage of each graduating class consists of young women, whose education has embraced as wide a scope and has been of as thorough a character as that gotten by young men.

And now the State University stands before you strong, vigorous, symmetrical, disciplined by adversity, but victorious in every contest, "with charity for all and enmity to none", ready to set the pace for advanced education, for research, for discovery, it opens wide its doors and invites all to enter. In its history, setting out from small beginnings, the first twenty-five years of

its life a constant struggle for existence, the State University is a conspicuous example of survival of the fittest. Esto perpetua.

"Ours is no sapling, chance sown by the fountain,
Blooming at Beltane, in winter to fade,
When the whirlwind has swept every leaf from the mountain,
The more shall Clan Alpine exult in his shade.
Moored in the rifted rock,
Proof to the tempests shock,
The firmer he roots down,
The ruder it blows."

Now that the transition has been made from State College to State University, it is pertinent to inquire what the distinction between college and university may be. Stated in general terms, the function of the college is to teach; the function of the university is to discover. Collegiate instruction consists mainly in communicating to students the contents of knowledge already discovered and verified. The function of the university, on the other hand, is to extend the boundaries of human knowledge, to proceed from the known to the unknown, using the former as a basis for the discovery of new truths. Research then may be described as the characteristic and distinctive feature of university work. Investigation, experiment, discovery, verification, are the essential features of research. A new truth discovered may or may not profoundly modify our conceptions of the body of truth hitherto known and accepted. Induction from accepted conclusions leads either to new principles or to a modification of the old. That is to say, to co-ordination with accepted conclusions in collateral lines of research and discovery. These frequently lead to an adjustment of conclusions heretofore accepted in other systems of knowledge more or less intimately connected with each other. For example, the theory of the age of the earth and the duration of animal life, formerly believed

to be not more than 6,000 years, by discoveries in geology, palaeontology, embryology, biology, physics, chemistry, astronomy, and language, in fields closely related and in fields remotely related, all of which point in the same direction, is no longer tenable. The old system of chronology has been completely overthrown and while nothing definite has yet been discovered to replace it, it is quite certain that the period of terrestrial life cannot be embraced within less scope than millions of years.

It will be seen, therefore, that the honest investigator, the honest seeker after truth, must divest himself of all preconceived prejudices and as Prof. Huxley says, animated only by a fanaticism for truth, proceed with the work of research, altogether untrammeled by pre-existing views, following resolutely wherever the torch of science may guide him, even though it be through darkness and gloom.

The eighteenth and nineteenth centuries have been preeminently the period of discovery. The wonderful awakening of European thought which preceded and accompanied and followed what is commonly known as the Renaissance, has resulted in the discovery of a body of knowledge such as could not have been dreamed of or anticipated three centuries ago. Roger Bacon in the distant past dimly apprehended the cloud upon the horizon no bigger than a man's hand, and in a wonderful forecast which seemed almost prophetic, he indicated in general terms some of the most wonderful triumphs of modern scientific research. Copernicus followed, after a long interval, and demonstrated the true theory of the universe. Galileo still later and Leuwenhoeck, the one with a very rudimentary telescope, and the other with an equally rudimentary microscope, took the first steps in disclosing the infinitely large and the infinitely small. The earth was no longer the centre of the universe, but one of the smallest of the planets, revolving around a mighty solar centre, distant millions of miles. Animal life was no longer limited to visible forms, but millions upon millions of tiny ex-

istences found a local habitation within the compass of a drop of water.

The interpretation given to geological phenomena within the last hundred years has laid the foundations of the rational system of geology which now obtains. Physical causes by which the earth was gradually fitted to become the abode of animal life are now recognized to be identical with causes silently operating and with which we are quite familiar today. The more or less intelligent forecast of Democritus and Lucretius nearly two thousand years ago had no philosophic ground-work upon which to rest, but the ideas to which they gave expression found a prolific soil in the anticipations of Buffon, Wallace and Darwin, who established upon a firm basis the doctrine of evolution as now accepted and held by all the intelligent scientists of modern times. Those who remember the storm of dissent and invective which these alleged revolutionary views then encountered could scarcely anticipate the intelligent acquiescence with which they are now regarded. The Church of today feels no more endangered by the acceptance of the doctrine of the survival of the fittest than did the Churchmen who lived a century after Copernicus, Kepler and Newton feel that the foundations of their belief were shaken by abandoning the geocentric conception of the universe. The researches and discoveries in the domain of biology, chemistry, and physics have been specially prolific of good in these modern days. No one can measure the value of the impetus given to discovery in these realms of investigation by the far-sighted policy which induced Justin S. Morrill of Vermont fifty years ago to devote a part of the public lands of the United States to found and endow institutions of learning wherein those branches related to agriculture and the mechanic arts could be taught. These sciences were thus invested with a new dignity and a new significance. Hitherto pursued for their own sake, they now came to be pursued for the practical results certain

to follow their further application to the creation and development of wealth in agriculture and in manufactures.

The researches of John Dalton, early in the nineteenth century, led him to the conclusion that ultimate elements which he called atoms formed the foundation stones upon which the chemical and physical sciences are built. Davy, Farady, Tyndall and Kelvin stimulated further effort and discovery by their laborious investigations and brilliant generalizations.

The origin of life from a single cell and the growth of animal and physical structures from the multiplication of these cells introduced a new era in the conception of animal and vegetable structures and the application of science to the healing art. The discovery of anaesthetics by Warren and Simpson and of antiseptic surgery by Lord Liston have rendered possible the successful treatment of diseases which had been beyond the reach of human skill. And still later the discoveries of Koch and Pasteur enabled the modern practitioner to combat some of the dreadful scourges of humanity by the introduction of artificial cultures which render the patient immune to small-pox and hydrophobia, tuberculosis and scarlet fever. While these lines are being written, there is a well-grounded belief that tetanus and meningitis will soon be brought within the beneficent scope of these wonderful discoveries.

The most remarkable feature of the work of the chemist and the physicist is that however academic their results may at first sight appear, ere long they find a practical application in agriculture, in manufactures, in industrial enterprise, in physiology and hygiene and what is more important still, in the prolongation of human life, by enabling the medical profession to understand the etiology of disease and to apply a rational treatment for its removal.

Now it may be said that the function of the university is to afford facilities for discovery in these and kindred lines of scientific work. The discoverer works thoughtfully, patien tly

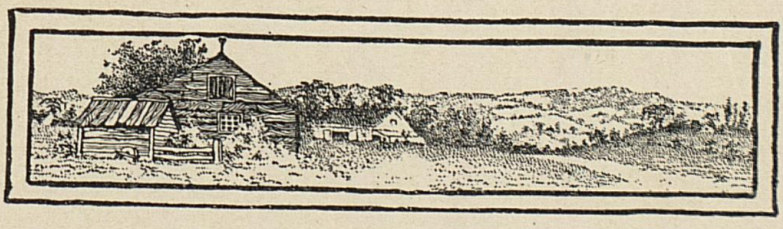
unremittingly, making use of, but holding in restraint while using it, his scientific imagination, actuated by the desire to discover truth and stimulated by the reputation which his discoveries may give him, he labors year in and year out for the enlargement of the domain and the boundaries of human knowledge and for the application of his discoveries to the well-being of his race. I believe that great as have been the discoveries of the fourteenth, fifteenth, sixteenth, seventeenth, eighteenth and nineteenth centuries, that the twentieth century, the century upon whose threshold we now stand, is destined to surpass and eclipse all the eras of scientific discovery which have gone before. I believe that before this century closes, human life will be lengthened, human comforts multiplied, the foundations of religious belief not overthrown, but established upon a firmer basis than ever heretofore, because resting upon the rock of scientific truth. Philosophical theories and religious dogmas will each be purged and purified, the dross and the tin will be removed and the pure gold remain. It will still be true that in the beginning God created the heavens and the earth; it will still be true that man is the ultimate goal of all sublunary creation; it will still be true that life and immortality have been brought to life in the Gospel of the Son of God; it will still be true that this life is only a prelude and an introduction to the immortal life beyond.

"Thou wilt not leave us in the dust,
Thou madest man, he knows not why,
He thinks he was not born to die,
And thou hast made us, thou art just."

In this onward march of human progress, what part will Kentucky play in the wonderful drama? Drama is action; drama is progress. Will Kentucky take up her role and play her part? And will the State University of Kentucky lead the Commonwealth in this onward movement to the realization of a glorious destiny? Laboratories will be provided, enthusiastic

men and women will apply themselves to unlock and to reveal and to disclose the secrets of nature. Every university in America will be a busy workshop, wherein the crucible and the telescope and the microscope and the spectroscope will be making new conquests every day. Will Kentucky in that ceaseless activity of correlated universities, play the part worthy of this Commonwealth and worthy of her traditions and her dignity?

The State University is the youngest of all the Universities of America, scarcely yet three months old, still in her swaddling clothes; but fifty years hence will see a mighty growth and a mighty development. Long before that period is reached, these grounds upon which we now stand will have been covered with buildings, each one a temple of science, each one with its own distinctive shrine, each one with its own group of worshippers. Instead of a thousand students, as enrolled last year, there may be ten thousand students grouped within these walls. Instead of a population of two and a half million from which to draw her student body, her army of workers, eager, energetic and indefatigable, there will be within the limits of this Commonwealth perhaps twenty-five millions of people. The agricultural resources, the mineral wealth, the manufacturing industries and the immense possibilities of Kentucky will invite population from east and west, from north and south. This will be the home of freedom, of industry, of enterprise, of men and women, stalwart in frame and beautiful in mind and in body. Will the Commonwealth of Kentucky and will the University of Kentucky rise to the height of this great conception and realize the destiny to which nature and God have called her?



COMMENCEMENT ADDRESS

TO THE

Faculty and Students of Hanover College, Indiana

BY

JAS. K. PATTERSON, Ph. D. LL. D., F. R. Hist. S.

[June 7, 1911]

"Influence of the Bible Upon Civilization"

IT has been well said that mankind, preceding the advent of the Saviour, had been subjected to discipline and culture on a variety of converging lines. Finite as we are, no single individual and no single race could suffice as the vehicle and embodiment of the manifold and varied preparatory work which conditioned the fullness of time. Each of the great historic races of the pre-Christian world had its time of development and its appropriate office in the education of mankind. The Eastern Aryan, who left his Central Asiatic home ages before the dawn of history and who, passing the Himalayas and the Indus, spread over the fertile lands of India, lost his original monotheism in the deification of the forces of nature, and gave a divided allegiance to Indra and Dyaus and Varuna. While unity of cult and unity of religious belief were lost, free scope was given to the play of the imagination and the Eastern Aryan became the type of the bold thinker, unchecked by logical sequence or ethical consequence. Pure thought, the form of thought apart from the matter of thought, the science of logical processes, whose analysis surpassed that of Kant and whose generalizations rose higher than those of Aristotle, moved on, while imagination held the reins, to elaborate, establish, assail and destroy systems which the Academy and the Porch, the Idealism of Berkeley, the Nihilism of Hume, the Pessimism of Schopenhauer and the Pantheism of Spinoza but repeat and reproduce. The dominant philosophies of the classic age and of the modern era were anticipated hundreds of years by our dusky kinsmen on the Ganges and the Jumna, and nothing in these latter ages has been better said than by the sages of Hindustan three thousand years ago.

But with all in grandeur of thought and its great riches of speculation, there is a grotesque side to Hinduism, from which the classicism of Greece is free. Greece had her polytheism also, a polytheism which, there is reason to believe, followed and supplanted a monotheism equally grand and simple with that which Hindu and Greek alike derived from a common source, a polytheism fostered by, if it did not grow out of, the

physical conditions of hill and mountain, rock and river, fountain and sea which made Greece of all lands the loveliest and of all homes the most beautiful. The beauty of nature around him evoked the idea of the beautiful in his soul, kindled the creative genius within and enabled him to realize conceptions in poetry, in marble and in canvas which became the priceless heritage of mankind. Science perfected art and art beautified and adorned science.

The Roman had neither the imagination of the Oriental, nor the sense of beauty which prevaded his Hellenic kinsmen. Rude in speech, rugged in thought, stern in demeanor, owing and rendering an allegiance to his country beyond that which Hindu or Greek with rare exceptions had ever conceived, the civic virtues shone in him with a lustre which dwarfed and eclipsed all others. The Roman was an organizer of men and his mission was to teach men how to obey. With resistless energy and untiring zeal he gathered into one Commonwealth all the nations of the Old World and held them in obedience for centuries to the city on the Tiber. He gave an external unity to the fierce Cherusci, the fiery Numidian, the polished Greek and the dreamy, languid, imaginative recluse of the Orient. He welded into one all the historic nations which preceded him and infused into them the new blood and the new life of the barbarian Gaul and Frank and Burgundian and Goth.

To the Hebrew was given a grander mission than to any kindred stock. Possessing neither the logical power, the metaphysical subtlety and the vivid, unrestrained imagination of the Hindu, nor the exquisite conception of the beautiful and the power to project its ideal of the Greek, nor the exalted civic virtues, the unbending force of will and the genius for organization of the Roman, to the Hebrew was given a sense of all-pervading Deity, in the universe but above it, conditioned by no limitations of space or time, personal, holy, beneficient, the creator of all, to whom is due the allegiance of all, unbegotten, self-existent and eternal. With this ideal exalted and exalting, was given the cognate one of personal devotion, through acts of worship, service not fitful, transient, occasional and formal, but the service of a heart whose duty it was to essay justice, purity, holiness and beneficence. The essential ideas forming the center around which all others clustered, were the unity of God and service acceptable to him through a life of personal purity and obedience.

For two thousand years the scriptures of the Old Testament traced the development and growth of these ideas. The sense of sin and the sense of ill-desert formed the dark back-ground to the ideas of God and the necessity of personal purity in the human soul, and the problem thence emerged of how to reconcile man to himself and with God. This problem also confronted the Aryan sage on the Hydaspes and the Ganges; it loomed up before the Zoroastrian in the plains of Media and Iran and though perceived with less distinctiveness by the Socratic and the Peripatetic, its shadow fell across the Porch and the Academy and shrouded in mysticism and gloom the speculations of the later philosophy of Greece. The questions ever recurring, but never answered: "How shall man be

just with God?" and "If a man die, shall he live again?" found authoritative response neither from Brahmin nor Buddhist, Pyrrhonist nor Stoic.

How, during these twenty centuries and more, the Hebrew learned and forgot this lesson, adored Jehovah and worshipped Baal, flung himself repentant upon the earth in dust and ashes and again sold himself to the unhallowed orgies of Ashtoreth, these grand old Hebrew scriptures faithfully portray. And when on these converging lines the fullness of time came and God was manifest in the flesh, justified in the spirit, seen of angels, preached unto the Gentiles, believed on in the world, received up into glory, the scriptures of the New Testament declare with equal simplicity, fidelity and truth.

In comparison with the sacred books of the great ethnic religions of mankind, the Bible stands alone. It is not a difference in degree merely, but in kind; it is not that it stands first and they second, but like the Olympian Jove of Horace, all the minor deities stand at a distance so immeasurable that no one is second to him or like him. Its thought, its expression, its authoritative utterances, all commend themselves as above men. We read and we yield unconstrained acquiescence. The human soul accords an instinctive response and whether it has declared the whole counsel of God or not, consents that it is holy and just and good. Its analysis of the weakness and greatness of man, its recognition of the schism within him made by the consciousness of guilt and his longing for higher and better things, its clear deliverance on the immortal destiny which awaits him and his responsibility to a power above him, all find corroboration and proof in his own consciousness. How trivial the cosmogonies of Greek and Roman, Hindu and Zoroastriam, compared with simple yet sublime utterances in Genesis: "In the beginning God created the heavens and the earth." "God said, Let there be light, and there was light," "The Lord God formed man out of the dust of the ground and breathed into his nostrils the breath of life, and man became a living soul." The Vedic hymns, beautiful though they be, awake no such sense of the fatherhood of God as the Twenty-third Psalm: "The Lord is my shepherd; I shall not want," no such sense of his goodness as the One Hundred and Third: "Like as a father pitieth his children, so the Lord pitieth them that fear Him," no such sense of his love as the utterance which forms the burden of the New Testament: "God so loved the world that He gave His only begotten Son that whosoever believeth on Him should not perish, but have everlasting life." The hymns to the Maruts, among the sublimest in the Veda, have no such lofty grandeur as the Eighteenth Psalm: "He bowed the heavens and came down and darkness was under his feet. He rode upon a cherub and did fly; yea, he did fly upon the wings of the wind." Neither in the Vedas nor in the Zendavesta nor in the Koran is found any such lofty conception of the Majesty and Infinity and Omnipotence of God as in the 11th chapter of Job: "Canst thou by searching find out God? Canst thou find out the Almighty unto perfection? It is as high as Heaven; what canst thou do? Deeper than Hell; what canst thou know? The measure thereof is longer than the earth and broader than the sea."

The parables of Buddhagosha contain maxims of worldly prudence and of personal and social ethics which have justly excited the admiration of scholars, but place them side by side with the proverbs of Solomon and the Sermon on the Mount, and we see at once that they are of the earth, earthy, not heavenly treasures in earthen vessels, but treasures and vessels of identical mould.

We can hardly say that even the greatest among the sages of the classical world had any well-defined belief in immortality. It was a hope, rather than a belief, a yearning inspired by a sense of incompleteness, a desideratum of philosophy, rather than a religious conviction, an aspiration of the Schools, rather than an ethical fact regulative of human life,

"An infant crying in the night,
An infant crying for the light,
And with no language but a cry,"

but in the Gospel, it is the ground-work of the Christian system. The wisest of uninspired men, in that solemn scene recorded by Plato, after drinking the cup of hemlock, discourses on the immortality of the soul in language which Cato and Cicero regarded as the glory of philosophy, but Socrates lays him down upon his couch and composes his stiffening limbs with no clear vision of the future, and enjoins one of his faithful companions to sacrifice a cock to Aesculapius. Compare this with the words of Jesus; with whom Socrates is sometimes compared: "I have glorified Thee on the earth; I have finished the work which Thou gavest me to do. And now, O Father, glorify me with thine own self, with the glory which I had with Thee before the world was. Father, I will that they also whom Thou hast given me be with me where I am, that they may behold my glory."

Homer relates in the Odyssey how Ulysses, in his journey through the realm of shades, came in succession upon the heroes whom he had known, and who were now doomed to a cheerless existence in the nether world. Meeting Achilles, the bravest of the Greeks, he adverted in terms of compliment to the precedence accorded him, and received this reply:

"Say me not death in praiseful words, noble Ulysses.
"I would sooner be a bonded serf,
"The laborer's tool to ply,
"To some small cotter on the heath,
"With wealth exceeding small,
"Than be the lord of all the shades,
"In Pluto's gloomy hall."

How different this from the language of St. Paul at the close of his ministry, with the axe and the block before him: "I am now ready to be offered and the time of my departure is at hand. I have fought a good fight; I have finished my course; I have kept the faith. Henceforth there is laid up for me a crown of righteousness which the Lord, the Righteous Judge, shall give me at that day, and not to me only, but to all them also that love his appearing."

Responsibility to one God, the author and sustainer of all, alienation from God by reason of sin and inability to make expiation therefor, atonement and reconciliation through the God-man, the fatherhood of God and the brotherhood of man—these were the distinctive features of the Christian system as the outgrowth and complement of Hebraism and these were the doctrines which, when accepted, revolutionized the religion and the morals of the Roman world. As a corallary to these, devotion to a personal Saviour, intense zeal for his service, love for the author of our being, humility, forgiveness, mortification of self, charity, unselfishness, became the springs of a new activity, the essence of a new morality, the inspiration of a new life, the lever and the fulcrum by which the potencies of humanity should be brought into play for the regeneration of mankind. Virtues which found no place among the philosophies of the time, or had been relegated to a subordinate place, now rose into prominence and came to the front.

The new doctrine spread rapidly, first among the lower classes, then among the middle, and lastly reached the highest strata of society, until in a little over three centuries, its adherents, though persecuted, proscribed, banished, despoiled of goods and oftentimes called to seal their testimony with their blood, became a majority of the Empire and the first sovereign of the new Rome on the Bosphorus acknowleged his allegiance to the once despised Nazarene. And much mankind needed the infusion of the new leaven. In all the annals of the world, there have been no such boundless bogs of moral corruption and social rottenness as the historians and satirists of Rome chronicle and denounce. From the cottage to the throne throughout the whole expanse of Roman dominion, and among the one hundred and twenty millions over whom the imperial city bore sway, mankind, degenerating from year to year and from age to age, was perishing, through venality, rapacity, dishonesty, and abominable lust. The shameless, nameless vices which polluted the imperial palace and were quenched only by the cup of the poisoner or the dagger of the assassin threatened to banish love and reverence and charity from earth and transform it into a pandemonium. In another and more awful sense the fullness of time had come.

But silently, steadily, resistlessly, the new faith entered on its mission of transformation. In spite of the corruption which abounded, a deep anxiety, a restless longing, a painful unrest pervaded the souls of men. But the fatherhood of God, the brotherhood of man, reconciliation through a Redeemer, purification of self, the depression of the ignoble elements of human nature and the elevation of whatever good existed, these, through devotion to a personal Saviour, infused new hopes, created new ideals, awakened new impulses and lifted all who accepted them to a higher plane and to a healthier atmosphere.

Long before the fall of the Western Empire, its great dependencies had accepted the Christian faith, and Gaul and Syrian, Iberian and Greek, Italian and Numidian bowed before the cross. The highest magistrate and the humblest citizen, the master and the slave, the poor peasant receiving the scanty earnings of his daily toil and the great proconsu[l]

whose broad acres covered rich provinces, met and worshipped on equal terms under the same roof. They sat at the same sacramental board, united in ascriptions of praise to a common Father and a common Saviour, chanted the same penitential psalms and looked forward with hope and trust to the same resurrection from the dead. We of this age who have never known otherwise, cannot, without an effort realize the mighty transformation wrought by the Gospel. It was a transformation from the stench and corruption of the charnel house to the freshness and verdure of the summer landscape, lighted by the sun and overhung by the gladsome sky. It was a lifting from the valley of the shadow of death to the mountain summit, sparkling in the sunlight and revealing on the not distant horizon the Paradise of God and the city of the redeemed. Not extinction, not oblivion, not the gloomy abode of the shades and the shivering throng on the banks of the infernal river awaiting each his time for that grim ferryman to cross the melancholy flood to the regions of perpetual night, were ever present to depress and terrify; but release from the bondage of sin, union and communion with Christ and with God, cheered through life and gave to the adherent of the new faith a placid quiet and a triumphant death which the greatest of the sages of heathenism could never know.

And when the Northern races, moved by that mysterious impulse which precipitated them upon the frontiers of the now tottering Empire, flung themselves with resistless force upon its defences, holy men issued from their cells and inspired with a burning love for souls, met Goth and Hun, Vandal and Lombard, Burgundian and Frank, with open Bible and uplifted cross and led their conquerors captive to the Cross. The fierce warriors of the North bowed their heads at the baptismal font to do homage to the Saviour and to become his men. Many were the deeds of cruelty wrought by these imperfectly Christianized barbarians, rude were their conceptions of the Christian life, but the good seed sown in these iron hearts softened them in time and ample charities, holy lives, churches consecrated, idols overthrown and heroic Christian deaths, go far to relieve the turmoil and warfare of the ages which followed the fall of the Empire.

These fruits you and I behold today. THE GREAT FACTOR IN MEDIEVAL REGENERATION AND MODERN PROGRESS IS THE BIBLE. It has developed the rights of man, determined the relations of the governing to the governed, emancipated the human mind, broken down the barriers of caste and race, founded and endowed universities, built hospitals, ameliorated prison discipline and reared asylums for the unfortunate. It reforms the drunkard, reclaims the magdalene, curbs the passions, and by its exemplar of one perfect man in the annals of our race, presents the sublimest ideal and the loftiest standard of excellence for imitation. It inspired the great Apostle of the Gentiles to brave perils by land, perils by water, hunger, nakedness, the dungeon and the axe. It animated St. Francis Xavier in his weary wanderings over the mountains and rivers and plains of India and China in his zeal to bring souls to his

master. It gave fortitude to Ridley and Latimer at the stake and rent for them the clouds for a vision beyond the skies. It kindled the ardor of Knox to consecrate his people to Christ's covenant and crown and made the hills and vales of his country vocal with the prayers and praises of the gallant men and devoted women who sealed their testimony with their blood. These fiery trials gave hardness to the bone and toughness to the sinews and strength to the brains of a people once the poorest in Europe, but whose influence in the development of civil and religious freedom, in the diffusion of sound moral and religious principles, in philosophy and literary industry and self-reliance, has been out of all proportion to its population. In the language of another:

"Paul stamped his image upon Augustine, Augustine upon Calvin, Calvin upon Knox, Knox upon Scotland, and Scotland upon universal protestantism."

I may add: "Protestantism, with its open Bible, rules the world today."

And now a few words in reference to our own authorized version, the ter-centenary of which has excited so much enthusiasm and religious feeling in Great Britain and in America. Rev. F. W. Faber, a former member of the Episcopal Church, but latterly in the Roman Communion, speaks of the Authorized Version as follows:

"It lives on the ear like a music that can never be forgotten, like the sound of church bells which the convert hardly knows how he can forego. Its felicities often seem to be almost things, rather than mere words. It is part of the national mind and the anchor of national seriousness. The memory of the dead passes into it; the potent traditions of childhood are stereotyped in its verses. The power of all the griefs and trials of a man is hidden beneath its words. It is representative of his best moments and all that there has been about him of soft and gentle and pure and pentinent and good speaks to him forever out of his English Bible. It is his sacred thing, which doubt has never dimmed and controversy never soiled. In the length and breadth of the land there is not a Protestant with one spark of religiousness about him whose spiritual biography is not in his Saxon Bible."

George V. of England, replying to a deputation which on the 21st of March presented him with a copy of the ter-centenary edition of the Authorized Version of 1611, said:

"This glorious and memorable achievement, coming like a broad light in the darkness, gave freely to the whole English-speaking people the right and the power to search for themselves for the proofs and consolations of our faith; and during three hundred years the multiplying millions of the English-speaking race, spreading ever more widely over the surface of the globe, have turned in their need to the grand simplicity of the Authorized Version and have drawn from its inexhaustible springs of wisdom, courage and joy."

The only version of the Scriptures which can be compared with the Authorized Version in point of influence is the Vulgate of St. Jerome. This Latin translation has for sixteen centuries been familiar to scholars

and to the better educated among the Roman clergy, but has been in the main a sealed book to the masses. Not so the Authorized Version. It became accessible to every person who could read and familiar to those who could not read through the weekly ministrations of the pulpit. It permeated every stratum of society. Its lessons and the language in which they were conveyed became household possessions. The life of the people became saturated with its all-pervading sanctity and with its divine authority, its incomparable message of life and hope, it was not the heritage of the few but the possession of all.

When the English colonist left his native shores, he carried this precious treasure with him. This was the bond that bound him to the home of his fathers and united him with all who thought his thoughts and spoke his speech. To the Protestant colonist it was an indissoluble bond of nuion with those he had left behind him. The ordinary layman who left France or Spain had no Authorized Version to carry with him. The Roman hierarchy kept the Scriptures in their own hands, for the use of the clergy, but the Bible was for the most part to the layman a sealed book. I make bold to say that the Bible is the great unifying influence which binds the English-speaking stock together in one, giving them today precedence in the arts of peace, leadership in civilization, invincible prowess on land and on sea, and a preponderating influence in the dissemination of Christianity and in the councils of the nations.

That phase of Christianity which Hanover College represents has been prolific of important results to mankind. The Bible provides us with a perfect rule of faith and practice. In the standards of the Presbyterian Church, its Confession and Catechism, is found, in my opinion, the most scriptural and the most complete of all creeds, a system of theology as perfect as human wisdom can devise. To one of its aspects only I desire for a brief space to call your attention.

Its political cult has given freedom to the English-speaking race. It recognizes the essential equality of all men. It sketches in bold outline the distinction between those who govern and those who are governed, as well as the reciprocal rights and duties of equals. The most philosophic body of systematic theology in Christendom, it is logically perfect and metaphysically impregnable. The germs of freedom had been brought into Britain by the Angles and the Saxons from their primeval home in the Teutoberg forest on the banks of the Saale. They had been struggling for centuries to obtain and to secure permanent recognition when indubitable support and sanction came to them from Christianity. "Whether the democracy of later centuries had its roots in the guilds and brotherhoods preceding the Reformation and its appearance in the sixteenth century is to be regarded as a revival, rather than a birth, matters little."* Borgeaud says: "Modern democracy is the child of the Reformation. To make the religious revolution lawful, it was necessary to proclaim these two principles, viz: Free inquiry and the priesthood of all believers, which contain in them the germs of the political

* Lobengier.

revolution." In Geneva as early as 1540, "the Small Council, the Council of Sixty and the Council of Two Hundred contain the essentials of the Scottish League and Convent and of the American Constitution. The enactment of the organic law, its discussion, submission for popular approval, ratification and adoption, are all found therein"† Knox carried these principles with him to Scotland, made them the foundation of his ecclesiastical polity and his successors during the Puritan Rebellion made the solemn League and Covenant the basis and the condition of their co-operation with England. Calvin's theocratic state contains the essential elements of all civil and religious freedom, by recognizing the equality of all orders of men, both in church and in state. Transplanted to Scotland, it has formed the ground-work of civil and religious freedom, in the British Isles, in the United States of America, and throughout the colonial dependencies of the British Empire. That the people are the ultimate source of law and that the Presbyterian and old Puritan stock were the depositories of this sacred trust is the inheritance bequeathed to us by John Calvin and John Knox.

"The solemn league and covenant
"Gave Scotland blood, gave Scotland tears,
"But it sealed freedom's sacred cause.
"If thou'rt a slave, indulge thy sneers."

Froude says that Scotland saved Protestantism once and may have to save it again, and James Bryce, author of the "American Commonwealth," than whom there is no higher authority, says:

"Someone has said that the American government and constitution are based on the theology of Calvin and the philosophy of Hobbes. This at least is true, that there is a hearty Puritanism in the view of human nature which pervades the instrument of 1787. It is the work of men who believe in original sin."

Large numbers of Scotch were among the early settlers of Pennsylvania and though they were far outnumbered by the Germans, exerted a political influence out of all proportion to their numbers. In the Carolinas they were controlling factors in government. In the period from 1650 to 1750, more than three hundred thousand Scots from Scotland and from Ulster emigrated to America, most of whom settled in Virginia and the Carolinas. These for the most part were saturated with the principles of the Covenant and boldly applied them to the political organizations which formed its counterpart. "The chronicles and diaries of the period" show how keenly they resented and how steadily they resisted any encroachment by the colonial government on their freedom of thought and action. The "Regulators' Movement" in North Carolina in 1768, the "Wautauga Compact" of 1772 in East Tennessee, and the "Mechlenberg Declaration" of May 31, 1775, preceded by one to eighty years the more famous and more articulate Declaration of July 4, 1776. And when the colonists had by formal act severed their allegiance to

† ibid.

the British crown, the Scots of the Middle States, of Virginia and of the Carolinas formed the back-bone of the army of the Republic. It was not the Puritans of New England, nor the Cavaliers of the South, nor the Patroons of New York that won independence, but the strong arm and resolute heart of the Presbyterian Scot, with the Covenant in one hand and the sword in the other. The bloody battle of King's Mountain, in the Carolinas, was no less decisive of the ultimate issue than Saratoga, and made the surrender of Cornwallis at Yorktown inevitable.

Happily after more than a century, the wounds left by the Revolution are healed and bitter memories of the unfortunate cleavage obliterated. Community of interest in common ideals, identity of race, language, laws, literature and religion, have brought the two great branches of the English-speaking stock together in a sense that can be affirmed of no other nations. All outstanding differences have been adjusted and the treaty of arbitration now pending will, when adopted, provide the basis of lasting friendship and co-operation. Their united influence and example may in the no distant future bring about the era of universal peace for which all Christians of whatever name and creed earnestly hope and pray.

The Bible, the Confession, the Covenant and the parochial schools made the Scots. They moulded his character, civil and religious, and when these emigrants came to the colonies, they were not less careful than their Puritan contemporaries of New England to found schools and colleges. Modest and unpretending they often were, but they made scholars who were able to read the Scriptures in the original texts, to interpret the standards of their faith intelligently and to maintain their tenets against all comers. They made scholars who understood the rights of man, their obligations no less than their duties. George Buchanan in his "De Jure Regni" more than two centuries before the American Revolution, defined the relations of the subject to the crown and set forth clearly the limits of allegiance and obedience. With a passionate devotion to Christ's crown and covenant, they cherished an equally passionate devotion for political freedom.

Princeton College, Miami University in its early days, Hanover College, Centre College in Kentucky, Hampden-Sidney, LaFayette, and other Presbyterian institutions of like grade throughout the country have stood for Evangelical Christianity, the religious training of the youth of the country, sound learning and wholesome submission to salutary restraint. The tendency nowadays is to secularize education. State institutions rightly claim immunity from ecclesiastical control. They cannot claim and must not be allowed to claim exemption from Christian influences. The relatively small college must still be the home of piety, associated with classical culture where the lamp of an enlightened religious cult is kept burning with a clear and steady flame. It can afford to hand over the scientific studies which require elaborate apparatus and expensive equipments, to the control of the State. It cannot afford to allow the State to dispense to the sons and daughters of the men who made the Republic an education materialistic and godless. Measured by

the influence exerted upon their fellows by the men who have graduated from Hanover College, men who have distinguished themselves at the bar, in legislation, in the healing art, in the pulpit, and as missionaries of the Cross, I know of no institution, at home or abroad, which can dispute with her the palm. The Bible, the Confession, the Covenant have made her and she has made the men who make her name illustrious.

After the lapse of more than half a century from graduation, I return on the invitation of the President and faculty to deliver the Commencement address. Sixty years have passed, on the 5th day of May, since I entered Hanover College. All who were then connected with it have long since passed over to the majority. John Finley Crowe, its founder, saint and sage, tall and erect even at seventy; Thomas Ebenezer Thomas, vigorous, scholarly, imperious, powerful in thought and eloquent in expression, dreaded by Freshmen, but adored by Juniors and Seniors, a stout defender of the Confession and a brilliant expositor of the Philosophy of the Conditioned; Jared Merwin Stone, immersed and versed in science, delightful in his intercourse with classmen; S. Harrison Thompson, deeply read in Euclid and in Newton, urbane and gentle, yet rigorous and exacting; William Bishop, saturated with classical culture, under whose inspiration the "Homeric battle clanged and Pindar's eagle flapped his wings of thunder." These were great men, men of faith, as well as men of action. They have gone, but their work remains. May their memory ever be green and may the sod rest lightly upon their hallowed graves.

Commencement Address

DELIVERED BY

F. R. H. S.

DR. JAS. K. PATTERSON, PH. D., LL. D., F. R. S.,
President Emeritus Kentucky State University,

TO THE

Graduating Class of Clemson Agricultural College,

June 13, 1911—Memorial Hall.

Mr. President, Gentlemen of the Faculty and Board of Trustees, Members of the Graduating Class:

I am gratified by the evidences of thrift and prosperity which I have seen since coming within the boundaries of South Carolina. I feel today that I am standing on hallowed ground. This college occupies the homestead of one of the mighty trio, who, during the first half of the last century, made this Commonwealth famous, whose public utterances thrilled and swayed millions of his fellowmen.

In the providence of God it is peculiarly appropriate that this domain, the Mecca of South Carolina, should be devoted to the education of the men who will control its destinies and build up the industrial and material developments of a State which, out of all proportion to its area or population, has impressed itself upon the thought and the life of the nation.

On the western shore of Loch Lomond, in Scotland, is the ancestral home of the Conquhouns, from whom the illustrious statesmen whose memory South Carolina delights to honor, sprang. For centuries there has been a baronetcy in the family. I have been over the estate, and a magnificent one it is. Within a few miles of it, the domain of the Colquhouns, my father and mother were born. You can then readily imagine the thrill of pleasure which it gives me to be present

today in intimate association with the memories of one of the greatest men of all times. Great in intellect, great in moral power, great in his devotion to the well-being of his people, and great in the conspicuous ability with which he fought on the Hustings, and in the halls of Congress the battles of his State and country, he remains to you an everlasting memory and an everlasting possession. The Sumters, the Pickenses and Marions and Rutledges; the Haynes, the Butlers, the Colquhouns and the Hamptons, and last of all, the distinguished statesman, whom I see here today, Senator Tillman, to whom, on behalf of Kentucky, I present my respectful homage,—may a kind Providence deal gently with him, restore his physical strength and spare him long to wear with honor and with dignity the mantle of his distinguished predecessors,—these present to the historian a succession of men worthy your everlasting admiration. South Carolina, after the terrible experiences of the war, has risen again like the Phœnix from its ashes in brighter plumage than ever. The sap swells high in her veins today and will swell higher still tomorrow.

I have been greatly impressed with the magnitude of Clemson, its splendid expanse, its ample domain, the number and variety and excellence of its buildings and its equipments,—the material appliances which make education effective. I have been impressed with the manifest ability and patriotism of its Board of Trustees, with the intelligence and economy which have characterized their expenditures, and their administration of the responsible trust committed to them—all testify to honesty, capacity, economy, and integrity of the highest character. No wonder that with such administration your institution is growing daily in the affections of your people, that its roots are striking deep into your Commonwealth, and that in the near future it will be second to none within the length and breadth of the land.

In the nature of things agriculture must, for ages to come, be the predominant occupation of your people. The statistics of the Department of Agriculture show that the era of improvement has begun. Under the impetus of the leadership of Clemson, its Board of Trustees, its faculty, and its educated sons, industrial progress in agriculture, engineering, and in

textile fabrics is going rapidly forward. Manifestly a new era has begun.

Agriculture is an ancient and an honorable occupation. Its foundations are almost coeval with the birth of the human race. Before the expulsion of mankind from the Garden of Eden, we are told that the Lord God took the man and put him in the Garden of Eden to dress it and to keep it. From that day to this, men have been largely dependent for subsistence upon the products of the soil. It is true that in the early history of the world, before its population had become dense, men were able to obtain a subsistence by appropriating the spontaneous productions which nature afforded. The use of the rude implements of offensive warfare made the labors and the pleasures of the chase subsidiary to their maintenance and well-being. Later on the pasture lands of the east afforded abundant subsistence for flocks and herds. Then agricultural operations, gradually introduced, became one of the few human industries that occupied at least partially the attention of mankind. As population multiplied and as the spoils of the chase diminished, the occupiers of the soil found it necessary to depend more largely upon the products of the field for the maintenance of themselves and of their flocks and herds. This led gradually to stationary instead of nomadic residence. It led, furthermore, to well-defined occupation of the soil and proprietary interests therein and what at first was comparatively an unimportant feature in subsistence gradually became the most important factor of all. For ages progress was necessarily slow. The range of human intelligence was comparatively narrow. Men thought and acted within circumscribed boundaries and the limitations imposed upon them by the force of circumstances it was found difficult to transcend. They lived in almost complete ignorance of the laws of nature, although its operations were manifest all around them. The sun shone, but they knew nothing of the source of his power. The rains of heaven fell and watered the lands, but they knew nothing of the meteorological conditions which determined the supply of water necessary for the irrigation of their fields. With the rude implements of husbandry then at their command, they were able to rear and reap harvests from a virgin soil, but of the origin of

soils they knew nothing. Of the constituent elements of plant life they knew nothing. Of the constituent elements of animal life they knew still less. They knew neither how seeds germinate, how crops feed, nor how crops grow, and then these products of the soil were fed to sheep and cattle and horses; they knew nothing of the processes of digestion, or the elements of nutrition by which they developed from birth to maturity.

Thousands of years passed before even the rudimentary truths which lie at the foundation of intelligent agriculture were apprehended and when apprehended, could be intelligently applied. And yet agriculture, though slow in its development, kept pace with advances along other lines. The traveler upon a swift steed could cover many miles in the course of a day, but movement in masses was necessarily slow. Ages passed before those who lived upon navigable rivers, or upon the shores of the ocean could make headway even in smooth waters, much less against wind and tide. The healing art was among the earliest developed applications of human knowledge, and yet little was known of the causes of disease and still less of their effective remedies. The sense of justice was implanted in the human soul and was coeval with the introduction of man upon the earth. Hence the elementary principles of law soon found expression in determining the relations of men, their rights and their duties. Under all these adverse conditions, with abundant experience, but a limited knowledge of the material laws by which they were surrounded, the generalizations of mankind were slow and conclusions were oftentimes reached which were necessarily modified from time to time as human knowledge widened and deepened. But as one by one these laws became known and as experience led to their tentative application, the foundations of a rational system of procedure were gradually laid and in the end a well-reasoned body of knowledge, drawn from experience and observation, became available for the development of human industry.

Notable among these was the discovery of the utility of steam as a motive power. After many years of laborious effort, successive inventors advanced step by step, until, in the latter part of the eighteenth century, the genius of James Watt made its utility and control an everlasting possession for the

benefit of mankind. Within fifty years after this discovery, it was no longer limited to stationary application, but became available for locomotion by land and by sea. The introduction of the railway has superseded all other means of transportation by land and the application of steam to trans-oceanic navigation has in like manner almost entirely supplanted, except for coasting purposes, travel and transportation by the sailing vessels of the olden times. Co-operative activity has played a very important part in this application of energy. A line of stage coaches was easily within the possession of a single person. A sailing vessel of five hundred tons burden was quite within the means of men of average individual wealth, but the construction of a railway, even for a short distance, was altogether beyond the power of even the wealthiest men of the times, and the construction and navigation of the iron built steamer of 25,000 and 30,000 tons capacity propelled by triple expansion engines was equally beyond the reach of the average possessor of wealth. But what could not be accomplished by individual enterprise was easily within the power of associated wealth and co-operative energy. The more energetic and the more far-sighted pioneers of industry easily gathered together in joint stock companies hundreds of millions for the building of railways and the construction of ocean steamers. It is not too much to say that the introduction of steam has revolutionized the industrial activity of the age.

During the ages to which the terms antiquity and medievalism are properly applied, educational institutions representing the knowledge of the time had sprung up in the centers of civilization and had become the exponents of the learning and intelligence of the age. These dealt largely with subjects relating to the cultivation and development of the human intellect, mainly along deductive lines. Metaphysics and moral philosophy were cultivated with as much energy and with as keen a zest by Aristotle and Plato and their followers in the ages preceding the Christian era as they are today. All the energy of the human intellect was concentrated upon these subjects, both for themselves and in their relation to law and theology. The modern sciences founded upon observation and experiment and which are generally known as inductive rather than deduc-

tive, were then practically nonexistent. Education, until the foundation for a knowledge of the inductive sciences was laid by Francis Bacon, in the early part of the seventeenth century, was consequently mainly confined to the deductive sciences and their application, but from the time of the great Chancellor onwards, some of the greatest intellects of the human race have been laying the foundations and building up laboriously the more recently organized departments of human knowledge, known as the natural sciences, physics, chemistry, comparative anatomy, biology, astronomy, geology. Within the last two centuries, and more notably, within the limits of the nineteenth, the individual and united energies of the greatest intellects of modern times have devoted themselves assiduously to a rational interpretation of the laws of nature in all these varied relations. The result has been that whole systems of knowledge have been built up and placed upon an enduring basis and that superstructures have been raised thereon which will endure through all the ages.

In this awakening of human activity, and in these fields of discovery, agriculture finds at last a rational and intelligent basis upon which to rest, and from which to conduct her varied operations. The progress of geology revealed the origin of soils. The discoveries of chemistry made manifest the constituent elements thereof. The processes of germination have been carefully studied and reduced to a science. How plants feed and how plants grow, the processes of development and nutrition, have been wrought out painfully and experimentally in the laboratory, and now find practical application in the fields of the agriculturist. The relations of insects to vegetation, beneficial and destructive, have been carefully studied and brought within the compass of practical application. The principles of stock-breeding and the development and growth of animals from embryonic conditions to maturity have been patiently investigated and the results made available for the stock feeder and stock breeder. The behavior of plants and of animals in disease as well as in health have been studied, formulated and are now within the reach of every intelligent farmer.

These conditions determine important changes in the educational institutions of the country. A little over forty years ago a new departure took place in education in America. Until then, classics, literature and philosophy had been the dominant features of college work. The natural sciences were still, comparatively speaking, in their infancy. Scientific men had for more than half a century been working along scientific lines. A priori deduction had given place to induction founded upon observation and experiment. The atomic theory of Dalton, the correlation of physical forces worked out laboriously and brilliantly by Helmholtz, Joule and Tyndall, the spectroscopic analysis of Kirschoff, the uniformitarian hypothesis of Sir Charles Lyell, and above all, the far-reaching generalizations of Wallace and Darwin, had made a new epoch in scientific discovery. It recalled the spirit of adventure which roused into feverish activity the boundless energy and endurance of Henry, the navigator, Vasco Da Gama, and Christopher Columbus, four centuries before. A new world of ideas seeemed to dawn upon mankind with the introduction of the telegraph, of railway construction, of steam navigation, and the application of science to the industrial arts. The age of the Utopia of Sir Thomas Moore and the new Atlantis of Bacon seemed to have dawned again upon mankind. The stimulus given to emigration brought hundreds of thousands annually to our shores and the impulse given to trans-continental migration through the development of the railway system east of the Mississippi transferred thousands upon thousands annually from the Atlantic and Middle States to the fertile lands stretched out in forest and prairie and ready to receive and to reward the hardy and industrious pioneer with comfort and plenty. The long pent-up energies of a young, vigorous self-reliant people broke beyond the geographical limits which had hitherto bounded their vision and their labors, and swept a living tide of humanity over hill and valley, over mountain and plain, from the Alleghenies to the Mississippi and Missouri, and from the Mississippi and Missouri to the Great American Desert, the Rocky Mountains and the shores of the Pacific. And thus the wave of settlement, adjusting itself to peaceful industry, laid the foundations of new States, planted new industries, brought vast stretches of

hitherto unproductive lands under cultivation, opened up the treasures of the mine, multiplied the lines of communication and poured the agricultural and mineral wealth of the great West into the commerce of the world.

The demand for a system of education adapted to the needs of the time, which should go beyond the requirements for classics, law, medicine, divinity and letters, an education which should utilize for the public good the known and discoverable laws and processes of nature, for the production and the multiplication of the comforts and necessities of life—this demand the Morrill Law, passed by Congress in 1862, was intended to satisfy, and upon this foundation more than fifty State colleges and universities were established, of which the Agricultural and Mechanical College of South Carolina is one. Mr. Morrill saw that in the rapid alienation of the public lands through settlement and gratuitous allotment to railway corporations, the public domain was being rapidly exhausted. He accordingly determined to dedicate a part of this rapidly diminishing public domain to the education of the American people along new lines and according to the necessities imposed by geographical and economic conditions peculiar to the western hemisphere. He provided that land scrip should be given to the several States in proportion to population, for the endowment of institutions of learning, wherein should be taught those branches of learning related to agriculture and mechanic arts, without excluding classics and other scientific studies, and including military tactics, for the education of the industrial classes in the several pursuits and professions of life. This was a radical departure from the old idea of education. It was a conception of college and university work such as had never yet been thought out by any thinker and whose realization had never yet been attempted. The existing body of human knowledge, whether of mind or of matter, was to be made available for appropriation by the learner, and the far greater domain of nature, unknown or partially known, invited the investigator, through observation and experiment, to new fields of discovery.

Many of the States, partly through mismanagement, realized comparatively little from the splendid benefaction of Congress. This is particularly true of the States south of the Ohio River.

Kentucky, for example, squandered her allotment. The scrip, representing 330,000 acres of land, an area equal to 1,500 square miles, was sold for fifty cents per acre. The proceeds, $165,000, invested in State bonds, is all that the State University has to show for its participation in the land grant of 1862.

But whether the States realized much or little, the land grant legislation of Congress, with the subsequent money grants of 1887, 1890, 1905 and 1907 by the Federal government, formed the basis of the splendid array of State colleges and State universities founded upon the original act. I do not know of any State which has not supplemented by liberal legislation the beneficence of the Federal government. The statistics of land grant colleges issued by the Department of the Interior for 1910 show the annual income from all sources of these institutions, a few of which I present herewith:

University of California	$2,720,000
University of Illinois	1,639,000
Cornell University	1,624,000
University of Wisconsin	1,697,000
University of Minnesota	1,415,000
Ohio State University	915,555
University of Missouri	684,000
University of Texas	539,000

These are the rich State universities of America. A large number, with much smaller incomes, follows:

The Michigan Agricultural College	$404,000
Mississippi Agricultural College	381,000
University of Tennessee	209,000
Clemson College	231,000

The compass of work done by the institution whose incomes are relatively small is necessarily circumscribed by financial limitations, but the quality of the work is equally good, equally thorough. They do not and cannot, however, educate so many persons, but their alumni take equal rank with those of the richer institutions, and in competition with them are quite able to hold their own.

These institutions founded upon the land grant, are rapidly becoming the great educational centers of the several States of the American Union. They have grown so rapidly that they are now recognized as the chief exponents of the higher education, coupled with the practical education which finds expression in ever multiplying bushels of wheat and bales of cotton and tons of steel, an education which conditions and renders possible the supremacy of America in productive activity and commercial enterprise. But our scientific achievements and their translation into material wealth are not to be content with these triumphs. The last forty years, a period coincident with the life of these institutions, have witnessed an increase in population and in wealth, such as the dreams of the most sanguine could not have ventured to anticipate. No parallel for it exists either in ancient or modern history, either in the old world or the new. In this mighty onward march, the State colleges and universities will lead the van. What part will Clemson College play in this mighty development of intellect and its application to material industrial production? That is the problem with which you have been confronted and which so intimately concerns you here today.

I have briefly indicated the education which a farmer should have. He should know the origin of his soils, their chemical constituents, the chemical constituents of the plants which he grows and the animals which he rears. He should know the processes of growth and development and adapt his cultivation and care to meet these necessities. He should know the conditions of crops in health and in disease, the conditions that determine the health of his stock, and the conditions which produce disease and their remedies. He should thus be somewhat of a geologist, a chemist, a botanist, a zoologist, a veterinarian, a meteorologist. He should bring all the circle of the sciences to bear upon the lines of production and conservation in which he is specially interested. Agriculture is sometimes described as a science. That is not quite correct. Agriculture is like medicine, not a science but an art, but like medicine, it is dependent upon each of the contributory sciences and their intelligent application to the healing art on the one hand and to agricultural production upon the other. He will become

learned in those sciences which relate to agriculture, taking a pleasure therein, because of his increased knowledge of nature and natural processes and because of their economic application to the enrichment of his soil, the multiplication of his crops, and the improved condition of his stock. Now, where is this learning to be obtained? Manifestly not at the old type of college whose special function it is to prepare men for law and medicine and theology; but all these sciences and an acquaintance with them are to be found and obtained in the agricultural colleges of the country.

The student who matriculates in the Clemson Agricultural College there becomes acquainted, in the course of a few years, with chemistry and physics, botany and geology, biology, bacteriology, and their application to agricultural production. When he returns to the cultivation of his paternal acres, he thus carries with him a body of systematized and digested knowledge which he can immediately apply and in addition, he becomes a center of intelligence and information for all those in his neighborhood, in his precinct and in his county. He becomes a source of light and of leading to his friends and his neighbors, and they catch the spirit of enterprise and intelligent activity which he infuses into his own operations and are eager to give their sons and their daughters the benefit of the education which they see its fortunate possessor able to transform into dollars and cents.

Up until 1862 the various phases of engineering, viz., civil, mechanical and mining engineering, were yet in their infancy. Indeed, for many years thereafter, this continued to be the case. But since 1875 these professions and the preliminary courses of collegiate and university training which prepare men for these professions have made rapid advances. In the meantime electrical engineering has been created and now finds itself closely allied with the other departments of engineering. The same is true of hydraulic engineering, sanitary engineering, municipal engineering, and notably of chemical engineering. All these find their development on the instructional side mainly in the land grant colleges. I do not forget or ignore the Massachusetts Institute of Technology, and the Van Renssalear Institute, of Troy, the Stevens Institute, of Hoboken, but it is susceptible

of easy demonstration that the Engineering Schools of Cornell, of Wisconsin, Michigan, Illinois, Kentucky and Purdue Universities, Iowa and South Carolina State Colleges, are far in the lead in thoroughness, practical efficiency and in numbers.

The demand for educated men, highly educated men in these professions, has been unprecedented. These land grant colleges possessed the resources for supplying these demands and have promptly met them. They have purchased and created equipments for instruction in engineering science far surpassing those of the older institutions. They have established courses of instruction based upon extended attainments in mathematics, physics and chemistry, supplemented by large practice in the class rooms, in railway shops and in the field. They have worked out laboriously and successfully original problems from original data upon which theses are based for graduation, showing oftentimes marvellous originality in detail. I make bold to say that in no institution in this country or in the world are advantages to be found superior to those offered in some of the larger universities and colleges of the North and West.

In the domain of pure science likewise, these institutions take the lead. Chemistry has advanced by leaps and bounds. Let anyone compare the meager equipment and meager course of instruction given at Yale and Harvard half a century ago with the splendid laboratories and large staff of instructors in chemical science in the land grant university of today. The scope and compass and value, theoretical and practical, of the original work done would fill volumes. In the arts, in manufactures, in all the manifold applications of chemistry to modern industries, the chemist is in demand and indispensable.

And, so I might deal with botany, which concerns itself with the laws and processes of vegetable life, with biology, which concerns itself with the laws of animal life, variation, cross-fertilization, the physiology and pathology of all that lives and breathes. With the crucible and the microscope thousands of workers are attacking the problems of life and being, extorting from nature her secrets and forcing her to disclose her hidden treasures, pushing back every year the boundaries of the unknown and enlarging correspondingly the boundaries of the known.

You, ladies and gentlemen, citizen of South Carolina, are interested in this wonderful era and area of progress. You possess thousands of square miles of agricultural lands and much valuable but undeveloped mineral wealth. These material resources are capable of making you one of the richest communities in America. Manchester and Bradford, Lowell and Fall River have no such illimitable resources for manufacturing industry as those which Providence has given you. They will be developed in time. Will you do this for yourselves, or will you allow others to do it? In the former case, home-educated talent and home-created capital will do the work and your dividends will remain at home to enrich you. In the latter the brain and the capital of the alien and the foreigner will do the work and your dividends will go hence to enrich those with whom you have no interests in common. South Carolina will become a field of exploitation, but not for you.

This is the plea which I have to make to you in the interest of agricultural and technical education, coupled with the plea that you stimulate your Legislature, the men who manage your public affairs, to a wholesome and generous liberality in providing for the Agricultural and Mechanical College of South Carolina all that it needs to build up a well-rounded and symmetrical body of trained men and women who shall aid in lifting up these great and predominant industries to the position which they ought to occupy in this Commonwealth. But this is not all. The men who own the farms and cultivate the soil of South Carolina must be educated, not only as agriculturists and scientists, but as citizens. You have a great political inheritance in these federated States, nearly fifty in number, now forming the American Union. You possess an inheritance such as the world has never known. You are the heirs of no ignoble heritage; though there are many contributory elements from other sources which go to make up the eighty or ninety millions of people now resident within the boundaries of the great American Commonwealth, the basis of your blood and your traditions and your inheritance is the stiff old Anglo-Saxon imperial race, which has been working out its destiny in the old world within the four shores of Britain for a thousand years, a branch of which was transplanted to this western

hemisphere nearly three hundred years ago, and has now grown to be, if not the mightiest, among the mightiest nations of modern times. The great American nation has today an area of over three millions of square miles, exclusive of her transcontinental domain, a population of ninety millions of souls, the material for the greatest and most effective army upon the face of the earth, able, if she limit her activity to defensive operations, to defy the world in arms, if united with the arms and fleets of the mother country, to impose her will at no distant date, and to dominate the international relations of the world. The greatest possible individual freedom compatible with the well-being of society exists in the mighty nation of which you form a part, but there are grave problems which confront the statesman today. Somehow or other, I have an abiding confidence in the sense of justice and the self-regulated activity of the great American people.

The unequal distribution of wealth is a grave menace to the perpetuity of republican institutions. An hundred and twenty years ago, there was not a millionaire upon the American continent. They now number, not only hundreds, but thousands, many of whose wealth runs away up into the hundreds of millions, some of them even nearing the limit of a billion of dollars. The aggregation of such enormous wealth in corporate enterprise, in the ownership of railways, the ownership of industrial plants, the ownership of lines of steamship navigation, operates and must operate with tremendous energy and effect upon the legislation of the country. Less than 25,000 persons within the limits of the United States own more than half the wealth of the whole American Union. But while wealth exists in such enormous proportions in the hands of the relatively few, there are millions of men and women within this broad domain who live practically from hand to mouth. Within all the great cities of the country, existing side by side with the possessors of thousand of millions, there are found hundreds of thousands of men and women and children who are upon the very verge of starvation, and under the stress of commercial disaster and commercial crisis, when these large masses of people are thrown out of employment, they become a dangerous element and a perpetual menace to the well-being of

organized society. Between these two extremes, happily, there is a large middle class, neither very rich nor very poor. This substantial middle class constitutes the strength and the bulwark of the nation, and here it is comfortable to note that a large proportion of this substantial middle class consists of the farmers, the agriculturists of the South, of the near West, and of the trans-Mississippi region. This class of population is the steadying element, the conservative element, the ballast of the country. They are opposed to class legislation, because inimical to their interest. They are opposed to the excessive aggregation of capital controlled by irresponsible companies and by trusts, because the pressure weighs so heavily upon them that they are unable to realize the legitimate fruits of their industry. They are opposed to ignorance, because upon intelligence rests the basis of American institutions. In times of civil commotion, and these perhaps may come, sooner than we anticipate, they are the only conservative element of the nation. Within the large cities are found the explosive elements which may at any time, in times of commercial and economic distress, produce an explosion. The moneyless millions have nothing to lose and possibly something to gain by civil convulsions. They can then wreak their vengeance upon the physical embodiments of the wealthy whom they regard as their natural enemies, but the bulk of the wealth of the millionaires, consisting largely in stocks and in bonds, is easily transferable beyond the reach of danger. On the other hand, in times of civil commotion and upheaval, the agriculturist, the bulk of whose wealth consists in his buildings and in his stocks and in his barns, and in the produce of the fields, is exposed to the fury of the anarchist and the revolutionist, and the carefully accumulated results of years may vanish through the torch of the incendiary in a single night. He is thus specially interested in the perpetuity of civil government, conceived and executed along just and equitable lines.

Under these conditions, I think you will agree with me that the education of the farmer and the artisan not only as agriculturists and mechanics, but as citizens, is one of the most important problems of the day. They must be educated not as producers only, but as citizens to whom is committed, under Provi-

dence, the destinies of the greatest gift to humanity, in the embodiment of civil government, which the world has ever seen. They are free, but they must know how to preserve their freedom. They must know how to maintain the two elements which make human government possible in all time, namely, the greatest possible individual freedom, with wholesome and salutary restraint. In other words, they must learn to know the principles underlying civil government and how best to co-ordinate liberty with authority. Liberty unstrained becomes license, anarchy. Authority unrestrained becomes despotism. The business of the statesman is to know how properly to co-ordinate the two. The agriculturist is numerically superior; the urban, though rapidly gaining at the expense of the rural population, is still but twenty-five per cent. of the whole. These relative proportions must be maintained. We must endeavor, by all proper agencies, to make farm life attractive. This can be done by making it more remunerative than it has been heretofore, and this idea, coupled with the wholesome sense of independence which the farmer enjoys, will retain the vigorous young blood which now has a tendency to drift towards the towns and the cities, at home, where it may enjoy in connection with an active and vigorous life, the comforts of a wholesome independence which cannot be enjoyed elsewhere.

To you, citizens of South Carolina, today, in conclusion, I desire to say that you possess a noble heritage; the purest Anglo-Saxon blood of this continent is found within the limits of Kentucky, and Tennessee and the Carolinas. This is the race which has been working out laboriously the principles of human freedom and of self-government for hundreds of years. In the mother country, it found expression in the Magna Carta, in the establishment of parliamentary and responsible government. The settlers who came from Old England and to Virginia and the Carolinas 250 or 300 years ago, brought with them the inheritance and the traditions of human freedom which had been laboriously wrought out by their ancestors and transplanted these upon the American continent, where, under altered conditions, they have grown up into a vigorous maturity. And the Magna Carta of the home of your ancestors finds parallel expression in the magnificent Declaration of Independ-

ence, embodying the conception of the rights of men and of the true and genuine principles of human freedom, not only for the eighteenth century, but for all the ages to come.

From a glorious past, through a marvellous present, to an illustrious future, the transition is natural and easy; if the growth and prosperity witnessed within the memory of living persons have been unexampled, it is because conditions intellectual, moral, social, material and political existed among us, such as never existed before.

While we must educate, then, for the increase of the material comforts of life and for the development of a material civilization, we must not be content to stop there. We must educate for higher and nobler ends than can be measured by bushels of wheat, bales of cotton and tons of steel. We must educate in order to obtain a mastery over the powers of nature, subordinating them to human control and human utility. We must educate in order that the visible embodiments of the collective will in the civil government, executive, legislative and judicial, shall be applied for the upbuilding and maintenance of the great free institutions which form the noblest political heritage ever possessed by man. But it is not to be forgotten that these are only subordinate to still higher ends. Upon the moral and religious life of the future will depend the future greatness of the great republic. If there be wholesome, vital, intense and strong social and political convictions, these must rest upon a moral basis and be controlled by a moral sanction. The moral and religious tone of the country upon which the greatness of the nation will depend will be influenced largely by the moral and religious tone which pervades the educational and religious institutions of the country. Let us see to it, then, that the God of our Fathers, reliance upon whom carried them through the throes and perils of the birth of the nation, is not forgotten, that there is a "Divinity that shapes our ends, rough hew them as we may;" that there is a power controlling human forces which works for progress and for righteousness, and that the great lesson of all history, specially emphasized in our own, is that the divine dominates and controls the human, the infinite the finite, and the eternal the temporal, and that the great lesson of all history, specially emphasized and exemplified in our own,

is the realizing of the divine in the human, of the infinite in the finite, of the eternal in the temporal, that

"Not in vain the nation strivings,
Nor by chance the currents flow;
Error mazed, yet truth directed,
To their destined goal they go."