Feb. 1911

At the conclusion of Mr. Fox's readings, Vice-President White asked President Emeritus Patterson to occupy a few minutes in conclusion. In compliance with the invitation, he spoke impromptu in substance as follows:

Mr. Fox, ladies and gent lemen: After the elegant entertainment which Mr. Fox has given us, it seems quite superfluous for me to attempt to add anything. I may, however add a few words. Mr. Fox knows the people of the mountain region of Kentucky better perhaps than any other man who is not a native of the mountains. He is able to interpret them, their folk-lore, their legends and their traditions better perhaps than any of themselves.

All legend and all tradition has a historic background upon which to rest, and though not history, form very essential adjuncts for the illustration of history and its interpretation. The man who gathers up these and who by a keen sympathy with those among whom they are current, weaves them into symmetrical shapes, giving them at least a factitious unity, becomes the poet, the skald, the seer, the interpreter, whether he live among the mountains of Kentucky, the highlands of Scotland, the Alps of Switzerland, the Dofrefeld of Norway, or the wild fastnesses of Albania or Montenegro. The same hardihood and daring and uncompromising love of liberty is found among the Pathans beyond the region of the five rivers in the defiles of the Himalayas, and among the Mongols of the Quen Lun in the recesses of Central Asia. Living in constant contact with the awful and the sublime, the mountaineer's conceptions of sublimity and grandeur are coeval with his being. The struggle for existence develops within him a hardihood and endurance and an independence to which the inhabitant of the plains is a stranger. The mountaineer loves his country, its mountains and valleys, its hills and its glens and its torrents, with an intensity of love to which the lowlander is a stranger, and wher-

ever he may be, he languishes for his native glen. His fondest wish is to return and die in his nest and be buried with his fathers. He is just, he is tender, he is sympathetic. The manly virtues he worships, the unmanly vices of falsity and treachery and ingratitude he abhors. Frankness and generosity and independence he cultivates and cherishes and transmits them with the milk of their nativity to his sons and his daughters. In no part of America is there a stock of equal purity of race and superior manhood. His Anglo-Saxon blood, undiluted and unalloyed by alien strains, asserts itself in a fierce spirit of independence inherited from forty generations of men. These are the men and these are the women of whom heroes are born.

Mr. Fox has done wisely in making us acquainted with these people and in making them acquainted with themselves. He gives to us and to them a new vision. He touches with the wand of his genius the homely facts and conditions of their existence and makes them instinct with a new life. His artistic groupings make new creations. This is what Homer did, this what the Nibelungenlied and the Chanson of Roland, and the unknown author of the great Icelandic saga of Njal's burning have done for their contemporaries and for posterity. This is what Sir Walter Scott did in his wonderful collection of legendary lore entitled "The Minstrelsy of the Scottish Border", and thus we see that one touch of nature makes the whole world kin.

We thank Mr. Fox for his delightful half-hour and hope that he may ere long instruct and entertain us again.

[1916]

We are just now suffering from a malady not without precedent, but not incurable. We are afflicted with a mania for change, for revolution. Change and revolution are not always synonymous with progress. Witness the Republic of Mexico and the republics of South America. Change, revolution, reorganization, to be legitimate, must conform to the fundamental laws of thought, the Law of Sufficient Reason and the Law of Parcimony.

The first requires that a Sufficient Reason exist for change, revolution, reorganization, before these are undertaken, and that the reason therefor be set forth clearly unambiguously and fully. The burden of proof thus rests upon those who propose change. This principle was followed in the Declaration of Independence and formed the justification for the revolution. A declaration of rights, with an argument expressed or implied, and a preamble, precedes every constitution of every state, and an appropriate/explanatory preamble precedes every important piece of legislation.

Second, the Law of Parcimony provides that as few changes as possible be made until the wisdom of the change is made manifest and still further change is required for efficiency. When did it become apparent that a sweeping change and reorganization of the University was necessary for its effective work? How did it become apparent? What committee of Trustees was appointed to investigate and take testimony? Were all the parties who were interested in the proposed change consulted? Is this document prepared and submitted by parties wholly disinterested? It is said to be the work of the Deans. What Deans were consulted and what Deans ignored? It seems to me that the conclusion is manifest. The alleged need of reorganization was obtruded on the Board by interested parties and on ex parte information, and then a duty was delegated to these interest parties which should

have been undertaken primarily by the Board, ideally and after investigation by a committee of Trustees appointed by the Board, reported upon by this committee to the Board itself. This is a duty and a function within the exclusive competency of the Board. A fair interpretation of the duties of Trustees as outlined in the charter and in the bylaws unmistakably sustains this contention. The plan actually pursued is like that of a proprietor of a large establishment, an Astor, a Vanderbilt or a Carnegie delegating to his butler, and chief cook and major domo and housekeeper and employees and housemaids the organization and management of his establishment. Organization, like light, should come from above and not from below.

It has not been made apparent that the Civil Engineering should be swallowed up and subordinated to the Mechanical Engineering. Indeed, it is in distinct contravention of the daily arguments and importunities of the head of ~~the~~ Professor Mechanical Department twenty years ago, when he was struggling to emancipate himself and his department from the control of the Engineering School. Prof. J. P. Nelson was then the Dean of all the existing engineering courses. ~~He~~ The Professor of Mechanical Engineering convinced me by his reiterated argument that Civil and Mechanical Engineering though having much in common, should be separate and distinct organizations, and thus convinced, I set myself to bring about ~~their~~ their separation. What has occurred since then to require now the amalgamation? How could efficiency be promoted thereby? What economies could be effected? This information could have been elicited by an unbiassed and impartial committee of the Board and embodied in a report and then, if it became apparent from an impart ial investigation and report that the efficiency of Mechanical, Electrical and Civil Engineering could be promoted by their consolidation into one, the consolidation could then have been brought about with the consent and to the advantage of all concerned.

I will now say a few words in reference to the Academy. The latter part of Section 11 of the charter approved May 9, 1893 provides for the Academy as a distinct and separate organization under its own principal. Section 14 provides for the appointment of beneficiaries by the several counties in the Commonwealth as an equivalent for the income from the half-cent tax. Both of these fundamental provisions are violated by the proposed change. The law requires the Academy to prepare appointees for the college classes, not a model school to be exploited for the benefit of teachers either in a normal school or the Department of Education. This is a matter on which the Legislature may have something to say, if carried into effect.

The administration of the University is vested in President, Vice-President, Deans, Council, Faculty, Sub-faculties and Assembly. This elaborate administration cannot fail to recall the fantastic constitution provided for the colonies by John Locke at the instance of Lord Shaftsbury, described by every historian as a most extraordinary document, a notable instance of a constitution made to order. It provided for a palatine, admiral, chamberlain, landgraves, caziques, baronies and manors, seignories and proprietaries. The parallelism in our constitution to these officials readly suggest themselves. The fact is that the attempt to work all these activities in regular order and by harmonious consecution must involve red tape appalling in quantity. The mill will become choked, the motive power top-heavy. Today with all this machinery seeking official recognition at work for months, we cannot tell our financial status within thousands of dollars.

Sometime since the State Intercollegiate Association adopted on the initiative of the State University, a schedule of uniform entrance requirements. These included Solid Geometry and one year of Physics. Some weeks ago a meeting of the

Deans of Colleges was held, not a full meeting, and at the instance of the heads of the Law and Agricultural Colleges, Solid Geometry and Physics were dropped from the required schedule. This was done without the knowledge or concurrence of the other colleges and universities. Meanwhile I received a letter from the President of one of the Colleges of the Intercollegiate Association, deploring the action of our self-constituted tribunal. He said: " I regret the action of State University in breaking up our uniform entrance requirements." On the 12th inst., there was a meeting of the Intercollegiate Committee which had formed the schedule and of the Superintendents of High Schools which had been endeavoring to lift up their standards to meet the requirements of the adopted schedule. It was quite apparent from the speeches made that they felt keenly the abandonment by the State University of the schedule which under happier auspices she had induced them to adopt. It could not be regarded otherwise than as a breach of faith, as well as a marked discourtesy. And yet this is the State University which aspires to the leadership in education in Kentucky.

In all this there appears to be an attempt to control the Board and the Executive Committee through political methods and the machinery of the caucus. I cannot think that the Governing Boards of great Universities controlled by great men would abandon the initiative in important legislation to their appointees and subordinates, allow themselves to be exploited by interested persons and be content to register as law the conclusions of interested employees for their own individual aggrandisement.

1

In a recent article we sketched the early fortunes of Alsace and Lorraine after the disintegration of the vast monarchy of Charlemagne we now propose to deal somewhat more fully with the latter until its incorporation with France as an integral part of it

It will remembered that Alsace was recognized as belonging to France by the Treaties of ~~Westphal~~ Westphalia and Ryswick the latter ~~was~~ maintained a quasi independence till 1766, though it was virtually a part of France as early as 1736.

On the final ~~division~~ of the Empire of the Carolingians Lorraine fell to Lothaire - a fragment of that part of his dominions which lay between the frontiers of his brothers Charles and Louis. On the extinction of the house of Lothaire it became a part of the German Empire and under Henry III was given to Duke Gerard of Alsace as a fief of the Empire. ~~He remained~~ After the lapse of some centuries the male line of Gerard became extinct, and the marriage of Isabella daughter of the last Duke to René, Duke of Bar, united these two duchies in their common offspring, Lorraine, being a fief of the Empire and Bar of France, the Dukes of Lorraine & Bar thus owned a double allegiance and this bipartite ~~relationship~~ often involved them in the disputes of the rival monarchies, though with admirable tact they generally ~~managed~~ maintained a neutrality. René II - the Troubadour - inclined to France. He assisted Louis ~~the~~ XI, one of the craftiest monarchs that ever sat on any throne, in his wars against Charles the Bold. He ~~defeated~~ routed the army of Charles at Morat and contributed to his defeat at Nancy

might be allowed especially if the sword of Brennus be in the scale, but the application of the principle of homogeneous nationality — would be a dangerous precedent for a Pomeranian or a Hohenzollern so long as the key to Continental Politics is the principle of Goldsmith's dog, "Each one bites who has the power and each one trips who can."

1 It has been intimated in semi official organs and has obtained some currency in the European press that Prussia will seek territorial compensation in the cession of ~~France~~ Alsace and Lorraine. If this claim is based on conquest it can well be allowed. If on the solidarity of peoples and priority of possession it might open up some questions of redistribution which would find an inconvenient application. It would disintegrate Austria and throw her Slavonic provinces with some Pan-slavic nationality and her German Provinces with a ~~united~~ confederated Germany. It would detach Silesia and ~~Poland~~ Posen from Prussia - which she would scarcely like - and give them back to Poland. It would reconstitute Poland - for surely she could plead both solidarity - and Priority - at the expense of the present geographical limits of Austria Prussia and Russia. It would further dismember present Russia by detaching Courland Livonia and Esthonia giving the two former to Germany the latter to Sweden. It would still further make inroads on Russia by detaching all she took from Sweden and Turkey and ~~con~~ Turkestan and Caucassia and circumscribing her within the limits of the ancient principality of Moscow. Priority would give New York to the Dutch. and leave the Union minus the Empire state. Nay if the principle be insisted on in its entirety it would reconstitute the kingdom of Austrasia and subject both France and Germany to the descendants of Pepin if such could be found, for in that case both solidarity and conquest could be invoked. If Count Bismarck chooses to demand Alsace & Lorraine as the prize of the Sword or as a guarantee of Peace the claim

Anthony the Good succeeded his father Rene, this Duke was brought up at the Court of Louis XII and served in the French armies during his Italian campaigns. Claude first duke of Guise, - deriving his title from Guise a little town on the Oise in the department of Aisne - having quarrelled with his brother Anthony accompanied Francois I to Italy and fought at the battle of Marignan where he received twenty two wounds. One of the most famous men of his time he founded a family which for 150 years largely influenced the destinies of France. He married Antoinette de Bourbon and was the father by her of Mary wife of James V of Scotland, consequently grandfather of Mary queen of Scots from whom is descended the present royal family of Great Britain. From this date the connection between the house of Lorraine and Valois became more intimate

In 1542 Antony obtained from the Emperor Charles V a declaration of the Independance of Lorraine and sent his son who educated at Paris under Francois I. Charles III of Lorraine heir of this duke reigned from 1559 to 1608 was one of most sagacious and highly gifted rulers of his time In the year in which he succeeded to the ducal crown the Bishoprics of Metz Toul and Verdun which ~~were Ecclesiastical~~ though situated in the midst of Lorraine had no political connection with it, being ecclesiastical fiefs were ceded to France by the Empire in the treaty of Chateau Cambresis. Charles III who had married the Princess Claude of Valois when the male line of the French succession was about to fail in the person of his brother in law Henry III joined the league against Henry of Navarre in the interest of his son Prince Henry for sagacious not perceive that when Henry IV had adopted the popular faith the cause of the Guises had become desperate, he

gradually withdrew from the league, though his son Prince Henry was present at the battles of Arques and Ivry. ~~though~~ By this alliance however he obtained the annexation of some fortified places to his dominions. On the fall of the Guises Charles found it necessary to strengthen his position against the House of Bourbon by securing his independence alike on the side of France and Germany. Foreseeing that in the coming strife when France would grapple in deadly conflict with the forces of Spain and the Empire Lorraine would be a tempting prize, he secured ~~the~~ peace with Henry IV by marrying his son Prince Henry to Catherine de Bourbon and cultivated friendly relations with Switzerland Spain ~~the Empire~~ Austria. He died in 1608 before the outburst of the storm which he knew must come. Prince Henry his son and successor while careful not to offend the Bourbons, drew closer towards Austria. The foreign relations of the duchy were pacific but the state of his family gave him much disquietude, his marriage with Catherine de Bourbon proved unfruitful but by a second wife ~~of~~ of the house of Gonzaga he had two daughters Nicole and Claude the former of whom he had betrothed to Louis XIII. but being thwarted in this alliance by Mary de Medicis he gave her ultimately in marriage to an illegitimate scion of the house of Guise, afterwards Charles IV. This prince proved the evil genius of his house, the worst type of the feudal leaders who played their part in the terrible events of the Thirty years war. He deposed his duchess to whose hand he owed the dukedom invaded the ancient franchises of his realms and shortly afterwards joined a coalition against France in which were engaged England Austria and Savoy in league with the disaffected

4

Huguenots, Austria was paralyzed by irresolution. the English fleet beaten off, and the army of Charles driven back. A more politic prince would have learned a lesson from this, and hereafter feared to enter the lists against such a king as Louis and such a minister as Richelieu. Refusing to do homage to Louis for his duchy of Bar, he still further incensed the French court by giving his sister in marriage to Gaston, the brother and enemy of the king. Richelieu had just signed the famous treaty which allied France with Gustavus Adolphus in the Thirty years war, when Charles placed his sword at the disposal of Austria. Scarcely had he taken the field when the troops of France entered Lorraine, his duchy was invaded and though he marched to its relief it was overrun, some of its most important strongholds seized, and his reconducted submission secured. Again he joined the Catholic powers, and fought with varying success against the French till in 1641 he determined to repudiate his Duchess and marry his mistress Beatrix de Cusance. Ferdinand Philip, the Holy See and Prince Francis jointly protesting against this infamy, he determined to abandon them, make his peace with Richelieu and pledge his sword to his bitterest enemies. As one now trusted him, he soon broke with France again, again, became a soldier of fortune, lost all his dominions and died in 16[illegible] leaving behind him the reputation of being the worst man of his time. Among the last acts in his life was signing away the rights of his Nephew and heir Prince Charles, son of his wife's sister Claude, and ceding to the Crown of France the duchies of Lorraine & Bar. Prince Charles inherited nothing but his good name and his sword, and yet, without a regiment or a crown, rose to the summit of military fame, redeemed his Country from bondage, and won from Louis XIV the encomium of being the greatest, wisest and most generous of his enemies.

There is no State richer in mineral resources, in the Coal and Iron which form the material basis of our Modern Civilization. There are Counties in the State

3-

After the attempt of his uncle to deprive him of his inheritance Charles V of Lorraine took refuge at the Court of Vienna, offered his sword to Montecuculi who was then stemming the tide of Turkish invasion. At the great battle of Raab he led a brilliant charge on the right wing of the enemy which mainly contributed to their defeat and was praised by the Commander in person. In 1668 he became a candidate for the Crown of Poland but was defeated mainly through Louis XIV. Again in 1673 he was an unsuccessful candidate for the same crown though backed by Leopold and the widow of the late Polish King. Meanwhile he took a prominent part in the war waged by Austria against Hungary and was looked upon as the equal of Conde and Turenne. On the retirement of Montecuculi he became commander in chief of the forces of the empire seized Luxemburg and stormed Philipsburg in presence of a superior French army. The treaty of Nimeguen however still left Lorraine in the hands of Louis, the terms offered being such as he could not honorably accept. Between 1678 and 1689 he stood foremost as a peer in the Empire. In concert with his old rival Eberstein he drove back the Moslem from the gates of Vienna and later presented to Leopold the standards of Hungary. In 1689 Austria entered the coalition formed by William III of England against France and Charles again commanded the armies of the Empire. He took Mentz from the French and Bonn from De Hasfeldt and drove the French beyond the Rhine. The Diet of Ratisbon pledged him the restoration of his Duchy, and just in the opening of a career which promised to make him the greatest leader and statesman in Europe he died in 1690 in the flower of his age. Charles V was succeeded by his son Leopold who by the Peace of Ryswick was restored to the dominions which his forefathers and profligate Grandmother had alienated. Upon his arrival in Lorraine he found the old organization broken up by the edicts

6 of Charles IV and Constitutionalism destroyed by Louis XIV. The franchises of the Duchy were gone and the people groaned in penury and despair, for more than half a century the country had been treated as a conquered province by Richelieu Mazarin and Louvois. The noblesse had been impoverished and had either retired in moody silence within half ruined castles or had sworn allegiance to the Grand Monarch. The commons had no tribunals for redress and were forced to acquiesce in a system which consigned the hard earned labor of their hands to the tax gatherer. Leopold did not attempt the restoration of feudalism. Indeed that was impossible. An absolutism tempered by sagacity and regard for all classes of his people was the key to his internal ~~policy~~ and to secure the neutrality of his Duchy the key to his foreign policy. The aristocracy became mere titled proprietors. Subinfeudation was abolished or rather grew into desuetude, the ruined commerce of the country was revived and the desert of 1697 was converted into a garden long before his death which occurred in 1729. His son and successor Francis, brought up at Vienna, and affianced to the renowned Maria Theresa thought more of his imperial alliance than the Duchies of Lorraine & Bar. This made him unpopular in his hereditary dominions. At the close of the war of the Bavarian succession it was agreed between the courts of Vienna and Paris that Lorraine should be ceded to Stanislas Leczinski for life with remainder to the line of the French crown, and that Duke Francis should as an equivalent obtain the reversion of Tuscany. No opposition was made to this arrangement in Lorraine. This was a virtual incorporation of the Duchy with France. Stanislas ceded his ducal rights to the French crown retaining only an annuity. At his death in 1766 it was formally united to France. The nobles soon adapted themselves to the change in their political relations, the body of the people became in less than a generation homogeous with their western neighbors in language and feeling and in 1789 no perceptible difference existed between them and the rest of France.

In the concluding part of his address Sir W. Thomson
seems that "the essence of Science consists in inferring
antecedent conditions and anticipating future evolutions from
Phenomena which have actually come under Observation"
In Biology it is very difficult to act up to this lofty ideal
The Biologists of the present day are however endeavoring to
pass beyond the mere "Natural History" stage and bring Zoology
within the range of Natural Philosophy. Many believe that
under meteorological conditions very different from the
present dead matter may have run together or crystallized
or fermented into "germs of life" or "organic cells" or
"protoplasm". Prof. Huxley in his address of last year
brought a vast mass of evidence against this theory of
Spontaneous generation - Abiogenesis - and the speaker
is convinced that dead matter cannot become living
without coming under the influence of matter previously alive.
He utterly repudiates as opposed to all philosophical
Uniformitarianism the assumption of different meteorological
conditions to produce or permit that to take place, ~~which~~ by
force or motion of dead matter alone, which is a direct
contravention of what seems to us biological Law.
Such researches as those of Pasteur Pouchet and
Bastian whether positive or negative must be productive
of good results. He is ready to adopt as a scientific
Article of faith, true through all space and all time,
that life proceeds from life and nothing but life.

How then did life originate on the earth. "Tracing the physical history of the earth back, we are brought to a red hot molten globe on which no life could exist" this goal is reached within the limit of 100.000.000 years, it may be less, certainly not more, Darwinian degrees 100. or 1000 times longer.

"Hence when the earth was first fit for life there was no living thing on it. There were rocks solid and disintegrated water, air all round, warmed and illuminated by a ~~brilliant~~ brilliant sun ready to become a garden." Did grass and trees and flowers spring into existence spontaneously? This is in contravention of every known biological law. Were they the result of a fiat of Creative power? There is no necessity to invoke an abnormal fiat of creative power if known causes directed by an all wise Intelligence are adequate to account for the origination of existing phenomena.

"Science is bound fearlessly by the immutable laws of known to face every problem which can be presented to it. The following is a possible and not improbable solution

"When a lava stream flows down Etna or Vesuvius it quickly cools and becomes solid and after a few years teems with vegetable and Animal life which for it originated by the transport of seed and ~~ova~~ ova and by the migration of individual creatures to it." The same happens to an island raised from the bed of the ocean. It is soon covered with verdure originating from seeds wafted thither from other islands. "Is it not possible that the beginning of life on the Earth is due to similar causes"?

upon us with irresistible force, showing us through Nature the influence of a Higher Will and teaching us that all living beings depend on One Ever-acting Creator and Ruler."

This last is a noble sentence and worthy the illustrious Scientist who penned it. Whether his theory of the origin of life on this planet be true or merely a fanciful speculation, one thing is true; It is Theistic. Upon this ground the battle of Christianity against its assailants must be fought. We feel assured that the truths of Revelation when rightly interpreted are in perfect harmony with the well established truths of Science, and that it has nothing to fear from Scientific investigations honestly faithfully and fearlessly carried out lead where they will.

Every year thousands, millions of fragments of solid matter fall upon the ~~Earth~~ Earth. Whence do they come? Were they created in the beginning of time shapeless masses? All men discard this idea. It is certain that some, probable that many are fragments of large masses which have been broken off and launched into space, Collisions between the Earth and some of these is certain to take place, certainly has taken place. These if fragments of large Planetary masses clothed with vegetation and animals low in the scale of existence would become the vehicle for introducing such flora and rudimentary fauna to this earth, and according to the doctrine of Continuity developed by Mr Grove these would furnish a starting point for the evolution of animal~~s~~ and vegetable~~s~~ ~~to~~ life higher and more complicated in structure than themselves. ~~The speaker~~ Sir William is satisfied that Mr Darwin's hypothesis of "Natural selection" does not contain the true theory of evolution, if evolution there be in Biology, He endorses Sir John Herschel's view of "Natural selection" "that it is too much like the Laputan method of making books, and that it did not sufficiently take into account a continually guiding and controlling Intelligence, He is convinced that the Argument from design has been too much lost sight of~~s~~ in recent Zoological speculations. "Overpoweringly strong proofs of intelligence and benevolent design lie around us and if ever paplexities whether metaphysical or scientific turn us away from them for a time, they come back

Can we for a moment suppose that the collected results of a Geological Survey of Great Britain would be deposited anywhere in Great Britain but ~~in~~ in the Royal Institution or the School of Mines? or of France anywhere else than in the Ecole Polytechnique? or in Prussia than in the great Laboratory made famous by the researches of Magnus? or in Michigan ~~in~~ than in the Cabinets of her University? The little Canton ~~in~~ of Zurich not much bigger than the County of Fayette not long ago established a Technical and Scientific School at at ~~only~~ outlay of $500.000. Think you the results of Geological Surveys would go anywhere within the limits of the brave little Canton than to the seat of her School founded at such - to them - tremendous cost? I do not ask the Legislature to place her Cabinet of State minerals here because it is Lexington. but because here is the State College of which the Legislature of Kentucky are the guardians. For the Institution here the State has done absolutely nothing, not a dollar of endowment, not a dollar for buildings, not a dollar for farm or workshops. and now when an opportunity occurs of enriching it by a cabinet whose value ~~will~~ can not be expressed in dollars and cents, ~~and~~ the benefits of instruction from which shall accrue to the sons of Kentucky, the sons of the Mountains and the hills, sons who are toiling by the sweat of their brow to earn an education and lift themselves up by force of intellect to a position which their antecedents ~~d~~ deny them that a ~~a~~ proposition should be entertained of localizing what properly belongs to the State and to the young men of the State seeking to know the resources of the State is inconceivable

I appeal to the State Legislature to show their appreciation of the demands of Science by placing the State Cabinet where alone it should in order to be made available for Instruction

Your obedient servant Jas K Patterson - President.

whose coal and iron would pay the national debt of Great Britain if they formed an integral part of the United Kingdom. There are now to us comparatively valueless but becoming of more consequence every year. Every Railroad completed every acre of land brought under cultivation, every Manufactory established every Emigrant attracted to our midst adds to render them more valuable and their commercial availability nearer. Most of their mineral deposits are in the more rugged and mountainous parts of the State where from poverty of the soil and lack of the intercommunication their inhabitants have been unable ~~to appreciate their value, or if appreciated~~ to develop them. ~~Ap~~ A Collection such as the State Geological Survey contemplates would be of incalculable value both for information which is important and for instruction which is far more important. It is desirable that both these ends should be accomplished but especially the latter. It is important that the curious should know what exists but it is more important that the Scientific man should know why and how it exists. If two or three Collections such as come within the intention of the Bill be made it is important that one should be at the State Capital another at the Commercial Metropolis of the State, and for that matter wherever else sufficient interest exists to desire it. But if only one Collection is made then it should by all means be placed where the paramount object of all Mineralogical and Geological Cabinets can best be realized viz Instruction. It should be where the youths of the State are sent by the State to learn Instruction. It should be made a part, an integral part of the State Endowment of a Scientific Institution. It should be where Geology and Botany Mineralogy and Zoology and Palæontology are taught under the organic law of the State constituting its Agricultural and Mechanick College

the Sciences whose end is to develop and stimulate skilled Labor. Our own people in many sections of the United States have caught the spirit of the age and the endowments Congressional State and individual of Industrial Scientific and technical Schools may now be counted by Millions Already the Congress of the United States has given of the public lands of the nation what under proper management ought where been an ample endowment especially had it been supplemented where necessity required by State aid. ~~We~~ I regret to say that no State has realized less endowment fund in proportion to Congressional allotment than Kentucky This is owing to causes already familiar to the public and need not now be dwelt upon. While Kentucky has only $165.000 to show for her 330.000 acres other states which did not ~~so~~ receive half as much public land have ~~contented~~ converted it ~~it~~ into endowments much more remunerative These two have been largely increased by State aid in almost every State in the Union except Kentucky. Cornell University founded in the interests of Scientific Culture and advancement has an income larger than our entire State endowment, and increasing annually Illinois Michigan Ohio and Kansas, even the impoverished State of the South far surpass the State provision for the support of the Agricultural and Mechanical College of Kentucky University the entire proceeds of which make the pittance of $9.900 per annum.

I have been led to these remarks by the provisions of the Bill for the Geological Survey now before the State Legislature and the amendments proposed. The bill contemplates ~~an~~ ~~appropriation of $10.000 for its completion~~ a collection ~~of~~ ~~gen~~ representing the natural History past and present of the State, its Geology Mineralogy Palaeontology and Botany. This if properly done would be invaluable

State College of Kentucky,
Jas. K. Patterson, Ph. D., President.

About 1895

Lexington, Ky.,

Fifteen years ago the State College of Kentucky was confined to an old dwelling house on the grounds of Kentucky University, from whicj it had been severed in I878 and left with absolutely nothing except the annual income of $9900 from the U.S.

Within fifteen years seven houses have been built, the main building (finished in I882), two dormitories, the President's house, the Commandant's, the Experiment Station (built, burned down and rebuilt), the Mechanical Engineering Shops, the Veterinary Building. Besides these laboratories with abundant apparatus and other appliances have been provided for the illustration of physical Science or for use in horticulture and Mechanism, and lastly a model and experimental farm of 48 acres.

Since I878 it has accumulated in grounds, buildings and equipment property equal to $400.000.

In April I880 there were seven departments of study: History, Political Economy and Metaphysics, Agriculture, Botany and Horticulture, English Military Science, Mathematics, Chemistry and French and German. Since then eleven have been added, making eighteen in all; the Normal School, Greek and Latin and the Academy, added in I880; Civil Engineering, Geology and Paleontology, Veterinary Science, Physics, Elocution and Oratory and the Experiment Station somewhat later.

In April I880 there were seven professors, now there are twenty-eight.

Since I878, the date of the severance of the College from Kentucky University, the matriculation of the College has increased nearly five-fold

And during the period from 1890 to 1895 it has graduated more students than in the 25 years preceding. Nevertheless it is and has been a matter of earnest inquiry how we can increase the number of our students and render the College still more useful. Perhaps we have relied too much upon the gradual recognition of the superior advantages that the College undeniably offers for instruction in all its departments, especially in all scientific and practical studies. Measures have been taken, however, to advertise the College more thoroughly, and make more clear to the school superintendents and the people of the different counties the provision that has been made for free instruction for at least one thousand of the young people of the State each year.

In 1890 a committee of the Legislature with Hon. Robert J. Breckinridge as Chairman visited the College and after a very minute and searching investigation continuing for days, and upon sworn testimony of numerous witnesses, reported that they had found the College to be well conducted. Their report had for the College unstinted praise, and only one word of censure and that for a provisional arrangement which it was hoped would prove advantageous to the College but which was subsequently discontinued.

In conclusio n permit us to say that we will profit by criticism as far as it is warranted by fact or sustained by reason. As far as our critics are misinformed as to fact or fail in impartial judgement, a little temporary harm may be done, but not much; for at last the State College must stand or fall or its real merits as an institution of learning

on its increasing facilities for instruction and especially on the attainments, ability and ~~xxxxxxx~~ fidelity of its faculty, which in due time the people o f the State will clearly understand and justly appreciate.

The present corps of professors must in the course of nature gradually change, bu the State College, so wisely planned and carefully fostered by its earliest friends, will live on and be to all succedding ages blest.

The representatives of the people of the Commonwealth in the legislature and in the Constitutional Convention who established the ~~Colle~~ College and laid its foundations deep in the Statute law and the Constitution did a work worthy of praise and sure to be remembered by a grateful people.

The Board of Trustees has always been careful, conservative and business-like. Appointed by the Governor and confirmed by the Senate they have uniformly been trustworthy and intelligent citizens.

The limited support that the College has received from the State has been most carefully, economically and jealously guarded and made fruitful by the ~~wide~~ wisdom and vigilance of the honored Scotch American who stands at its head. Whatever criticism, just or unjust, he may be called on to bear, those who have been near him and known him best must evermore be constrained to testify to his unswerving loyalty to the Institution - the joy and crown and heir of his childless age.

State College of Kentucky,
Jas. K. Patterson, Ph. D., President.

Lexington, Ky.,

The past at least, is secure. The future is before us all. Let us trust that the unrecorded page of our history will fulfill the brightest hope of all the friends of the State College of Kentucky.

Know all men by these presents that the Agricultural & Mechanical College of Kentucky a Corporation Chartered by the laws of the State of Kentucky is held and firmly bound to the United States of America in the penal sum of Nine thousand Five Hundred & twenty five 10/100 dollars for the payment of which well and truly to be made to the Secretary of War or to such officer or person as he may designate the said College doth bind itself firmly by these presents Given by the Agricultural & Mechanical College of Kentucky and under the seal of the id College this 4 day of April 1883

[illegible]

[illegible]

that whereas the id Agricultural & Mechanical College of Kentucky is an established College within the United States having capacity to educate at the same time not less than one Hundred and fifty male students and whereas the said College has heretofore applied to the President of the United States to detail an officer of the army to act as Professor thereof and the President by virtue of the authority vested in him by section 1225 Revised Statutes has detailed such an officer to act accordingly and whereas the Secretary of War by the authority vested in him by said section is about to issue to said College for the military instruction and practice

of the Students thereof the following arms &c to wit

2	3 inch rifled guns wrought iron model 1861 at $450	$900.00
2	Carriages and limbers 3-inch gun $325	650.00
2	gunners havernacks at $3.35	6.70
2	Handspikes trail at $1	2.00
4	Lanyards at 10 cents	.40
2	Priming-wires at 10 cents	.20
4	Sponges and rammers 3-inch at $1	4.00
4	Sponge-covers 3-inch at 30 cents	1.20
2	Tube pouches at $1.50	3.00
4	Thumbstalls at 20 cents	.80
2	Tompions 3-inch at 30 cents	.60
2	Vent covers at 40 cents	.80
1	Pendulum hausse 3-inch	2.50
1	Pendulum hausse seat	.60
1	Pendulum hausse pouch	.75
150	Springfield "cadet" rifles Cal. 45 with appendix at $18	2700.00
150	Bayonet scabbards steel, cadet at 91 cents	136.50
150	Waist belts and plates at 50 cents	75.00
150	Cartridge boxes Cal. 45 at $1.25	187.50
20	Noncommissioned officers swords at $4.50	90

being together of the value of Four thousand Seven Hundred and Sixty Two 55/100 dollars All of which property when issued the said College hereby agrees to account for quarterly on blank forms to be prescribed by the Chief of Ordinance and to return all of said

property to the chief of ordinance or such officer or person as may be designated to receive the same within thirty days after demand by the Secretary of War

Now therefore of the said College shall take good care of and safely and account for the said property and shall when required by the Secretary of War duly return the same within thirty days in good order to the Chief or Ordinance United States army or such officer or person as the Secretary of War may designate to receive them then this obligation shall become inoperative and void. Otherwise shall be and remain in full

The conclusion of this obligation is such that whereas the Agricultural & Mechanical College of Kentucky is an established College within the United States having capacity to educate at the same time not less than one Hundred and fifty male students and whereas the said College has therefore applied to the President of the United States to detail an officer of the army to act as Professor thereof and the President by virtue of the authority vested in him by section 1225 Revised Statutes has detailed such an officer to act accordingly and whereas the Secretary of War by the authority vested in him by said section is about to issue to said College for the military instruction and practice

property to the chief of Ordnance or such officer or person as may be designated to receive the same within thirty days after demand by the Secretary of War

Now therefore if the said College shall take good care and safely and account for the said property and shall when required by the Secretary of War duly return the same within thirty days in good order to the Chief of Ordnance United States Army or such officer or person as the Secretary of War may designate to receive them then this obligation shall become inoperative and void. Otherwise shall be and remain in full

force and virtue

The Agricultural and Mechanical College of Kentucky by
W. B. Kinkead ch of the Ex Committee

James R. Pallerton
Assistant Secretary.

[Nov. 29, 1910.

Educational circles throughout the United States of America will learn with regret and sorrow of the death on November 29, 1910 of Matthew Henry Buckham, eleventh President of the University of Vermont, into which office he was inducted in 1871, succeeding James Burrill Angell, late President of the University of Michigan in that high office. Dr. Buckham was born in Leicestershire, England, in 1831, and came to this country with his parents in infancy. His father, who was born in Scotland, was brought up in the Presbyterian Church, but after his removal to England, became a clergyman of the Independent or Congregational Church. Upon arriving in this country, he settled in Vermont, continuing in the ministry of the Congregational Church until his death.

Matthew, the subject of this brief sketch, entered the University of Vermont at the early age of fifteen, graduating in 1851, with the highest honors. Shortly after graduation he became Principal of Lenox Academy, Lenox, Mass., and later tutor in the University of Vermont. Sometime thereafter he went abroad and studied for several years in Europe, devoting himself principally to Greek, to the chair of which he was appointed in his alma mater on his return from abroad. In 1871 Dr. James B. Angell resigned the presidency of the University to accept the presidency of the University of Michigan, and upon his resignation Dr. Buckham was unanimously elected to fill the position. His thorough education in classics, his familiarity with mathematics and metaphysics, his wide knowledge of history and his university training and experience both as student and professor eminently qualified him for the duties of the high office into which he was inducted and in which he continued to serve the University of Vermont until his death.

After the resignation of President Patterson of the

State University of Kentucky, Dr. Buckham became the oldest surviving President in point of service of any State University in America. The University of Vermont made marked progress in growth and in development after Dr. Buckham became President. During his administration the number of students matriculated increased seven-fold, the available resources of the University ten-fold, and the faculty five-fold. During his long period of service the University grounds were adorned and beautified and new buildings added, notably the Billings Library, to the erection of which Mr. Billings, an alumnus of the institution, contributed $150,000., and which is one of the most attractive library buildings in America, and the home for young men, erected at a cost of $200,000., through the munificence of the late Mr. Conant of Philadelphia.

The University of Vermont has as an integral part of its organization one of the oldest medical colleges in America. Founded in 1825, it has given to the medical profession in the United States some of the most distinguished members of the faculty of medicine.

Dr. Buckham's early training in classics and philosophy, and his thorough familiarity with English literature made him a rare master of English composition. His style was pure, elegant, exact, his wealth of illustration felicitous in a high degree, his range of information wide and his familiarity with the problems of the day, civic, educational and ecclesiastical, was unsurpassed in its compass and in its depth. Singularly modest and unobtrusive in his demeanor, a great occasion was required to bring out the wealth of his knowledge and the dignity and elegance of his expression. The writer has frequently remarked upon the unsurpassed beauty of his style and his easy and graceful elocution.

For many years he was a member of the Association

of Agricultural Colleges and Experiment Stations, and of the Association of State Universities. When he participated in the proceedings of these bodies, he was listened to with the most profound respect and all who heard him felt inspired and stimulated by his utterances. He impressed all with whom he came in contact by his singular candor, his freedom from hypocrisy and cant, his robust and manly honesty and integrity, his devotion to educational ideals and his thoroughly safe and sound conduct and management of educational affairs.

Dr. Buckham was ordained a minister of the Congregational Church early in life. While ready to accept whatever of permanent value was obtained through biblical criticism and archaeological research, he adhered stoutly to the fundamental essentials of Christianity.

He died full of years and of honors, leaving behind him a name and a reputation second to none of the illustrious men who preceded him in the presidency of the University of Vermont. The University was founded in 1790. It has been fortunate in the great men who have been called to preside over its destinies, men of ample scholarship, broad culture, scientific training, university education at home and abroad, experience in collegiate work and administration. They were able to discern the wants and adjust themselves to educational problems with rare insight, assiduity and success. They were no hap-hazard, rule of thumb empirics, but men trained to do the work which only trained men can do. Austin and Marsh and Torrey, each of whom stood in the foremost rank among educated men in America, did much to make the university famous. Their mantle fell upon Matthew Henry Buckham, who carriedon worthily the traditions of the great university whose founders and builders they were, and made its name and work still more famous than it had been under the leadership of his illustrious predecessors.

[Jan. 25, 1911]

The German, the Frenchman, the Italian, the Russian, when resident abroad, always speak of their respective countries as the fatherland. So the Roman spoke of his country. To him it was patria. Ennius and Cicero, Virgil and Horace, always speak of the land of their birth as the fatherland. Horace, quoting Tyrtaeus, who wrote the war songs which made Sparta victorious in the Messenian war, said : "Dulce et decorum est pro patria mori," and established in this line the fact that Greeks also thought of Hellas as the fatherland.

Britons and the descendants of Britons, whether at home or abroad, always speak of the British Isles as the mother country. They never use the expression "fatherland". Why is this? There must be some reason for it, lying deep down in the consciousness of the race. We think of our fathers; we respect them, admire them, revere them, perhaps adore them. We think of our mothers with a more tender, a more passionate devotion. We love them; our characters were moulded by them; we learned to lisp the prayer at our mother's knee. By them were tenderly cared for, soothed in sickness, tucked away in bed at night, encouraged, corrected, led into the paths of righteousness. From them we learned the lessons of devotion, self-denial, tenderness, affection, love, and we loved them in return. Is it because we think of our native land as a mother and not as a father that we always speak of the mother country and never of the fatherland?

Scotland is a small country, about three-fourths the area of Kentucky. More than half its area is covered with mountain and loch, hill and glen, untillable, the scenery of the grandest, mountains covered with eternal snows and long fiords penetrating deep inland, now bathed in sunshine and now swept by storm and tempest. The physical configuration is suggestive of sublimity, immensity, omnipotence, eternity, and awakes kindred conceptions and emotions in the human soul. The objective

facts beget the subjective ideas which lie at the basis of religion - God, infinite, and eternal and inchangeable in his being, wisdom and power, is the natural and inevitable corollary of association with nature in her sublimest moods. And where can they be found in greater beauty and perfection and grandeur than in Scotland?

The Scot is then religious by nature and upon this stock Christianity, when grafted, grows and develops a type of religion natural, rational, strong, intense, profound, dignifying and ennobling a religion which makes its possessor fear God and have no other fear. In three-fourths of the country, physical conditions, topographical and climatic, rendered the life of the cultivators of the soil a hard one and for a long time agriculture was necessarily the predominant occupation of the masses of the people. The conditions were not so rigorous or forbidding as to discourage effort, but they taxed the energies of the laborer to the utmost to wring a scanty subsistence from the soil. These conditions brought into play essential elements in the formation of the national character, industry, resolution, perseverance, hardihood, economy, frugality, thrift, the adaptation of means to ends. On a very meager income, often not more than a few shillings a week, a comfortable cottage was maintained, ample food provided, large families reared, comfortably clad and fairly well educated, thanks to the parochial and grammar schools. These for more that three centuries, maintained partly by public funds and partly by the fees of pupils, prepared students for the university classes in St. Andrew's, Aberdeen, Glasgow and Edinburgh. To these many a young man from the family hearth and the reek of a peat fire, with a bag of oat-meal on his back and a few shillings in his pocket, wended his way and maintained himself in respectability during his college course, returning at last with his diploma in his pocket and a good education, a strong hand and a stout heart, ready for medicine, the pulpit,

the bar, the army, the civil service, and if he could not find employment at home, ready to seek service abroad.

It is easy to imagine what the influence of the people of such a nation would be, even before the period of the Reformation. The nationality of Scotus Erigena in the ninth century may be questioned, but that of Duns Scotus in the thirteenth is beyond dispute. The Doctor Subtilis, as he was called, had no equal among the exponents of scholasticism in his day and his still extant Latin works attest the vigor and extent of his attainments. Meanwhile James I, John Barbour, who sang of Robert Bruce, and blind Harry, who commemorated the doughty deeds of Wallace, Sir David Lindsay of the Mount, Gavin Douglass, Bishop of Dunkeld, had cultivated the muse with marked success. Dunbar does not suffer in comparison with Chaucer, while Douglass surpassed all his contemporaries in his mellifluous rendering of the Mantuan bard. During the transition period known as the Renaissance, the prodigious learning of the Admirable Crichton amazed the universities of Paris and Bologna, while the massive classical Latinity of George Buchanan gave him rank with Turnebus the Scaligers, Causabon, Lipsius and the Humanists. A special distinction, moreover, belongs to Buchanan, namely, that in his "De Jure Regni", published in 1579, he, first of all authors, ancient or modern, assailed and repudiated the doctrine of the divine right of kings. In a conversation with Mary Queen of Scots, many years before, John Knox had explicitly taken identical ground.

After the Reformation, Scottish scholars multiplied and after the accession of James VI of Scotland to the English throne and the union of the two crowns, found wealth and distinction in increasing numbers south of the Tweed.

During the eighteenth century, there was in Scotland a period of literary activity, principally in and around Edinburgh, far surpassing anything which had preceded in the British

Isles and rarely equalled since.

The occasional wars with England, the frequent civil strife at home and the forays on the border failed to afford sufficient employment for their adventurous spirit. Many of them became soldiers of fortune and fought and won on the continent, oftentimes carrying with them whole regiments recruited in their native land. When the battle of Agincourt laid France prosprate at the feet of England and transferred the crown of Charles VI to Henry V, the Scots under the Earl of Buchan, seven thousand strong, crossed the channel, flung themselves on the flank of the English under the Duke of Clarence, in the battle of Beauge, and the gallant son of the bravest of the Plantagenets fell upon the fatal field. The victory thus won by the brave warriors of the north opened the way for the marvellous career of the Maid of Orleans, re-established the monarchy of the Capets and placed the fugitive French king upon the throne of his ancestors.

When Frederick the Great of Prussia was in the throes of a mortal conflict, assailed by enemies on every hand, baffled and exhausted, James Keith, Earl Marshall of Scotland, came to the rescue, Kunersdorf was avenged, Frederick triumphed and the establishment of the German Empire under a Hohenzollern was made possible 120 years later. When the existence of the German Empire was threatened by the treachery and revolt of Wallenstein, the desperate valor and heroic promptitude of a Scot in the imperial service, Walter Leslie, throttled the conspiracy, slew the conspirators and stayed the falling empire.

And, not to multiply instances, when the Russian Empire was beginning to take shape at the close of the seventeenth century, under Peter the Great, Patrick Gordon, a Scot of Aberdeen, was the most trusted adviser of the Czar. He it was who crushed the rebellion of the Strelitzes and cleared the way for the establishment of the Empire. Another Scot, Sir Charles Greig of Inverkeithing, with the consent of Great Brit-

ain, created the Russian Navy, became Governor of Kronstadt and built its impregnable fort ifications.

In America, too, the Scot played a conspicuous part in creating the great Republic. Not to speak of the earlier colonists, there were no less than 250,000 Scots from Scotland and Ulster who migrated to the colonies between 1700 and 1751. These, for the most part, voluntarily expatriated themselves because of their attachment to the exiled House of Stuart and their cordial hatred of the Hanoverian dynasty which succeeded. These immigrants sett led in Pennsylvania, Virginia and the Carolinas, and from the day they landed, became centers of disaffection and disloyalty to Great Britain. These fanned the flames of discontent and revolution. These filled the armies of the middle states and of the southern states and formed the back-bone of resistance to England. John Witherspoon, a Scotchman and a Jacobite, President of Princeton College, by his fiery impassioned eloquence, brought about, with the aid of Wilson of Pennsylvania and of Patrick Henry of Virginia, the final adhesion of the members who hesitated to sign the Declaration of Independence. These were the men who defeated Ferguson at King's Mountain, and in the trenches before Yorktown forced the surrender of Lord Cornwallis. Not by the Puritans of New England or the patroons of New York and New Jersey or the Cavaliers of the South was independence precipitated and won, but by the hardy Scots of Scotland and Ulster.

When the struggle was over, Knox, Hamilton and Randolph, all of Scottish descent, became members of Washington's first cabinet. James Wilson of Pennsylvania wrote the Constitution and Hamilton established the fiscal system of America. Lindley Murray of Scott ish descent, and James McCosh, a Scot to the manner born, were our countrymen, and among the greatest benefactors the world has ever seen, John S. Kennedy and Andrew Carnegie, whose millions pour fort h with an unstinted hand, for establishing libraries, endowing research and vitalizing

the crusade for peace, were born in Scotland. Washington Irving's father came from Orkney and Golden, the father of American Botany, was born in Duns. James Gordon Bennett came from Bamff, and David Henderson, late spea ker of the House of Representatives, from Aberdeen, and James Wilson, the veteran Secretary of Agriculture. from Ayr. Of the twenty-six Presidents of the United States, six have been of Scottish descent, a percentage far in excess of the percentage of population, while of bankers, mamufacturers, inventors, statesmen, judges, military and naval officers, scitntists and men of letters, the proportion is still higher.

In the great colossal dependencies of the British Empire and India, Scotchmen have been master-builders. Mungo Park, James Bruce, Hugh Clapperton, James Grant and David Livingston opened the dark continent to European civilization. Cathcart and Loch, Mackenzie and Jameson, Grant and Fraser, shaped the political destinies of South Africa. And when the Boer War came on, MacDonald, Wauchope and Dundonald bravely upheld the glory of the Scottish Highlanders and the honor of the British arms. No higher tribute could be given to the rank and file of any army than was paid by General Botha in an address at Edinburgh at the close of the war. Conspicuous among these heroes were the officers and men of the Highland regiments whose conduct upon the field evoked the highest encomiums from Lord Kitchener and Lord Roberts.

In India their record is unsurpassed for statesmanship and military prowess. Malcolm and Elphinstone, Monroe and Ochterlony and Minto helped to lay the foundation of British dominion. Dalhousie rounded off the empire in the north by the annexation of the Punjab. Napier was the conqueror of Scinde. When the dark days of the mutiny threatened the extinction of British rule, Lord Elgin, Sir Colin Campbell, Sir Patrick Grant, Sir John Nicholson and Sir Hugh Rose stemmed the rising tide,

relieved the beleaguered fortresses, stormed the ramparts of the mutineers and restored the peninsula from the Himalayas to Cape Cormorin to the British crown.

Every square mile of the Dominion of Canada bears witness to the intrepid perseverance and valor of the Scot. Bruce and Selkirk and Mackenzie as explorers, Brown, MacDonald and McNab as statesmen, Strathcona, Mt. Stephen, Allen and Cunard in railway and steamship enterprise, have made the Dominion of Canada a great dominion, carrying within it the promise and the potency in the no distant future of a mighty nation.

An equally unique record of exploration and administration and statesmanship is found in the Commonwealth of Australia. McArthur, Brisbane and Stout, McCulloch and Mackenzie, McKinley and Cochburn, traversed its wilds and made known its possibilities. Hopton and Kintore, Carmichael and Gordon, Cameron and McLean, shaped the political destinies of the rising empire under the southern cross and made confederation possible. At no distant day the Commonwealth of Australia and New Zealand will dominate the political destinies of all south-eastern Asia.

What has Scotland done for literature, science and the application of science to the industrial pursuits and professions of life? There were four great historians in the eighteenth century, and Scotland gave birth to three of the four. Edward Gibbon, whose "Decline and Fall of the Roman Empire" is destined to last for all ages, was an Englishman; Principal Roberts, whose "Charles V" still holds its place as a classic, Adam Ferguson, whose "Progress and Termination of the Roman Republic" gave him fame and fortune, and David Hume, one of the greatest names in the recorded annals of time, whose history of England is still issued in thousands of volumes from the printing presses of Britain and America, were Scots. And within the last century, no historians rank higher in Europe or America than Lord Macaulay and John Hill Burton.

Kames is still among the first authorities in criticism. Monboddo, followed later by Chambers, led the way to the vast generalizations of Darwin and Wallace. Blackwood's, founded in 1817, led the way in magazine literature, and the Edinburgh Review in the great quatterlies. Boswell's Johnson stands alone as the greatest biography of all time and Sir James Murray, editor of the Dictionary of the Philological Society, now nearing its completion in ten huge quarto volumes, is giving to the world the most stupendous production in lexigography that has ever been undertaken by man.

The Scottish pulpit has been famous since the Reformation. During the earlier period, there were no more eloquent or effective ministers in the British Isles than Knox, Melville and Rutherford, Brown, Fisher and Erskine, while in later times none have stirred the souls of men like Chalmers, Guthrie, Cairnes and Caird. These kept the lamp of civil and religious feeling burning and impressed the doctrines of the sovereignty of God and the brotherhood of man upon their countrymen forever.

In mathematics, Baron Napier of Murchistoun, by his discovery of logarithms and the "Circular Parts", made possible the Principia of Newton , the quaternions of Sir William Rowan Hamilton and the transcendental functions of the mathematicians of Germany. Clerk Maxwell and John Tyndall and Joule and Meyer and Helmholtz all gracefully yielded the palm of superiority to William Thompson, Lord Kelvin, the modest humble, reverend, incomparable physicist, whom all learned bodies in all civilized nations delighted to honor.

In medical science, Scotland has been conspicuous for three hundred years. Her halls were thronged with students from America and from every country of continental Europe, who came to sit at the feet of Pitcairne and Munro, Cullen and Brown, Arbuthnot and Bell and Syme, Clark, Lister and Gordon, Sir James Simpson and Lord Liston.

In philosophy and economics, the Scot is at home. Not to speak of lesser lights, I may say that the "Treatise on Human Nature" of David Hume and his "Essay Concerning the Human Understanding" made a notable epoch in the history of modern philosophy. The pre-determined harmony of Leibnitz and the idealism of Berkeley both collapsed like eggshells under the universal solvent of Hume. The re-action which followed made possible the philosophy of common sense of Reid and Sir William Hamilton, the pure reason of Kant and the idealism of Hegel. Of these, in my opinion, Hamilton, in grasp, in compass and in colossal learning, stood in advance of all. Adam Smith's "Wealth of Nations", the most momentous book ever sprung upon the world, appeared in 1776. Dealing as it does with the fundamental problems of government, economics and sociology, it has dealt more profoundly with the problems of statesmanship, production and distribution than all other agencies combined. Adam Smith will continue to be the standard authority on all subjects relating to these for all time.

A people so practical and at the same time so metaphysical, as the Scot, might be expected to apply themselves with eagerness and success to the study of jurisprudence, and so it has been. The relations of church and state and of individuals to the one and the other have been an absorbing and prolific occupation. The elements of canon and common and civil law found in combination in Scotch law afford an unusually inviting field. It has given to the bar Mansfield and Cochburn and Jeffrey and to the woolsack Loughborough, Erskine and Brougham, Campbell and Loreburn, the present Lord Chancellor. The researches of Sir Henry Sumner Maine upon the origin of law are accepted as a classic and the authority for all time. Equally well do they play their part in statesmanship. Within a century Aberdeen and Gladstone, Roseberry and Balfour and Campbell-Bannerman have been first ministers of the crown, and though Presbyterianism is the

very antithesis of Episcopacy, Gilbert Burnett became Bishop of Salisbury, Archibald Campbell Tait and Randall Thomas Davidson Archbishops of Canterbury, and the late Archbishop of York, Dr. MacLagan, and Cosmo Innis, who now fills the see, were all born north of the Tweed.

On many a well-fought field, Scottish soldiers and Scottish regiments have served their country well. Abercrombie at Ticonderoga and in Egypt, Crawford and Sir John Moore and Lord Lyndock and Napier in the Peninsula, Sir Colin Campbell in the Crimea and in India, Dundonald and Duncan on the sea, were among the bravest of the brave. The 42nd and 92nd and the terrible Scotch Grays, in a terrific charge, which extorted the admiration of Napoleon, even in defeat, won the day at Waterloo.

And now it remains to say a word of the practical application of science. Watt invented the steam engine and made possible the prodigious advances made in commercial, industrial and manufacturing enterprise which followed. George and Robert Stephenson applied it to locomotive traction and became the founders of railway enterprise throughout the world. Rumsey and Symington and Fulton applied it to steamboat navigation, while the Lairds of Birkenhead and the Napiers of the Clyde led the way in ocean steamship architecture and built the mighty fleets which carry millions of tons of merchandise and hundreds of thousands of passengers every year. Lord Kelvin laid the first Atlantic cable. Alexander Bell has given us the telephone and Thomas Edison, half a Scotchman, the hundreds of inventions which lighten labor, quicken transmission and cheer the home.

In business, clear-headed, exacting all that is due, but readily conceding all that belongs to others, diligent, thrifty, provident, economic, even parsimonious, until a competence is provided, and then distributing with a generous hand, he readily leads in all commercial, industrial, manufacturing and banking enterprises. Trusted and respected and sometimes dreaded

by his competitors, he pushes on to respectability, dignity and affluence, extracting and extorting wealth from every enterprise open to human activities. William Patterson founded the Bank of England and the Bank of Scotland. George Herriott was the banker of James I and John Coutts of George III. The first bank in Chicago was established by George Keith and the Forgan Brothers today are among the most prominent financiers of the metropolis of the west.

Burns, whose anniversary we celebrate tonight, has already had his meed of praise, but there are other masters in the realm of song whom we cannot pass by. In Prince's Street, Edinburgh, stands the monument of one of the great/est Scots and greatest men of all the ages. In prose and verse, in bigness of heart and massiveness of brain, he is conspicuous among all the Scotchmen of his time in intellect, in commanding influence and in moral grandeur, Sir Walter Scott. Robert Burns and Walter Scott withdrew the veil and revealed Scotchmen to themselves and to mankind, while among the lesser lights of Scottish verse, the Baroness Nairn, the Ettrick Shepherd and Robert Tannahill may justly claim honorable mention.

In the few moments allotted to me, I have endeavored to impress upon you the dignity of the noble heritage to which you were born. Scottish character is not unlike the rugged outlines and massive grandeur of its native mountains. The tempests which sweep over them pass away and leave them unmoved and the sunshine which follows reflects their sublime beauty in the limpid waters in the lakes and streams at their base. With a strong sense of duty, founded upon the sanction of a sound morality and having its roots in a religion undiluted by maudlin sentimentalism and unalloyed by the incorporation of alien elements, they stand in a certain sense apart from other races and creeds and yet in very intimate relationship with all mankind. The creed of the Scotch Presbyterian may seem hard and uncompromising. It may be so, yet the fact remains that it is a creed which made strong men and

tender lovable women, a creed which asserted and secured civil and religious freedom, a creed for which they became confessors and martyrs, a creed which, with the stern conditions of soil and climate, made a race of men never surpassed for qualities of head and heart and seldom equalled.

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

Froude, the historian, says: "Scottish Presbyterianism saved freedom once and may have to save it again."

And when the consummation of all earthly things shall come, when the sea shall give up its dead and they that sleep in their graves shall come forth, from many a churchyard, on hillside and strath and moor and glen of our native land shall come a goodly number of your ancestors and mine, whose robes have been made white in the blood of the Lamb, to whom the gates of Paradise shall be opened and who shall enter therein, and in that great and notable day, may you and I be there.

Mich. Agr. College June 20 1911

Mr. President, gentlemen of the Faculty, ladies and gentlemen:

I thank the President and Faculty for the invitation to deliver the address upon Commencement Day to the President, Faculty and students of the oldest Agricultural College in America. I well remember the dignity, the prestige and the influence of the University of Michigan when I was a student in college sixty years ago. It had then the reputation of measuring well up to Yale and Harvard and Princeton. Founded by the descendants of the good old Puritan stock who were the pioneers of civilization in these western wilds, it grew up to be an educational force in the great west, a mighty leverage for the uplift and progress of your own and neighboring states. Its success inspired other ventures along educational lines, which found expression in the establishment of this institution for the industrial education of the masses and in the establishment of normal schools for the education of teachers. To these beneficent activities I ascribe the wonderful

progress of your state in intelligence, in accumulated wealth and in industrial enterprise.

Today I propose to present you with a brief retrospect of events and movements within my personal recollection, in order that we may be able to contrast the close of this period intelligently with the past. It is good to look back over periods with which we have been identified, whether they be centennials or jubilees. During such intervals, whether long or short, the relations of things are constantly changing. Though all unconscious of the difference, we are not today what we were yesterday or will be tomorrow. Days and weeks and months and years move on and we move with them, with as little consciousness of movement as we are of the revolution of the earth upon its axis or in its orbit around the sun. It is only when we reckon by long periods of time that changed relations become obtrusive by contrast.

Thus it is in every state, in every county, in every

city; thus it is the world over. So in every community of Christian belief, and in every individual church of every communion. The standards of beliefs, confessions and creeds gradually and imperceptibly adjust themselves to altered conditions, to modifications in the accepted body of scientific truth, of metaphysical and ethical speculation, of social and economic doctrine. A most miraculous inherent power is this. The Christian faith is always in accord and always must be in ultimate accord with scientific and philosophic conclusions based upon a correct apprehension of God and a correct interpretation of nature and of man.

My recollections go back with tolerable distinctness to 1842. Andrew Jackson was still alive and the signal triumph of New Orleans was still fresh in the memory of those who had followed their redoubtable leader and with him achieved a notable

victory. Webster and Clay and Calhoun were still living and the forensic triumphs of this mighty trio lingered upon the lips of all the thinking and reading men and women of the Republic. The differences with Mexico, which resulted in the annexation of Texas, had not yet come within the sphere of practical politics, and the heroism which covered with glory the American flag upon the fields of Buena Vista, Cherubusco and Chepultapec had not yet been added to her triumphs by land and sea.

On the other side, the Iron Duke, the victor of Waterloo, was still living, and Gladstone and Disraeli had entered the arena of the House of Commons and had given promise of the mighty influence which they were destined to wield upon their respective followers. Sir Robert Peel, leader of the House, was maturing, but had not yet perfected his measures for the repeal of the Corn Laws and the establishment of free trade within the British Empire. Darwin and Huxley and Tyndal and Alfred Russell Wallace

had scarcely been heard of, and though Thomas Arnold had passed away from the scene of his scholastic triumphs, his influence was still potent in moulding the morals and developing the intellect and shaping the destinies of the kingdom. The disastrous campaign of Cabool had annihilated a British army in the defiles of the Kyber pass, but the veteran Marquis of Dalhousie had not yet rounded off the British Empire in India by the annexation of the Punjab.

Indefatigable discoverers had been experimenting with amaesthetics, but antiseptic surgery had not yet come into being. Pasteur and Koch and Lister were still in their swaddling clothes. Chemistry and physics and astronomical science and geology and biology were all still in their infancy, and coupled with a liberal course in mathematics, in metaphysics and in ancient languages, could all still be comprised within the limits of a well-ordered college curriculum. Agriculture too was still in its infancy;

indeed
/scientific agriculture did not then exist. The sickle and the cradle and the flail and the old-fashioned plow held the field and sufficed to meet the necessities of the agriculturist of the day. Steamship navigation had been introduced upon the Atlantic, but was still in its infancy. The railways of the United States covered less than one thousand miles, less than fifty of which were west of the Alleghenies. The anti-slavery agitation, which culminated in the terrible Civil War of '61-'65, was intensely sympathetic, vehement and aggressive, stimulating and fostering the antagonism of the slave-holder and laying the foundation of the gigantic contest which rent the nation in sunder for four years, deluged a large section of the country with blood and created an enormous debt, the effects of which we still feel today.

Visions of rifled guns and iron-clad men of war had been floating in the brains of artillerists and naval architects for years, but had not gone beyond the merely rudimentary, experimental

stage. The ideas of prolific inventors were crystallizing into definite shape, to find a realization later in huge cannon and armor-clad battleships and cruisers.

But if, meanwhile, before the outbreak of the Civil War, Jackson and Calhoun and Webster, Wellington and Peel; Blucher and Stein, had passed over to the majority, Lincoln and Grant and Lee; Kichener and Gladstone and Salisbury; Victor Emmanuel and Cavour; Von Moltke and Bismarck were ready to succeed them and to maintain undimmed the lustre and the dignity and the prestige which their respective nationalities had already won.

These preliminary remarks may serve as an introduction to the mighty epoch embraced within the last fifty years. At the conclusion of the Mexican War, the treaty of Guadaloupe-Hidalgo gave the United States the rich gold and silver-bearing common-

wealths of the Pacific Coast. The discovery of gold in California in 1849 stimulated travel and traffic in that direction. Thousands of pioneers traversed the weary and interminable plains west of the Mississippi and enduring untold privations, reached the goal of their wishes and of their destiny, after months of exposure to unwonted climatic conditions of cold and heat, sunshine and tempest, in plains and deserts never before trodden by the white man.

These conditions created a demand for greater facilities for travel and transportation than had existed heretofore. Lines of railway had multiplied rapidly in the states east pf the Mississippi and north of the Ohio, and as early as 1850, the journey could be made from Cincinnati to New York in thirty-six hours, but up until this time the conception had not dawned upon the most adventurous capitalists and speculators to connect the Pacific and Atlantic coasts by all-rail communication. In the late "'50's",

however, during the Kansas-Nebraska agitation, when settlers were thronging into these states to obtain lands by pre-emption and settlement, the demand for more rapid transportation quickly grew and the practicability of connecting the Mississippi with the states upon the Pacific was brought within the range of practical finance. The outbreak of the Civil War accelerated the impulse and ere its close, rapid progress had been made in connecting the distant and outlying commonwealths of the West with the great middle and eastern states. Corresponding advances meanwhile had been made in steamship navigation, and ere the close of the Civil War, iron-built vessels propelled by steam were rapidly displacing the wooden ships which had held the mastery of the seas from time immemorial.

In the early "'40's", telegraphic communication had been established and long before 1860 telegraphic lines were

in use all over continental Europe and all over the greater number of the States of the Union, bringing into immediate contiguity the larger cities and towns and all the more important villages upon the great railway lines. These arteries of communication, railway and telegraphic, inspired the nation with new ideas and created new hopes and new efforts to realize them. As early as 1858, the first Atlantic cable was laid, but unfortunately, after the transmission of the first message from the President of the United States to the Queen of England: "America and England united. Peace on earth, good will toward men," it broke in mid-ocean. Successful communication by sub-marine telegraph did not become an accomplished fact until 1865, when a new cable was laid and the old one repaired.

For this great triumph of electrical engineering skill, the world owes a debt of gratitude to two men, Cyrus W. Field of

America and Thomas Brassey of England. These two patriots contributed largely of their means upon a venture which many regarded as reckless and certain to end in financial disaster, but undeterred by the adverse conditions which confronted them, they bent their energies more readily to the task and by means of the Atlantic cable united in indissoluble bonds the mother country and the great republic of the west. During the crisis of its fate, Cyrus W. Field and Thomas Brassey and others held a conference in London. Field had exhausted the bulk of his fortune in the venture. The others stood aghast at the additional heavy drain upon their resources. Stout old Thomas Brassey, who had already contributed more than two fortunes, as fortunes were measured by the standard of that day, said: "I have already advanced more money to this enterprise than I originally anticipated. I may lose all of it, but I am willing to risk an additional £60,000 upon the success or failure of the enterprise."

The conference rose and in less than a year the Atlantic cable was successfully laid. I remember well the thrill of pleasure with which I read an account of this stupendous achievement.

The telephone came later; not until 1877 was the Bell telephone brought into use, somewhat immature in its construction and defective in its operation, but containing the beginnings of mightier things yet to be. After the lapse of thirty years or more, the telephone finds a place in almost every well-to-do household, ministering to the comfort and to the convenience of the private home, as well as being the indispensable adjunct of every executive office, political, industrial and commercial, throughout the length and breadth of the land. The close of the Civil War left the victorious republic exhausted and the South prostrated and bankrupt, but with the energy characteristic of the race, all set themselves to work to rebuild their ruined walls, to re-establish agriculture and commerce and in less than

twenty years the Phoenix rose from its ashes in richer plumage and with statelier stride than before the great calamity of '61-'65. The belligerents had, during that fearful conflict, brought armies into the field and maintained them on a colossal scale never before equalled. They had covered spaces and distances with strategic movements upon a larger scale than had ever been attempted by Caesar or Napoleon. They had fought battles and won victories with a larger expenditure of blood and of treasure than ever before in the history of the race. But although the Civil War at its conclusion left a heritage of bitterness and of hate for years thereafter, a new generation arose which knew little of the perils and sacrifices involved and who learned of the deeds of their fathers upon the fields of fratricidal strife as they had learned of the struggles of the Revolution and the War of 1812. And today, happily, the wounds are healed, the scars obliterated, alienation and passion and revenge are re-

placed by fraternal union, patriotic co-operation and interchange of civilities and courtesies and affection, gratifying in an eminent degree to all who love their country. At last, after the lapse of fifty years, we can say, as John Tyndal said of the British Empire twenty-five years ago: "Thank God we are again a united people."

Within this era of rejuvenated activity, science and its practical application to the useful arts has developed and gone forward by leaps and bounds. By the new impulse given to biological study and biological research, stimulated by the far-reaching investigations and discoveries of Darwin and Wallace and Huxley and Spencer, the theory of evolution has been placed upon a firm foundation, and has become a practical working leverage for advanced movement in every direction, finding an application and an interpretation in realms of discovery which no one could have

anticipated fifty years ago. I remember the advent of "The Origen of Species", and the surprise, the incredulity, the apprehension and the spasmodic repugnance with which it was received by the clergy, the moralists, the exponents of philosophical systems and the interpreters of scientific thought. By the more prominent thinkers of the age, it was hailed as a new luminary suddenly shot up from the horizon and shedding its baleful or its beneficent rays upon the dominant thought and accepted theories, theological and metaphysical, of the time.

When from the present va ntage ground we look back, we can scarcely understand how profoundly the attitude of thought and of speculation, of accepted theory and well-reasoned scientific conclusions have adjusted themselves to the new interpretation of nature and of life. Theology no longer dreads but welcomes the hypotheses of Darwin and of his fellow-workers. Moral speculation accepts it as the key of rational interpretation,

and every branch of natural science finds in it a firm pedestal upon which to stand. Extravagances there have been affiliated with it, which Mr. Darwin himself would have been the first to repudiate. Conclusions from ill-defined and hastily accepted premises have by illicit process been deduced from it, but these have been dissipated and have disappeared. The dross has been purged and the gold remains.

At the beginning of this era, when the foundations of accurate thinking and legitimate speculation were laid, the dawn of agricultural education began. To Michigan belongs the honor of the establishment of the first school for scientific and experimental agriculture on the western continent. Five years before the passage of the Morrill Act of 1862, the Legislature of Michigan had provided for the establishment of an agricultural school, which became the leader and the pioneer of agricultural education in America. In 1862, the conditions were ripe for a

new departure. Justin S. Morrill of Vermont, although the Civil War was in progress, absorbing the thought and absorbing the treasure of the nation - this great statesman conceived the idea of dedicating forever to agricultural and mechanical education a part of the rapidly diminishing area of public lands belonging to the nation. Allotments were made to the several States in the Union,including those in rebellion, of large bodies of public lands in proportion to population, for the endowment of colleges and universities for the education of the masses.

The Act of 1862 provided that "the income from these lands should constitute a perpetual fund, the capital of which shall be inviolably appropriated by each State which may take and claim the benefits 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 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 of life." Upon this foundation have been established more than fifty institutions of learning, the beneficent results of which the people of the United States enjoy today. In most of the States accepting and appropriating the national land grant, universities have been established, of which colleges of agriculture and colleges of mechanic arts form an integral part. These institutions, availing themselves of the latitude allowed in the organic act, have for the most part made ample provision for other scientific and classical studies.

The conception of Senator Morrill and his co-workers was a large and comprehensive one, and in its development larger and more comprehensive than he or they could at that time have anticipated. No serious effort was made by any of the States

to vitalize the scheme and establish the colleges provided for under the act until after the close of the war. Then the scrip was issued by the Government and given to the States, to work out the problems involved as best they could. The conceptions of what an agricultural college ought to embrace and what it ought to be were vague and nebulous in the extreme. Why expend money to teach farmers' sons how to sow and plow and reap, to groom horses and drive wagons, to milk cows and rear calves? The farmers' son could learn these things better on his father's farm. As for book farming, the older agriculturists treated it with contempt and would none of it. If with these purely rural subjects should be associated other liberal studies, language, mathematics and belles-lettres, they were more likely to be drawn away from the farm than attracted to it. Moreover, there were relatively few instructors available for imparting to their pupils a knowledge of the sciences related to agriculture and the

mechanic arts and making practical application thereof. Chemists and physicists there were - comparatively few, however - but the chemical and physical formulae of that time had found an application different from and wholly alien to the subjects embraced in the new education.

The agriculturist of 1860 would have treated with contempt if he had understood its phraseology, the fertilization of fields and the growth of crops by chemical formulae, the feeding of stock by biological rations, the destruction of noxious insects by the artificial propagation of entomological parasites and the elimination of disease by the injection of toxic remedies. The old established universities and colleges looked askance upon the new intruders into their prescriptive domain. "A waste of public lands and of private fortunes", "the dreams of amiable but visionary enthusiasts", "another illustration of the folly of attempting to make a purse out of a sow's ear", "a foolish effort to substitute an imitation and a counterfeit article for the

genuine coin and currency of the realm", "a doctrinaire experiment that would end in failure", "a project analogous to the fantastic device to extract gold from sea water" - such were the comments and such the sceptical similitudes upon the lips of the learned, but the builders, though they experimented often unsuccessfully and failed sometimes egregiously, gradually found a light to emerge from the darkness, gradually got out of the bogs and quicksands upon firmer ground, until at last they had learned well the lesson taught by Wordsworth more than half a century before:

"To the solid ground of nature
"Trusts the mind that builds for aye."

When observation and experiment were substituted for the haphazard rule of thumb, progress began to be made and to move rapidly forward. The foundations of scientific agriculture were laid and results obtained which could not be gainsaid.

Then it was time for those who had regarded the advent of the new learning with contempt to explain, to look to their own armor and to repair their own defenses. In the laboratories of the agricultural college, chemistry and biology and physics took on a new expansion and a new significance. The teachers in the new learning taught the teachers of the old. In order to hold their own and prevent their being elbowed out of court, the older institutions found themselves compelled to improve and enlarge their spheres of scientific study, to create new laboratories and place in them men abreast of the discoveries which workers in the new field had made. Who for the most part are the ranking chemists and biologists and physicists of today? Not, certainly, the exponents and expositors of these subjects in the old colleges and universities, but the active, energetic bands of enthusiastic workers and discoverers in the new.

No raddical change is the growth of a day or a month or

a year. Agricultural colleges and scientific agriculture are no exceptions to this rule. First the embryonic stage, then the struggle for existence, then full-fledged maturity, then continuous growth and symmetrical expansion; first the seed, then the plant, then the ear, and at length the full corn in the ear. Scientific agriculture has emerged from the chrysalis stage and the graduate in the four-years' course therein may stand upon an equal pedestal and claim an equality with the scholar who has won honors in the liberal arts or in pure science. And what have been the results? Agricultural processes have been improved and agriculture cheapened, increased returns and improved quality in the cereals, in sugars and in cottons, in all the manifold and varied products of the soil; improved live stock reared under economic conditions; with intelligent breeding for definite results; waste lands brought under cultivation; deserts made fruitful through irrigation and exhausted fields reclaimed and made productive;

the farm and the orchard and the garden, flocks and herds, the cattle upon a thousand hills, all unite in testifying to the beneficent results of the new education.

The agricultural colleges and the universities of which many of them form a part have long since vindicated their right to live. Incomes from the invested proceeds of the sale of the public lands have been supplemented by the states. Thousands have grown into tens of thousands and tens of thousands have grown into millions. Witness the colossal revenues of Cornell and California of Wisconsin and Illinois, of Minnesota and Ohio and Missouri. In many instances they have surpassed the revenues of older institutions, hoary with age and glorying in the distinction and the results achieved by their sons. Year by year they are lengthening their cords and strengthening their stakes; the mighty commonwealths in whose up-building they are potent factors, recognize their obligation to them and open their vaults ungrudgingly to supply the necessities. Resources counted by millions and

matriculates reckoned by thousands bear witness to the incomparable work they do and to its far-reaching consequences to the states and to the nation.

In 1887 an important addition was made to the agricultural college by the creation of a department called the Experiment Station, and its liberal endowment by Congress. The work of the Station supplements the theoretical instruction of the class-room by a practical application of the knowledge thus acquired to the solution of agricultural problems through observation and original research. Valuable discoveries are made every year by the diligent, intelligent and patient workers of the Experiment Station and made available to the agriculturist. An intelligent rural proprietary has through their agency been created and millions upon millions have been added annually to the realized wealth of the country at large.

To the State of Michigan belongs the honor of having established the first Agricultural College in America. Five years before the passage of the Morrill Act in 1862, the pioneer institution whose semi-centennial was celebrated on these grounds four years ago, began its work. It had no precedent to guide it, no great amount of money for the inauguration of the new enterprise, no experts in the application of science to agriculture. The problems to be solved required able men, and able men you had from the beginning. They knew that the work must necessarily be tentative and experimental for years, but they proceeded cautiously, courageously and uninterruptedly, and when the Act of 1862 became operative, Michigan Agricultural College had built so well upon the foundations which it had laid that it was able to furnish other states with trained men for the inauguration of the work, The wonder is that in a period so brief they had been enabledto train so many. For years it seemed an inexhaustible source of supply.

To the solid foundations laid by them on which to build, the agricultural colleges organized in the late '60's and early '70's owe their early success exclusively, to men educated in this college. The younger colleges readily concede the priority and the precedence which is your due. You have borne your honors modestly, with the modesty which becomes your dignity and your worth. When the history of industrial education in America comes to be written, a foremost place will be accorded to the Agricultural and Mechanical College of Michigan.

Events esteemed as of relatively small importance when they occur are oftentimes pregnant with consequences which could not be foreseen. The discovery of the mariner's compass made possible the conquest of the ocean, with all the tremendous results of modern commercial enterprise which have followed. Vasco Da Gama, by his voyage to India, doubling the Cape of Good Hope, opened up the Asiatic continent to European enterprise. Guttenberg

and Costar were the pioneers of the modern printing press, with all its beneficent results in the education of mankind. The little fleet of caravels which Columbus led across the waste of waters which stretched westward from the Spanish main, opened up a new world and led to the foundation of the great Republic with all its marvellous history.

And so the establishment of the Agricultural College of Michigan became an examplar and a beacon light for all to follow. Less than five years after Michigan became a state, the University of Michigan opened its doors for the matriculation of students, and before twenty years had elapsed, the Agricultural College began its operations. Within the limits of your Commonwealth these events were scarcely noticed at the time and outside they were not known, but with what important results have they been fraught! They have set the pace for liber al and industrial education in the West and the Northwest, and have profoundly

modified liberal and industrial education throughout the Union. Not a state, east or west, north or south, has been exempt from the beneficent influence of these pioneers in the up-building and development of civilization. Marquette and Delamotte Cadillac laid the foundations, Tappan and Haven and Angell, Abbott and Beale and Kedzie and Snyder have builded, and generations still to come will enjoy the fruits of their labors. I congratulate you today upon the proud distinction which you have achieved, "primus inter pares", among the educational institutions of America.

And now my brief retrospect is closed. Marvels have been accomplished within the last fifty years. What will the retrospect of the next half century reveal? No human being can anticipate, but of this we may rest assured: "Eye hath not seen, nor ear heard, neither hath it entered into the heart of man to conceive" the infinite wealth of achievement and of knowledge which the ever-enlarging revelation of nature and of God will

then disclose.

Oftentimes imperfect knowledge begets doubt and breeds scepticism. The validity of old opinions is distrusted; old convictions become unsettled; the new are still immature, inchoate and as yet unfitted to take the place of those whose sufficiency they challenge. The ferment of the new wine has burst the bottles which held the old, and new bottles must somehow be devised for the new. Larger knowledge clarified; new facts gravitate into systems. It comes ere long to be recognized that all truth is one, even though the individual manifestations of truth be infinitely varied. There comes in time a reciprocal adjustment between old beliefs and newly discovered truth and the whole domain of human knowledge is thus enlarged. We hold fast to what is good and incprporate with it what stands the test of reality in the new. Doubt and scepticism are thus

transformed into certainty and the structure of human knowledge, instead of being overthrown, rests upon a broader basis, looms up into larger proportions, rests upon a foundation more durable than the everlasting hills.

Be it yours, young men and women of this great institution, to lead the van in the attainment of the mighty results which your children and your grand- children shall witness and record fifty years hence. Steadily, with foot planted firmly upon mother earth, and with head uplifted towards the skies, continue to lead in the conquests of nature those whom, one hundred years ago you taught how to follow. You will thus carry with you the conviction that

"Higher than your arrows fly,
"Deeper than your plummets fall,
"Is the Deepest, the Most High,
"Is the All in All."

Banquet in honor of Judge Barker

Jany. 8- 1911

Gentlemen:-

I thank you for the pleasure and the honor of being here tonight. We are met to welcome the President-elect of the State University, at the beginning of his official duties. The hearty good will of this assemblage goes out to him for a clean, impartial and successful administration of the responsible trust committed to his charge. He brings to the discharge of the duties of his office an excellent reputation as an advocate and a jurist, a reputation which his many friends hope he will maintain in the new position to which he has been called.

A substitute, in which capacity I appear tonight, is always placed at a disadvantage, in comparison with the principal. You will miss the finished product of an able member of the bar, an acute and versatile thinker, a clear expositor and an excellent speaker. Your substitute can at best present you at short notice with a hurried extemporary statement of some of the facts which would have been presented by Col. Allen in systematic arrangement and with an elegance and vigor which I cannot hope to command.

The relation of Lexington to the University is a story full of interest. When the State College was detached from its ill-omened connection with Kentucky University, now Transylvania, it was in evil plight. It had neither grounds, buildings nor equipment. It had neither a local habitation nor a name. It had only a meagre income accruing from the invested proceeds of the sale, or sacrifice, of the land scrip given by Congress for its maintenance. A commission

of eleven was appointed by the Legislature to locate it, and to recommend adequate provision for its maintenance. Bowling Green and Lexington were the only competitors? The former had gotten an enabling act from the preceding Legislature, for the purpose of legalizing in advance any offer which she might make to the Legislature for its establishment within her borders. Lexington was ready to offer her city park as a site for the retention and establishment of the College. At this juncture I went before the city council and argued the advantages which would accrue to Lexington from retaining the college in this city, from the prestige which it would give at as an educational center and from the material results which would increase from year to year, that it would bring to the city in the immediate future thousands of dollars annually, and in the not very remote future, hundreds of thousands. My plea, emphasized by Hon. Moses Kaufman, then a member of the city council, to whom Lexington owes much in this and other ways, was effective, and the city voted bonds amounting to $30,000. for buildings. I made a similar successful plea before the Fiscal Court and obtained $20,000. With this bid, viz., the city park and $50,000., I went before the commission, which met in Louisville, August 14, 1879, and by a majority of one, the offer of Lexington was accepted.

The Legislature of 1879-80 ratified the action of the committee; the charter which I prepared was passed by the Legislature and signed by the Governor March 4, 1880, and an act providing for an additional income, appropriating one-twentieth of a mill, became a law April 28, 1880. These

measures encountered fierce opposition, local and general, but by unremitting exertion and vigilance and with the active co-operation of the representatives and citizens of Lexington, and Fayette, we triumphed over all adversaries. During these years of conflict and those that followed, Major P. R. Johnston, Captain Bush and Hon. James H. Mulligan labored assiduously to bring about the results desired.

In the autumn of 1880 the cornerstone of the Main Building and the Old Dormitory were laid. The early stage of the work advanced rapidly, but towards the autumn of 1880, a crisis was reached to which reference shall be made later. The interest of Lexington and Fayette County did not meanwhile slacken, but grew as difficulties arose and as opposition developed. They had put their hand to the plow and were not disposed to look back. Opposition quickened their ardor and strengthened their determination to retain the institution and to place it upon a respectable footing.

Reference is sometimes made to the backwardness of education in Kentucky, their apathy and their parsimonious support of higher institutions of learning. Much may be said in abatement of this indiscriminate censure. Kentucky received no public lands, as did all the other states which came into the union after 1802, for the establishment and maintenance of public schools. To the states north and west of us, as they came into the union, was given one section in each township, that is to say, one-thirty-sixth of the whole area of the state, for the establishment and maintenance of common schools, besides two townships or 46,000 acres of land

for the establishment and maintenance of a university. What did that mean for such a state as Illinois? It meant 1642 square miles of public land given by the Congress of the United States, on its admission to the union, for purposes of education, and other states were equally benefitted in proportion to population. Hence common schools were established in all these states, supported by public funds, but Kentucky having been born too early, received no such princely endowment and hence established no common school system, until as late as 1837, when the distribution of public funds which had accumulated in the treasury, to the extent of $28,000,000. in proportion to the population of the states, enabled her to take the first step toward the establishment of a common school system. But she did not meanwhile neglect the education of her children. Excellent private schools existed in all the richer counties of the Commonwealth, which out-ranked in ~~comfort~~ compass and thoroughness many of the public schools of the north and the north-west.

So too the comparison is often made of the alleged niggardly support given by Kentucky to the State University. I am free to admit that our Commonwealth should do much more than it does. But on the basis of the realized wealth - not the assessed value, because that it often much below the actual, but upon the actual value - Illinois, which votes annually ten times as much for her State University as Kentucky, possesses more than ten times the actual realized wealth of Kentucky. Chicago alone could buy out our whole Commonwealth five times over. Ability to pay - faculty, as the economists say - is the only just and rational basis of comparison.

(These comparisons, I repeat, are based not upon assessed valuation, which is generally fallacious, but upon wealth actually realized, real and personal.)

It is a frequently expressed matter of regret that the tide of emigration passes by Kentucky and that the rate of increase of population is therefore small. I am not so sure that this is a matter for regret; at any rate it has its compensating advantages. It gives Kentucky, with Vermont, which came into the union one year earlier, a purer Anglo-Saxon stock and a more homogeneous population than that possessed by any other state in the union. The tide of ~~emigration~~ immigration has passed by on her northern borders, leaving her with less than 2½% of foreign-born population. Consequently, the Poles and the Russians, the Roumanians and Sicilians and other less advanced populations of Europe are scarcely to be found within the confines of Kentucky. If the English-speaking stock be the dominant race and hold in its hands the destinies of the world, first in science, in art, in religion and all the elements of material and moral progress, if the United States be the predominant factor in this imperial stock, and if the flower of the race be found in Kentucky and Tennessee, in Western Virginia and Western North Carolina, what opportunities and responsibilities rest with you. It will be yours, if true to the instincts and traditions of the race, to lead in all that educates, purifies and ennobles men and women, in all that makes them the flower and the efflorescence of humanity. You have everything to encourage and inspire and in thie upward and forward movement for the regeneration of America, let Kentucky lead and let the State University lead Kentucky.

I read a few days since in the editorial columns of the Leader of the passing of the former President of the State University and the advent of his successor. Few are permitted the privilege of reading their own obituaries. Such experiences have been confined, generally speaking, to the comparatively few instances of suspended animation and recovery thereafter. Many good things were kindly said about me, on the familiar principle of "Nil nisi bonum de mortuis", and must therefore be interpreted with the latitude generally allowed to those who write obituaries. When an impartial biography, if any, comes to be written, another principle obtains.

It not infrequently happens that a monarch lives so long and reigns so long that little time is left to his successor to complete a reign of respectable length. This happened in the case of George III and of the late Queen Victoria; their successors were sixty and sixty-four years respectively when crowned. The former could scarcely be blamed for living as long as they could and the latter could hardly complain that they did not come into the inheritance earlier. But inasmuch as the successor to the presidency of the University is determined by election and not through hereditary descent and primogeniture, he has no legitimate ground of complaint. Doubtless he intends to live and rule as long as he can and allow his successor to shift for himself.

Inasmuch as I am not on the program, you will not expect much from me tonight. There have been, on former occasions, banquets in which the State University was prominent.

I recall the banquet given in honor of the dedication of the college building, at which Governor Blackburn honored us with his presence, and James B. Beck was toastmaster, in which the redoubtable editor of the Courier-Journal, Henry Watterson, was the chief speaker, and a great address he made. The Legislature adjourned in honor of the occasion and honored the college with their presence. This was while the bill was pending to repeal the tax, a measure which, if passed, would have rendered all future banquets superfluous and impossible. Two or three times since then banquets have been given, to the Legislature, to Educational Associations and to the Press Association of Kentucky, but the first was the best and eclipsed all those that followed. The first commemorated the birth of the institution. Whether this one tonight commemorates only an incident in its history and development, due to the retirement of one incumbent and the inauguration of another, or the beginning of a new epoch, time alone will disclose. The apostolic maxim is a good one and might with propriety be adopted: "Prove all things; hold fast to that which is good." I shall not attempt to prophesy, but will confine my remarks mainly to the past. "That at least is secure."

My administration was largely one of stress and storm. The clouds which lowered thirty years ago were not readily dissipated. The contests which were thought won revived with ominous frequency. The struggle for existence seemed never-ending; public opinion, denominational colleges, legislatures, the state grange, and the courts were no mean adversaries, taken singly. Acting in concert, the combination

seemed irresistible. To ignore the challenge meant death; to accept it seemed to go half-way to meet inevitable disaster. But we fought; we marvellously won. "Nec tamen consumebatur." During that period, I never sat down to a meal without apprehension, nor enjoyed a night's rest without the dread of impending calamity upon the morrow. We fought for existence and then had to fight for maintenance. The college was nurtured in adversity, but became strong through conflict and at last triumphed over all its enemies. During all these weary months and years, I felt that I might with propriety adopt the motto of Edmund Burke. "Nitor in adversum" is the motto for a man like me.

While the motion to repeal the half-cent tax was pending before the Legislature, the question of its constitutionality was raised. It was argued by Judge Lindsay, Alexander P. Humphrey, James Trabue and Bennett H. Young for the opposition. We had no money to employ legal talent to argue the case against the assailants of the tax, and if we had had, it was extremely doubtful whether any prominent member of the bar could have been induced to undertake the defense. John G. Carlisle, whom Judge W. B. Kinkead approached upon the subject, refused to touch it. He said promptly, "You have no case. Article 11 of the constitution is plainly and decisively against you." In this dilemma, though not a lawyer, I had the temerity to make the argument. The result was that the Legislature sustained my interpretation of the constitution, and when the constitutionality of the tax was carried into the Court of Appeals, I was allowed to file as

a brief the printed argument which I had made before the Legislature. When the case was decided in 1890, Judge Holt writing the opinion, he did me the honor to say that he based his interpretation of article 11 of the constitution in the opinion he wrote, on the lines laid down in my brief.

In the middle of the contest, the buildings, half-erected, came to a stand-still for want of money. Major Bullock and I were appointed a committee to effect a loan from one of the banks. His bank refused to touch it. So did the First National, D. A. Sayre & Co., and the old Northern. They said: "You have no security to offer; you cannot hypothecate the income from the congressional fund; you have only a contingent usufruct of your grounds, and if the half-cent tax be knocked off, as it is likely to be, the whole will collapse like an egg-shell." In this emergency I took the desperate chance. I led the forlorn hope. I borrowed the money from the Northern Bank on my own securities, took the notes of the college and placed the necessary funds for carrying on the buildings to completion in the hands of the Executive Committee. When we finished building, and before the motion to repeal the tax was defeated, the college was $35,000. in debt. But it was all paid within a few years. No one outside the Executive Committee and the Board knew anything of the crisis until it was all over. I bore the burden and the risk alone. Not one of the members of the Board would share the risk with me. In justice to myself, I make this a matter of record. Another king may arise in the future who knew not Joseph, but if an emergency should

in the future come, if days of stress and storm befall the institution, let the man who holds the reins show his devotion to the University by doing as I did. "Go and do thou likewise."

And now I turn over to my successor assets in realty and equipment worth nearly a million, an income which at five percent represents a capitalized endowment of three millions, an organization compact and homogeneous, embracing five or six colleges, with the best system of selection of pupils in America, the recognized head of the school system of Kentucky, and with a body of alumni which carry the prestige of the University north, south, east and west, and to the dominions over-sea. This heritage, won and consolidated through many a fierce contest, I hand over to my successor in peace, I see not a vestige of a cloud upon the horizon, but what was won in war can be maintained in its integrity only through wise, skillful, impartial and just administration. Peace has its opportunities and its dangers no less than war. Eternal vigilance is required in both. David was a man of war; Solomon, his son, a man of peace. The father consolidated the discordant tribes of Israel into a compact and homogeneous monarchy, defended it against Syria, Philistia, Moab, Edom, Amalek and Ammon, and against rebellion and sedition and treachery at home. He transmitted to his son a kingdom rich in tradition, rich in warlike prowess, rich in alliances, rich in the favor of the Almighty. David passed away and Solomon reigned in his stead. "Other men labored and ye are entered into their labors." This much I may say. The

University is larger than any administration, or the head of any administration. My first allegiance is due to it. If my successor rule well, laboring for efficiency and economy, unselfish, impartial, just, fearing God and hating covetousness, standing for high ideals in education, in religion and in morality, filling all the apostolic requirements of a bishop, for he is a bishop whose diocese is more important, temporally and spiritually, than any ecclesiastical bishopric can be, then he will enjoy the respect and support of every member of the Board, including myself, and leave a halo of glory behind him when he transfers the helm to another pilot.

I began with the resolution not to hazard a prophecy, but I venture to think that taking the last thirty years as a basis and allowing a proportionate increase therefrom, 1944 should see the following results: Instead of a faculty of 60 professors, assistants and instructors, as now, there will be a faculty of 600; instead of buildings, grounds and equipments equalling $920,000., 1944 will witness realty and personalty the property of the University equal to about ten million dollars; instead of an income of $150,000., the exchequer of 1944 will show $1,500,000.; and instead of 650 university students, the matriculation roll will in the year of grace 1944 show 6,500 students. Then will Kentucky assert her true dignity; then will she know that her true wealth consists not in acres of blue grass nor in fields of tobacco, nor square miles of mineral resources, but in the developed intelligence and high ideals of duty and splendid morality of her citizens, a beacon sending its beams afar and an everlasting exponent of the true, the beautiful and the good.

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When my father came to America in 1842, after remaining two or three months in New York City, he came west and settled in Southern Indiana. The Journey westward from New York to Madison, Indiana, occupied fully three weeks. The same distance can now be traversed confortably in twenty-two hours. Seventy years ago a traveller setting out from Lexington to Louisville would occupy nearly three days before reaching his destination. The journey can now be made in two hours and forty minutes. This difference measures fairly well the progress of the United States since 1840. Then the estimated wealth of the country was less than ten billions of dollars; today it stands at one hundred and twenty billions. Railroad construction and trans-Atlantic steam navigation were then both in their infancy. Now the country is covered with a net-work of railways, measuring in the aggregate 230,000 miles. These systems of railway constitute the great arterial lines of communication in America, but great as is the mileage of the railways, there are vast tracts of country yet untraversed by them and many places, even in the most thickly settled parts of the country, are distant fully half a day's journey from the nearest railway station. Good macadamized country roads are needed, in order to derive the largest benefit from the railway systems which traverse the country from north to south and from east to west, and the object of this association is to promote their construction within the limits of the Commonwealth.

Rome was the greatest road-builder of all the nations of antiquity and the vast Empire which she ruled owed its existence and its duration mainly to the roads which she built. Concurrently with the extension of her conquests over the Italian Peninsula, good roads were built, radiating from Rome to the conquered provinces, by means of which she established the thoroughness of her conquest and the durability of her dominion, and when Roman arms passed beyond the peninsula and the Mediterranean became a Roman lake, Egypt and

Numidia and Mauretania in Africa, Asia Minor and Syria and Northern Arabia in Asia, Greece, Thrace, Illyricum and Pannonia, Gaul and Hispania, Lusitania and Britain, were all connected with the Imperial city upon the Tiber by military roads of the best possible construction. Their character and durability may be witnessed today by any traveller who reaches Rome either by the Appian or Flaminian Highways. After the lapse of 2000 years, they are still among the best of the thoroughfares of modern Italy. No less than four military roads issuing from London traversed the Southern part of Britain. Though these roads were primarily built for military purposes, for the transport of armies and of commissary supplies, they became in more peaceful times the highways of commerce, facilitating commercial exchanges and bringing supplies of necessaries, as well as luxuries, to the Capital of the Empire.

In modern times, Great Britain and America have been among the greatest of road builders. One of the most effective means by which the rebellious clans of Scotland were held in subjection after the disastrous field of Colloden, was the military highways which traversed the highlands in all directions. Britain in the eighteenth century, like Rome at the dawn of the Christian Era, was able thus to make permanent her conquests and to assure the peace of the northern part of the Island. Good roads of the most durable construction now connect every village and hamlet with every other village and hamlet and city and town in the United Kingdom.

Though much has been done in this country in the construction of good roads, much more remains to be done. During the winter season, impassable roads render communication between adjacent towns and villages almost impossible. A heavy percentage of the value of agricultural products is consumed in the effort to reach a market. Within the last century, France and Germany have made rapid strides in the

construction of good highways. The energy and the wealth and the enterprise of our people make it possible for them to surpass all other nations, ancient or modern, in the mileage and perfection of their system of internal communications. With improved water-ways, improved railway lines and a good system of rural highways, as the complement of these, America ought to provide facilities for communication surpassing those of any other people upon the face of the globe.

In order to further this work, the State University of Kentucky established two years ago a Department of Good Road and Rural Engineering in the State University. This department is closely allied with and is under the supervision of the college of Civil Engineering. It embraces the indispensable conditions of Good Road Construction, viz: Surveying, Location of Routes, Bridge Building, Strength of Materials, Construction and Maintenance, and in addition thereto, Drainage and Rural Architecture. This course of study may be completed by one properly prepared for matriculation in about two years, and if the matriculate desires to go further, he can take in addition thereto and incorporate with it the full course of Civil Engineering, which extends over four years, And in order to make these advantages available to the several counties in the Commonwealth, the Board of Trustees offers free tuition to two properly prepared pupils, to be selected each year by the County Judge and the Fiscal Court, andthe Board suggests to the Fiscal Courts that if appointees be selected whose means are small, that the county should supplement their inadequate resources by a sufficient amount of money to enable them to attend the University and to complete the prescribed course within the prescribed time. In a few years each county in the Commonwealth would be supplied with competent rural engineers for the scientific construction of highways within their respective borders. Under existing conditions you may supply abundant means for the construction of roads, but if this duty be delegated to incompetent men,

men who have no knowledge of mathematics or of physics or the strength of materials, or the principles of road and bridge-building, fully one-half of the money is wasted and the other half, if it do not find its way into the pockets of parasites and dishonest contractors, is expended upon work little better when finished than before it was begun. The State University believes that it has taken the initiatory steps for a great forward movement in the Commonwealth, by providing men adequately prepared to undertake the building of good roads. What are the principles upon which a modern individual capitalist or corporation begins business? Do they place their interests in the hands of men who have no business training, who are incompetent either to project the scale or supervise the means by which a profitable business may be carried on? Do they not, on the other hand, endeavor to find the most competent men, honest, skillful, each a specialist in the work allotted to him, and then under the efficient supervision of a man of still larger genius, endeavor to co-ordinate the work of the whole?

The State University therefore takes occasion now to acquaint the Good Roads Association with the pioneer work which it is endeavoring to do and to ask your active cooperation and support to the end that good material may be sent by your several counties, out of which to make competent engineers, who shall return to the district whence they came and contribute the results of their education for the promotion of the general well-being.

And here I might mention, as incidential to the topics discussed here tonight, the existence of a great State University, which has grown up, in Lexington within the last thirty years. It has obtained constitutional regognition, is supported by funds contributed by the general government and the Commonwealth of Kentucky, and is recognized as the head of the educational system of the State. Possessing natural advantages surpassed by no University in America, it is doing, according to its means, a work superior to most of them and equalled by few. It is a growing institution and

every growing institution needs more money to expand its facilties and to perfect its systematic work. I therefore appeal to you to support liberally through your members in the legislature the institution which provides the advantages which I have briefly outlined. Its Colleges of Mechanical and Electrical Engineering, Mining Engineering, Civil Engineering, with the departments of Physics, Mathematics and Chemistry auxiliary thereto, already stand high in the estimation of the general public. You possess geographical conditions which give you an enormous advantage over some of your less fortunate neighbors. With abundant resources, agricultural and mineral, and with a population representing the purest Anglo-Saxon blood in America, the race which has achieved the greatest results in literature, in invention and in government in midern times., your pride of race, your state pride and the impulses of patriotic freedom, should impel you forward to realize the highest and the greatest possible good attainable in this world of ours.

I thank you, gentlemen, for your attention and regretting that on account of the short notice I had, I could not come before you with an address compact and well considered, I yield the floor to someone else who will better instruct you.

Caledonian Society - Lexington
Jany 25 - 1911

The German, the Frenchman, the Italian, the Russian, when resident abroad, always speak of their respective countries as the fatherland. So the Roman spoke of his country. To him it was patria. Ennius and Cicero, Virgil and Horace, always speak of the land of their birth as the fatherland. Horace, quoting Tyrtaeus, who wrote the war songs which made Sparta victorious in the Messenian war, said : "Dulce et decorum est pro patria more," and established in this line the fact that Greeks also thought of Hellas as the fatherland.

Britons and the descendants of Britons, whether at home or abroad, always speak of the British Isles as the mother country. They never use the expression "fatherland". Why is this? There must be some reason for it, lying deep down in the consciousness of the race. We think of our fathers; we respect them, admire them, revere them, perhaps adore them. We think of our mothers with a more tender, a more passionate devotion. We love them; our characters were moulded by them; we learned to lisp the prayer at our mother's knee. By them we were tenderly cared for, soothed in sickness, tucked away in bed at night, encouraged, corrected, led into the paths of righteousness. From them we learned the lessons of devotion, self-denial, tenderness, affection, love, and we loved them in return. Is it because we think of our native land as a mother and not as a father that we always speak of the mother country and never of the fatherland?

Scotland is a small country, about three-fourths the area of Kentucky. More than half its area is covered with mountain and loch, hill and glen, untillable, the scenery of the grandest, mountains covered with eternal snows and long fiords penetrating deep inla nd, now bathed in sunshine and now swept by storm and tempest. The physical configuration is suggestive of sublimity, immensity, omnipotence, eternity, and awakes kindred conceptions and emotions in the human soul. The objective

facts beget the subjective ideas which lie at the basis of religion - God, infinite, and eternal and inchangeable in his being, wisdom and power, is the natural and inevitable corollary of association with nature in her sublimest moods. And where can they be found in greater beauty and perfection and grandeur than in Scotland?

The Scot is then religious by nature and upon this stock Christianity, when grafted, grows and develops a type of religion natural, rational, strong, intense, profound, dignifying and ennobling a religion which makes its possessor fear God and have no other fear. In three-fourths of the country, physical conditions, topographical and climatic, rendered the life of the cultivators of the soil a hard one and for a long time agriculture was necessarily the predominant occupation of the masses of the people. The conditions were not so rigorous or forbidding as to discourage effort, but they taxed the energies of the laborer to the utmost to wring a scanty subsistence from the soil. These conditions brought into play essential elements in the formation of the national character, industry, resolution, perseverance, hardihood, economy, frugality, thrift, the adaptation of means to ends. On a very meager income, often not more than a few shillings a week, a comfortable cottage was maintained, ample food provided, large families reared, comfortably clad and fairly well educated, thanks to the parochial and grammar schools. These for more that three centuries, maintained partly by public funds and partly by the fees of pupils, prepared students for the university classes in St. Andrew's, Aberdeen, Glasgow and Edinburgh. To these many a young man from the family hearth and the reek of a peat fire, with a bag of oat-meal on his back and a few shillings in his pocket, wended his way and maintained himself in respestability during his college course, returning at last with his diploma in his pocket and a good education, a strong hand and a stout heart, ready for medicine, the pulpit,

the bar, the army, the civil service, and if he could not find employment at home, ready to seek service abroad.

It is easy to imagine what the influence of the people of such a nation would be, even before the period of the Reformation. The nationality of Scotus Erigena in the ninth century may be questioned, but that of Duns Scotus in the thirteenth is beyond dispute. The Doctor Subtilis, as he was called, had no equal among the exponents of scholasticism in his day and his still extant Latin works attest the vigor and extent of his attainments. Meanwhile James I, John Barbour, who sang of Robert Bruce, and blind Harry, who commemorated the doughty deeds of Wallace, Sir David Lindsay of the Mount, Gavin Douglass, Bishop of Dunkeld, had cultivated the muse with marked success. Dunbar does not suffer in comparison with Chaucer, while Douglass surpassed all his contemporaries in his mellifluous rendering of the Mantuan bard. During the transition period known as the Renaissance, the prodigious learning of the Admirable Crichton amazed the universities of Paris and Bologna, while the massive classical Latinity of George Buchanan gave him rank with Turnebus, the Scaligers, Causabon, Lipsius and the Humanists. A special distinction, moreover, belongs to Buchanan, namely, that in his "De Jure Regni", published in 1579, he, first of all authors, ancient or modern, assailed and repudiated the doctrine of the divine right of kings. In a conversation with Mary Queen of Scots, many years before, John Knox had explicitly taken identical ground.

After the Reformation, Scottish scholars multiplied and after the accession of James VI of Scotland to the English throne and the union of the two crowns, found wealth and distinction in increasing numbers south of the Tweed.

During the eighteenth century, there was in Scotland a period of literary activity, principally in and around Edinburgh, far surpassing anything which had preceded in the British

Isles and rarely equalled since.

The occasional wars with England, the frequent civil strife at home and the forays on the border failed to afford sufficient employment for their adventurous spirit. Many of them became soldiers of fortune and fought and won on the continent, oftentimes carrying with them whole regiments recruited in their native land. When the battle of Agincourt laid France prostrate at the feet of England and transferred the crown of Charles VI to Henry V, the Scots under the Earl of Buchan, seven thousand strong, crossed the channel, flung themselves on the flank of the English under the Duke of Clarence, in the battle of Beauge, and the gallant son of the bravest of the Plantagenets fell upon the fatal field. The victory thus won by the brave warriors of the north opened the way for the marvellous career of the Maid of Orleans, re-established the monarchy of the Capets and placed the fugitive French king upon the throne of his ancestors.

When Frederick the Great of Prussia was in the throes of a mortal conflict, assailed by enemies on every hand, baffled and exhausted, James Keith, Earl Marshall of Scotland, came to the rescue, Kunersdorf was avenged, Frederick triumphed and the establishment of the German Empire under a Hohenzollern was made possible 120 years later. When the existence of the German Empire was threatened by the treachery and revolt of Wallenstein, the desperate valor and heroic promptitude of a Scot in the imperial service, Walter Leslie, throttled the conspiracy, slew the conspirators and stayed the falling empire.

And, not to multiply instances, when the Russian Empire was beginning to take shape at the close of the seventeenth century, under Peter the Great, Patrick Gordon, a Scot of Aberdeen, was the most trusted adviser of the Czar. He it was who crushed the rebellion of the Strelitzes and cleared the way for the establishment of the Empire. Another Scot, Sir Charles Greig of Inverkeithing, with the consent of Great Brit-

ain, created the Russian Navy, became Governor of Kronstadt and built its impregnable fort ifications.

In America, too, the Scot played a conspicuous part in creating the great Republic. Not to speak of the earlier colonists, there were no less than 250,000 Scots from Stotland and Ulster who migrated to the colonies between 1700 and 1751. These, for the most part, voluntarily expatriated themselves because of their attachment to the exiled House of Stuart and their cordial hatred of the Hanoverian dynasty which succeeded. These immigrants sett led in Pennsylvania, Virginia and the Carolinas, and from the day they landed, became centers of disaffection and disloyalty to Great Britain. These fanned the flames of discontent and revolution. These filled the armies of the middle states and of the southern states and formed the back-bone of resistance to England. John Witherspoon, a Scotchman and a Jacobite, President of Princeton College, by his fiery impassioned eloquence, brought about, with the aid of Wilson of Pennsylvania and of Patrick Henry of Virginia, the final adhesion of the members who hesitated to sign the Declaration of Independence. These were the men who defeated Ferguson at King's Mountain, and in the trenches before Yorktown forced the surrender of Lord Cornwallis. Not by the Puritans of New England or the patroons of New York and New Jersey or the Cavaliers of the South was independence precipitated and won, but by the hardy Scots of Scotland and Ulster.

When the struggle was over, Knox, Hamilton and Randolph, all of Scottish descent, became members of Washington's first cabinet. James Wilson of Pennsylvania wrote the Constitution and Hamilton established the fiscal system of America. Lindley Murray of Scott ish descent, and James McCosh, a Scot to the manner born, were our country men, and among the greatest benefactors the world has ever seen, John S. Kennedy and Andrew Carnegie, whose millions pour fort h with an unstinted hand, for establishing libraries, endowing research and vitalizing

the crusade for peace, were born in Scotland. Washington Irving's father came from Orkney and Golden, the father of American Botany, was born in Duns. James Gordon Bennett came from Bamff, and David Henderson, late spea ker of the House of Representatives, from Aberdeen, and James Wilson, the veteran Secretary of Agriculture. from Ayr. Of the twenty-six Presidents of the United States, six have been of Scottish descent, a percentage far in excess of the percentage of population, while of bankers, manufacturers, inventors, statesmen, judges, military and naval officers, scitntists and men of letters, the proportion is still higher.

In the great colossal dependencies of the British Empire and India, Scotchmen have been master-builders. Mungo Park, James Bruce, Hugh Clapperton, James Grant and David Livingston opened the dark continent to European civilization. Cathcart and Loch, Mackenzie and Jameson, Grant and Fraser, shaped the political destinies of South Africa. And when the Boer War came on, MacDonald, Wauchope and Dundonald bravely upheld the glory of the Scottish Highlanders and the honor of the British arms. No higher tribute could be given to the rank and file of any army than was paid by General Botha in an address at Edinburgh at the close of the war. Conspicuous among these heroes were the officers and men of the Highland regiments whose conduct upon the field evoked the highest encomiums from Lord Kitchener and Lord Roberts.

In India their record is unsurpassed for statesmanship and military prowess. Malcolm and Elphinstone, Monroe and Ochterlony and Minto helped to lay the foundation of British dominion. Dalhousie rounded off the empire in the north by the annexation of the Punjab. Napier was the conqueror of Scinde. When the dark days of the mutiny threatened the extinction of British rule, Lord Elgin, Sir Colin Campbell, Sir Patrick Grant, Sir John Nicholson and Sir Hugh Rose stemmed the rising tide,

relieved the beleaguered fortresses, stormed the ramparts of the mutineers and restored the peninsula from the Himalayas to Cape Cormorin to the British crown.

Every square mile of the Dominion of Canada bears witness to the intrepid perseverance and valor of the Scot. Bruce and Selkirk and Mackenzie as explorers, Brown, MacDonald and McNab as statesmen, Strathcona, Mt. Stephen, Allen and Cunard in railway and steamship enterprise, have made the Dominion of Canada a great dominion, carrying within it the promise and the potency in the no distant future of a mighty nation.

An equally unique record of exploration and administration and statesmanship is found in the Commonwealth of Australia. McArthur, Brisbane and Stout, McCulloch and Mackenzie, McKinley and Cochburn, traversed its wilds and made known its possibilities. Hopton and Kintore, Carmichael and Gordon, Cameron and McLean, shaped the political destinies of the rising empire under the southern cross and made confederation possible. At no distant day the Commonwealth of Australia and New Zealand will dominate the political destinies of all south-eastern Asia.

What has Scotland done for literature, science and the application of science to the industrial pursuits and professions of life? There were four great historians in the eighteenth century, and Scotland gave birth to three of the four. Edward Gibbon, whose "Decline and Fall of the Roman Empire" is destined to last for all ages, was an Englishman; Principal Roberts, whose "Charles V" still holds its place as a classic, Adam Ferguson, whose "Progress and Termination of the Roman Republic" gave him fame and fortune, and David Hume, one of the greatest names in the recorded annals of time, whose history of England is still issued in thousands of volumes from the printing presses of Britain and America, were Scots. And within the last century, no historians rank higher in Europe or America than Lord Macaulay and John Hill Burton.

Kames is still among the first authorities in criticism. Monboddo, followed later by Chambers, led the way to the vast generalizations of Darwin and Wallace. Blackwood's, founded in 1817, led the way in magazine literature, and the Edinburgh Review in the great quarterlies. Boswell's Johnson stands alone as the greatest biography of all time and Sir James Murray, editor of the Dictionary of the Philological Society, now nearing its completion in ten huge quarto volumes, is giving to the world the most stupendous production in lexigography that has ever been undertaken by man.

The Scottish pulpit has been famous since the Reformation. During the earlier period, there were no more eloquent or effective ministers in the British Isles than Knox, Melville and Rutherford, Brown, Fisher and Erskine, while in later times none have stirred the souls of men like Chalmers, Guthrie, Cairnes and Caird. These kept the lamp of civil and religious feeling burning and impressed the doctrines of the sovereignty of God and the brotherhood of man upon their countrymen forever.

In mathematics, Baron Napier of Murchistoun, by his discovery of logarithms and the "Circular Parts", made possible the Principia of Newton , the quaternions of Sir William Rowan Hamilton and the transcendental functions of the mathematicians of Germany. Clerk Maxwell and John Tyndall and Joule and Meyer and Helmholtz all gracefully yielded the palm of superiority to William Thompson, Lord Kelvin, the modest, humble, reverend, incomparable physicist, whom all learned bodies in all civilized nations delighted to honor.

In medical science, Scotland has been conspicuous for three hundred years. Her halls were thronged with students from America and from every country of continental Europe, who came to sit at the feet of Pitcairne and Munro, Cullen and Brown, Arbuthnot and Bell and Syme, Clark, Lister and Gordon, Sir James Simpson and Lord Liston.

In philosophy and economics, the Scot is at home. Not to speak of lesser lights, I may say that the "Treatise on Human Nature" of David Hume and his "Essay Concerning the Human Understanding" made a notable epoch in the history of modern philosophy. The pre-determined harmony of Leibnitz and the idealism of Berkeley both collapsed like eggshells under the universal solvent of Hume. The re-action which followed made possible the philosophy of common sense of Reid and Sir William Hamilton, the pure reason of Kant and the idealiam of Hegel. Of these, in my opinion, Hamilton, in grasp, in compass and in colossal learning, stood in advance of all. Adam Smith's "Wealth of Nations", the most momentous book ever sprung upon the world, appeared in 1776. Dealing as it does with the fundamental problems of government, economics and sociology, it has dealt more profoundly with the problems of statesmanship, production and distribution than all other agencies combined. Adam Smith will continue to be the standard authority on all subjects relating to these for all time.

A people so practical and at the same time so metaphysical, as the Scot, might be expected to apply themselves with eagerness and success to the study of jurisprudence, and so it has been. The relations of church and state and of individuals to the one and the other have been an absorbing and prolific occupation. The elements of canon and common and civil law found in combination in Scotch law afford an unusually inviting field. It has given to the bar Mansfield and Cochburn and Jeffrey and to the woolsack Loughborough, Erskine and Brougham, Campbell and Loreburn, the present Lord Chancellor. The researches of Sir Henry Sumner Maine upon the origin of law are accepted as a classic and authority for all time. Equally well do they play their part in statesmanship. Within a century Aberdeen and Gladstone, Roseberry and Balfour and Campbell-Bannerman have been first ministers of the crown, and though Presbyterianism is the

very antithesis of Episcopacy, Gilbert Burnett became Bishop of Salisbury, Archibald Campbell Tait and Randall Thomas Davidson Archbishops of Canterbury, and the late Archbishop of York, Dr. MacLagan, and Cosmo Innis, who now fills the see, were all born north of the Tweed.

On many a well-fought field, Scottish soldiers and Scottish regiments have served their country well. Abercrombie at Ticonderoga and in Egypt, Crawford and Sir John Moore and Lord Lyndock and Napier in the Peninsula, Sir Colin Campbell in the Crimea and in India, Dundonald and Duncan on the sea, were among the bravest of the brave. The 42nd and 92nd and the terrible Scotch Grays, in a terrific charge, which extorted the admiration of Napoleon, even in defeat, won the day at Waterloo.

And now it remains to say a word of the practical application of science. Watt invented the steam engine and made possible the prodigious advances made in commercial, industrial and manufacturing enterprise which followed. George and Robert Stephenson applied it to locomotive traction and became the founders of railway enterprise throughout the world. Rumsey and Symington and Fulton applied it to steamboat navigation, while the Lairds of Birkenhead and the Napiers of the Clyde led the way in ocean steamship architecture and built the mighty fleets which carry millions of tons of merchandise and hundreds of thousands of passengers every year. Lord Kelvin laid the first Atlantic cable. Alexander Bell has given us the telephone and Thomas Edison, half a Scotchman, the hundreds of inventions which lighten labor, quicken transmission and cheer the home.

In business, clear-headed, exacting all that is due, but readily conceding all that belongs to others, diligent, thrifty, provident, economic, even parsimonious, until a competence is provided, and then distributing with a generous hand, he readily leads in all commercial, industrial, manufacturing and banking enterprises. Trusted and respected and sometimes dreaded

by his competitors, he pushes on to respectability, dignity and affluence, extracting and extorting wealth from every enterprise open to human activities. William Patterson founded the Bank of England and the Bank of Scotland. George Herriott was the banker of James I and John Coutts of George III. The first bank in Chicago was established by George Keith and the Forgan Brothers today are among the most prominent financiers of the metropolis of the west.

Burns, whose anniversary we celebrate tonight, has already had his meed of praise, but there are other masters in the realm of song whom we cannot pass by. In Prince's Street, Edinburgh, stands the monument of one of the great/est Scots and greatest men of all the ages. In prose and verse, in bigness of heart and massiveness of brain, he is conspicuous among all the Scotchmen of his time in intellect, in commanding influence and in moral grandeur, Sir Walter Scott. Robert Burns and Walter Scott withdrew the veil and revealed Scotchmen to themselves and to mankind, while among the lesser lights of Scottish verse, the Baroness Nairn, the Ettrick Shepherd and Robert Tannahill may justly claim honorable mention.

In the few moments allotted to me, I have endeavored to impress upon you the dignity of the noble heritage to which you were born. Scottish character is not unlike the rugged outlines and massive grandeur of its native mountains. The tempests which sweep over them pass away and leave them unmoved and the sunshine which follows reflects their sublime beauty in the limpid waters in the lakes and streams at their base. With a strong sense of duty, founded upon the sanction of a sound morality and having its roots in a religion undiluted by maudlin sentimentalism and unalloyed by the incorporation of alien elements, they stand in a certain sense apart from other races and creeds and yet in very intimate relationship with all mankind. The creed of the Scotch Presbyterian may seem hard and uncompromising. It may be so, yet the fact remains that it is a creed which made strong men and

tender lovable women, a creed which asserted and secured civil and religious freedom, a creed for which they became confessors and martyrs, a creed which, with the stern conditions of soil and climate, made a race of men never surpassed for qualities of head and heart and seldom equalled.

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

Froude, the historian, says: "Scottish Presbyterianism saved freedom once and may have to save it again."

And when the consummation of all earthly things shall come, when the sea shall give up its dead and they that sleep in their graves shall come forth, from many a churchyard, on hillside and strath and moor and glen of our native land shall come a goodly number of your ancestors and mine, whose robes have been made white in the blood of the Lamb, to whom the gates of Paradise shall be opened and who shall enter therein, and in that great and notable day, may you and I be there.

Nov. 1914

Impromptu remarks of James K. Patterson, President Emeritus of the State University.

Kentuckians are too prone to indulge in excessive self-laudation or in excessive self-abasement. To me it seems that the truth lies between the extremes - that in these alternative moods we are neither so bad nor so good as we would have others believe. "Veritas in medio."

While it is a matter of extreme regret and humiliation to all Kentuckians that the percentage of illiteracy is so high, something may yet be said by way of extenuation and apology for the existing relative position of Kentucky on a centigrade scale of illiteracy. Figures, if detached from facts, do not always tell the whole story.

Kentucky came into the Union in 1792. None of the states of the Northwest or West came in until a later period. Meanwhile, the vast territory ceded by Virginia to the Federal government came under the control of the national government. Congress enacted that the states to be carved out of this territory and admitted as independent units of the federal system, should set apart one section of land in every township, that is, one-thirty-sixth of the whole, to be known as the school section, for the maintenance of the public school, and that two townships of land, or 72 square miles, should be appropriated and set apart for the founding and maintenance of a university. This was the foundation of the school and university system of all the states which came into the Union since 1802.

Now Kentucky, although the daughter of Virginia, by the accident of priority of birth, did not participate in the benefaction provided by the Mother of States, as well as the Mother of Presidents, but was then and is now a step-child of the Government, so far as relates to the original endowment of her common schools and university. Not until the early '30's did she get anything from the public crib. Then she participated in the distribution of $28,000,000., which had accumulated in the federal treasury, among the states in

proportion to population, obtaining as her allotment about $1,400,000., the bulk of which she set apart as a fund on which to begin a common school system. Meanwhile, Kentucky had not been altogether idle. All over the Commonwealth, particularly in Central Kentucky, excellent private academies and seminaries had been established which furnished an excellent education in the fundamental branches of learning, and prepared the flower of her youth at Transylvania, Georgetown, Centre College, Harvard, Princeton and Yale. These were the mistakes of the men who made Kentucky illustrious in letters, in scholarship, in law, in medicine, in theology, in statesmanship and in arms, that provided the material for representatives, judges, governors and Congressmen in every state north and west, and gave th Congress her most conspicuous member. She had meanwhile been fighting the battles of the nation in the War of 1812, at the River Raisin, the Thames, and New Orleans. The rifle shot of a Kentuckian stretched upon the fiwld General Pakenham, the brother-in-law of Wellington, the conqueror of Napoleon, a veteran of the Peninsula War, demoralized the British regiments which had covered themselves with glory before the lines at Torres Vedras, at Guidad Roderigo, at Salamanca, which stormed the ramparts of Badajoz, and gave victory to the American armies and swept the heights of vittoria.

If Kentucky had shared in the federal beneficence as did the states of Ohio, Indiana, Michigan, Wisconsin, Illinois, and all the other states in the Northwest and West, she would have gotten 1218 square miles of territory, for founding and endowing common schools and a university, but she had the misfortune of being born into statehood just ten years too soon. Add to this the incubus of slavery, which added to the considerations already presented, delayed and to some extent hindered the establishment of a common school system, and you have a sufficient explanation and apology for the backwardness of the commonwealth in common school education.

But since 1870, she has not been idle. Her per capita, contributed by the state at large, will compare favorably with that of any state in the Union. What is now needed is legislation which will give of this per capita, dollar for dollar, to every school district, on condition that they raise by local taxation as much themselves, as the state is willing to do for them. Help them to help themselves. This is the true principle of state benefaction. Then you will not pauperize; then you will rid yourselves and them of the evils incident to an injudicious paternalism. But this is not all. See to it, by effective supervision, that the money spent upon your common schools, your high schools, your normal schools, your institutes for the deaf and dumb, and for the blind, and upon your university, is judiciously and economically spent, and you will obtain results commensurate with your expenditure. Only through effective supervision will you obtain for the taxpayer an adequate return for the money contributed from the public treasury.

Kentucky is not dead; she is not even slumbering, but she needs to be stimulated to a greater activity. The sap swells high in her veins today and will swell higher still tomorrow. She is as prolific now of great men as of yore. Her fertility is not exhausted and she is ready to supply them in increased numbers, and of still larger calibre to all of her sister states of the West, North and South. She is still doing business at the old stand.

47-M-64

Importation Address
Gaceta Kentucky
Convention Nov 1911

[June 7, 1911]

"National Statement"

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 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 its 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 are now 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 pervaded 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 untir-

ing 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, beneficent, 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 Hydaskes and the Ganges; it loomed up before the Zoroastrian in the plains of Media and Iran and though perceived with less distinctness 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 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 it 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 counsel of God or no, 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 corroberation and proof in his own consciousness. How trivial the

cosmogonies of Greek and Roman, Hindu and Zoroastriam, compared with the 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."

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; 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 stiffened 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 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 corollary 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, prosbribed, 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 acknowledged his allegiance to the much 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 chronical 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, degenerated 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 nobleman 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 acriptions 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, 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 in 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 and 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, if I may be allowed the quotation:

"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 penitent 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 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 union with those he had left behind him. The 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 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 counsel of the nations.

Presbyterianism

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 Catechiam, 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 att ention.

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 and 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, matt ers 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 revolution." (x In Geneva as early as 1540, the Small Coun-

x In the page immediately following I am indebted for some valuable suggestions to the excellent work of Prof Robinson's "Popular Participation in Law Making"

cil, the Council of Sixty and the Council of Two Hundred contain the essentials of the Scottish League and Covenant 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

* Lobengier "Prophets Law" page 32

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 1887. It is the work of men who believe in original sin."*

* American Commonwealth Vol I page 299

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 the 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

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"Wautaugua Compact" of 1772 in East Tennessee, and the "Mecklenberg Declaration" of May 31, 1775, preceded by one to eight years the more famous and more articulate Declaration of July 4, 1776, and when the colonists had by formal act severed their allegiance to 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 the 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 Scot. 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 eloquentin 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 the 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.

[June 13, 1911]

I am gratified by the evidences of thrift and prosperity which I have seen since coming within the boundaries of South Carolina. I feel to-day 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

Commencement Address delivered by Dr Jas. K. Patterson to the Graduating Class of Clemson Agricultural College, June 13, 1911 - Memorial Hall
Received from Mrs. Mabel P. Adams, 1964

home of the Colquhouns, from whom the illustrious statemen 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 to-day 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 ~~the~~ Rutledges, the Haynes, the Butlers, the Colquhouns and the Hamptons, and last of all the distinguished Statesman ~~and the Tillmans present to the historian a succession of men~~

worthy your everlasting admiration. South Carolina after the terrible ~~influences~~ experiences of the war has risen again like the Phenix from its ashes in brighter plumage than ever. The sap swells high in her veins to-day and will swell higher still to-morrow.

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 in 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.

State University,
Jas. K. Patterson, Ph. D., LL. D., President,

Lexington, Ky.,

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 th 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 when 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 traveller 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 condtruction and nagigation 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 relatig

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 deductive, were then practically non-existent. 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 confiemed 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 ob-

servation 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 seemed to dawn upon mankind with the introduction of the telegraph, of railway construction, of steam nagigation, and the application of science to the industrial arts. The age of the Utopia of Sir Thomas More 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 the 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, real-

ized 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 allottment. The scrip, representing 330,000 acres of land, an area equal to 1500 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. 1906 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 scurces 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 institutions 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 under 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, the Van Rensselear Institute of Troy, the Stevens Institute of Hoboken, but it is susceptible of easy demonstration that the Engineering Schools of Cornell, the 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-fer-

tilization, 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, citizens 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 Commcnwealth, 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 trans-continental 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 impo@@ 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

the ownership of lines of steamship navigation, operates and must operate with tremendous energy and effect upon the legislation of the country. Less than 35,000 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 thousands 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 crises, 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 transferrable 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 Providence 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 salutory 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 percent 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 xxx 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

sett lers who came from Old England to New 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 Independence, 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 civil government, executive, legislative and judicial,

shall be applied for the up-building and maintenance of the great free institutions which form the noblest political heritage ever possessed by man. But it is not to be forgott en that these are only subordinate to still highes 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 forgott en, 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 tightcousness 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."

June, 1911

President Emeritus James K. Patterson, who delivered the Commencement address to the faculty and students of Clemson College, South Carolina, on the 13th inst., having been asked to furnish the Leader with some of the impressions made upon him, sends us the following:

Clemson College is founded upon the estate formerly owned by John C. Calhoun, and given to South Carolina by his son, Mr. Clemson, as a site for the institution, provided that it should bear his name. He transferred to the State about 1000 acres of land in Oconee County and about $50,000. in cash. The estate is a valuable one, containing about 500 acres of fine, arable land and about 500 acres beautifully wooded. The college campus occupies a part of the latter. I was greatly surprised by the number, variety and magnitude of the buildings erected for purposes of instruction and experiment. The institution is a mile from the nearest railway station, Calhoun, has its own postoffice and a capacious store for general merchandise. All the faculty live upon the grounds in houses owned by the College. Of these there are between 80 and 90, and although scattered over an area of between 200 and 300 acres, form a very beautiful picture.

The Calhoun mansion, the former residence of South Carolina's greatest statesman, is occupied by some relatives of collateral descent. The coat of arms of the Colquhouns, in a handsome frame, hangs in the old parlor and is described in the language of herandry: "Crest - a hart's head, couped, gu, attired, arg. Supporters two ratchhounds arg. collared, sa." Motto: Si je puis. This coat of arms is identical with that exhibited in the last edition of the Peerage and Baronetage of Sir Bernard Burke. The ancestral home of the Colquhouns, of

which Calhoun is but a modified spelling, is on the western shores of Loch Lomond. The country seat is known as Rossdhu. With the loch in front, studded with islets, and Benvoirlock and Ben Lomond in the near distance, it introduces the visitor to the most beautiful scenery in Western Scotland.

Quite a variety of valuable old furniture is seen in the sitting-room, parlor and dining-room of the old statesman. His grand-niece, a handsome old lady, courteous and dignified, affords ample opportunity to visitors to inspect the mansion and its contents.

Clemson College had an income last year of $220,000., an income increasing annually and automatically. Next year it is estimated at $250,000. The Board of Trustees consists of thirteen members, seven of whom were originally appointed by Mr. Clemson and are self-perpetuating. The other six are appointed by the Governor and confirmed by the Senate. The Trustees are evidently much in love with their work and hold semi-annual sessions of such length as to enable them to become quite familiar with the income and expenditures, the administration and instruction provided by the institution committed to their charge. All professors are elected by the Board of Trustees. This duty is delegated neither to a committee nor to an individual. Professors and instructors are removed upon three months' notice being given. Good but not extravagant salaries are paid. I was unable to discover by the closest inquiry any indications of uneconomic expenditure. It may readily be inferred that the budget makes no provision for either supernumararies or sinecures. The affairs of the institution are subjected to rigorous examination by committees appointed by the Legislature and by the agricultural bodies of the Commonwealth. All the students, 700 in number, live in barracks and are

boarded by the institution. Board and lodging, fuel and lights and laundry are supplied to cadets at $7.50 per month, an arrangement which sometimes brings the college into debt. Income balances expenditure every year; a debt of $50,000. or $60,000. would lead to very short work on the part of the Legislature. All unexpended balances are put into betterments. An adverse balance would be an anomaly in the history of the College.

The region immediately adjacent to Clemson is full of historical reminiscences, many of them going back to 1776, to 1812, to the Mexican War and to the Civil War. I had the pleasure of meeting while there Capt. Pickens, seventy-five years old, great-grandson of General Andrew Pickens of Revolutionary fame, and under his escort visited the old Hopewell Church, a stone building erected in 1807, where successive generations of Presbyterians have worshipped since the original settlement of the country. Immediately adjacent to the church is the cemetery in which many of the old pioneers find a last resting place. There lie General Pickens, his son, Governor Pickens, and many collaterals of the same stock. Upon a hill not far off is a monument commemorative of Fort Rutledge, which has long since disappeared. Capt. Pickens, who was a member of the Hampton Legion during the Civil War, told me an incident which he witnessed, at the recital of which I could not repress tears.

General Wade Hampton, as is well known, was among the wealthiest men in South Carolina. He is said to have owned more than 3000 slaves; a kind master, a loyal friend, and an ardent patriot, he equipped at his own expense the Hampton Legion, in which were enlisted many of the most distinguished sons of South Carolina. In one of the hard-fought battles of the War, while

leading the Legion on to a charge, he saw his son fall, mortally wounded. Dismounting, he took the young man in his arms, kissed him, laid him tenderly upon the ground, re-mounted his horse and was soon in the thickest of the fight. A recital of the reminiscences connected with Clemson College and its immediate neighborhood would occupy much more space than you could allow and possibly weary your readers.

This much is certain, that Clemson College is doing a great work for South Carolina. The agricultural interest is enthusiastic in its support and the Legislature is ready to vote any amount of money which may be needed in carrying on its operations. Agricultural instruction stands upon a high plane. Indeed, I am not sure that it is not the best south of the Ohio River. In Mechanical, Civil and Electrical Engineering, they stand well to the front and are improving their courses from year to year. An elaborate course of instruction in textile industry has been provided, where experts are trained in the manipulation of cotton from the time it leaves the boll till it appears in the delicately woven fabric. The homes in South Carolina give abundant evidences of thrift, economy, industry, like a phoenix that has risen from its ashes and appears in brighter plumage than ever heretofore.

47-11-64

Leader
Clinton Calley

Note

5 June, 1911.

In the Commencement address entitled "A Retrospect - 1840-1910," delivered by President Emeritus James K. Patterson of the University of Kentucky, he began with some complimentary references to the intelligence and enterprise of Michigan, in founding and endowing at an early date the University of Michigan, and in 1857 the Agricultural College, antedating the passage of the Morrill Act by five years. He referred to the potent influence exerted upon classical and industrial education throughout the west and north-west by these two famous institutions of learning. He then said:

"My recollections go back with tolerable distinctness to 1842. Andrew Jackson was still alive and the signal triumph of New Orleans was still fresh in the memory of those who had followed their redoubtable leader and with him achieved a notable victory. Webster and Clay and Calhoun were still living and the forensic triumphs of this mighty trio lingered upon the lips of all the thinking and reading men and women of the Republic. The differences with Mexico, which resulted in the annexation of Texas, had not yet come within the sphere of practical politics, and the heroism which covered with glory the American flag upon the fields of Buena Vista, Cherubusco and Chepultapec had not yet been added to her triumphs by land and sea."

He then proceeded to say:

"These preliminary remarks may serve as an introduction to the mighty epoch embraced within the last fifty years. At the conclusion of the Mexican War, the treaty of Guadaloupe-Hidalgo gave the United States the rich gold and silver-bearing commonwealths of the Pacific Coast. The discovery of gold in California in 1849 stimulated travel and traffic in that direction. Thousands of pioneers traversed the weary and interminable plains west of the Mississippi and enduring untold privations, reached the goal of their wishes and of their destiny, after months of exposure to unwonted climatic conditions of cold and heat, sunshine and tempest, in plains and deserts never before trodden by the white man."

Referring to the Transatlantic telegraph, he said:

"For this great triumph of electrical engineering skill, the world owes a debt of gratitude to two men, Cyrus W. Field of America and Thomas Brassey of England. These two patriots contributed largely of their means upon a venture which many regarded as reckless and certain to end in financial disaster, but undeterred by the adverse conditions which confronted them, they bent their energies more readily to the task and by means of the Atlantic cable united in indissoluble bonds the mother country and the great republic of the west. During the crisis of its fate, Cyrus W. Field and Thomas Brassey and others held a conference in London. Field had exhausted the bulk of his fortune in the venture. The others stood aghast at the additional heavy drain upon their resources. Stout old Thomas Brassey, who had already contributed more than two fortunes, as fortunes were measured by the standard of that day, said: 'I have already advanced more money to this enterprise than I originally anticipated. I may lose all of it, but I am willing to risk an additional 60,000 upon the success or failure of the enterprise.' The conference rose and in less than a year the Atlantic cable was successfully laid. I remember well the thrill of pleasure with which I read an account of this stupendous achievement."

Referring to the publication by Mr. Darwin of "The Origin of Species", he said:

"Within this era of rejuvenated activity, science and its practical application to the useful arts has developed and gone forward by leaps and bounds. By the new impulse given to biological study and biological research, stimulated by the far-reaching investigations of Darwin and Wallace and Huxley and Spencer, the theory of evolution has been placed upon a firm foundation, and has become a practical working leverage for advanced movement in every direction, finding an application and an interpretation in realms of discovery which no one could have anticipated fifty years ago. I remember the advent of "The Origin of Species", and the surprise, the incredulity, the apprehension and the spasmodic repugnance with which it was received by the clergy, the moralists, the exponents of philosophical systems and the interpreters of scientific thought. By the more prominent thinkers of the age, it was hailed as a new luminary suddenly shot up from the horizon and shedding its baleful or its beneficent rays upon the dominant thought and accepted theories, theological and metaphysical, of the time."

The passage of the Morrill Act in 1862 formed the basis of a new epoch in industrial education.

"The conception of Senator Morrill and his co-workers was a large and comprehensive one, and in its development larger and more comprehensive than he or they could at that time have anticipated. No serious effort was made by any of the states to vitalize the scheme and establish the colleges provided for under the act until after the close of the war. Then the scrip was issued by the Government and given to the States, to work out the problems involved as best they could. The conceptions of what an agricultural college ought to embrace and what it ought to be were vague and nebulous in the extreme. Why expend money to teach farmers' sons how to sow and plow and reap, to groom horses and drive wagons, to milk cows and rear calves? The farmers' son could learn these things better on his father's farm. As for book farming, the older agriculturists treated it with contempt and would none of it. If with these purely rural subjects should be

associated other liber al studies, language, mathematics and belles-lettres, they were more likely to be drawn away from the farm than attracted to it. Moreover, there were relatively few instructors available for imparting to their pupils a knowledge of the sciences related to agriculture and the mechanic arts and making practical application thereof. Chemists and physicists there were - comparatively few, however - but the chemical and physical formulas of that time had found an application different from and wholly alien to the subjects embraced in the new education."

And further:

"No radical change is the growth of a day or a month or a year. Agricultural Colleges and scientific agriculture are no exceptions to this rule. First the embryonic stage, then the struggle for existence, then full-fledged maturity, then continuous growth and symmetrical expansion; first the seed, then the plant, then the ear, and at length the full corn in the ear. Scientific agriculture has emerged from the chrysalis stage and the graduate in the four-years' course therein may stand upon an equal pedestal and claim an equality with the scholar who has won honors in the liberal arts or in pure science. And what have been the results? Agricultural processes have been improved and agriculture cheapened, increased returns and improved quality in the cereals, in sugars and in cottons, in all the manifold and varied products of the soil; improved live stock reared under economic conditions, with intelligent breeding for definite results; waste lands brought under cultivation, deserts made fruitful through irrigation and exhausted fields reclaimed and made productive; the farm and the orchard and the garden, flocks and herds, the cattle upon a thousand hills, all unite in testifying to the beneficent results of the new education."

Further reference towards the close of the address was made to the work done by the Michigan Agricultural College and the great influence exerted by it thought the men whom it furnished to the newly established land grant colleges.

And in conclusion, the following quotation from the address may be noted:

"And now my brief retrospect is closed. Marvels have been accomplished within the last fifty years. What will the retrospect of the next half century reveal? No human being can anticipate, but of this we may rest assured: 'Eye hath not seen, nor ear heard, neither hath it entered into the heart of man to conceive" the infinite wealth of achievement and of knowledge which the ever-enlarging revelation of nature and of God will then disclose."

Dec. 28, 1909

Mr. President, Toast-Master, Ladies and Gentlemen of the Press Association of Kentucky:

I am deeply touched by the eulogy just delivered by our accomplished Toast Master upon my life and character, and especially upon the part which I have had in the foundation and up-building of the State University of Kentucky. If I could bring myself to feel that I am worthy of the exceedingly complimentary things which he has said about me, I should feel a degree of satisfaction which is foreign to me just now, in rising to reply. I cannot but think that his estimate is far beyond my desert. It is not given to many men to witness their own apotheosis and this too while I hope that some years will yet intervene before I am translated to another sphere.

It is true that I have done what I could, during a long administration extending over forty years, to further the growth and the development of the State University. Setting out from small beginnings, it has now reached proportions far beyond those which its most sanguine friends could have anticipated. Nearly thirty years afo its prospects were gloomy indeed. Kentucky had not then felt the necessity of an institution for higher education. Its means were small and the half-cent tax which was given by the Legislature when it was placed upon an independent footing, excited the envy and stimulated the opposition of the denominational colleges of the State, which had hitherto had a monopoly of collegiate education. With the aid of a few staunch supporters in the Legislature, of whom my friend, Judge Mulligan, was one of the most active and effective, I succeeded in defeating the potent combination which assailed it and carried the institution safely through the severest crisis which it has ever encountered in its history.

I observe on the program that I am expected to reply to the toast "University Builders". There have been builders of empires, few in number, but conspicuous above their con-

temporaries in a very marked degree, who by the aid of efficient allies were able to accomplish great results for the people whom they ruled. Such were Charlemagne, Peter the Great of Russia, Alfred the Great of England, Frederick the Great of Prussia, Count Cavour of Italy, and Prince Bismarck of Germany. These men severally were the creators and the builders of empires, but they are relatively few in numbers and may readily be counted upon the fingers of both hands.

I have known in my time some great university builders - Justin S. Morrill of Vermont, to whom more than fifty state colleges and universities scattered throughout the United States owe their foundation and their greatness, is one of them. The magnificent allotment of the public domain, which was made upon his initiative by the Congress of 1862, laid the foundations broad and wide for the founding and development of these institutions of learning which are now setting the pace for higher education in America. The allotment of public lands given to Kentucky, 330,000 acres, equal to 515 square miles, an area larger than the county of Fayette and falling not far short of the combined acreage of Fayette and Woodford, would, had it been economically and judiciously managed, have formed a princely endowment for the State University of the Commonwealth, but unfortunately the Legislature of 1865 carelessly, ignorantly, criminally, threw away, sacrificed this splendid gift from the national government. Subsequent legislatures, appreciating the blunder and the crime which they sanctioned, have done something towards redressing the great wrong. The half-cent tax of 1880, the appropriations of 1904 and of 1908 for additional income, and the appropriations made for buildings, have done much to repair the ruthless injury which has been wrought. Much, however, yet remains to be done and years will elapse before the appropriations of the Commonwealth will provide an equivalent for the splendid income which might have been derived from this munificent gift. Other institutions founded under

the same act, more fortunate than we, have moved steadily forward,adding to the income derived from the proceeds of the sale of the public lands large appropriations from their respective commonwealths from year to year. The best of them now rank with Harvard and Yale, Princeton and Columbia and Johns Hopkins, and are moving steadily forward with an irresistible momentum.

Another university builder, whom I have known and with whose friendship I am honored, has done more for university education in America than any other man, with the exception of Justin S. Morrill. His activity has taken a somewhat different form, but the results obtained are of a kindred character. The sums of money which he has expended for university extension and for general information and culture in founding labraries for the use of the student and for the yse of the intelligent layman, who is only a gleaner in the field of literature and of science, surpass the benefactions of all benefactors who have preceded him. To the beneficence of Andrew Carnegie we owe the beautiful library building, with its equipment, which you will visit tomorrow, and I am not without hope that ere he passes over to the majority, he may do something still further for the State University of Kentucky.

Another university builder, with whomI have not the pleasure of a personal acquaintance, is John D. Rockefeller the founder and liberal patron of the University of Chicago. The millions which he has expended in founding and endowing this institution have borne abundant fruit and have been a stimulus and an encouragement to other millionaires to go and do likewise. The fund which he has placed in the hands of a Board of Trustees appointed by himself, amounting to $44,000,000., the proceeds of which are to be devoted to assisting deserving institutions whose means are small, is worthy of all praise, and closely allied to the splendid endowment

of the Foundation for the Advancement of Teaching which owes its existence to Mr. Andrew Carnegie, and this institution, I may observe in passing, through its efficient head, Dr. Henry S. Pritchett, is exerting an influence in determining high standards of admission and thorough and accurate scholarship which cannot be measured in dollars and cents, the beneficent results of which time only can unfold.

Another university builder whom I had the pleasure and the privilege to know, Dr. James McCosh of Princeton, brought with him from the British Isles a degree of scholarship and an enthusiasm for education which made itself immediately felt upon Princeton University, of which he became the honored President. Under his inspiration and guidance, Princeton forged immediately to the front and did much toward infusing a new life into the older institutions of the country, Harvard, Princeton and Yale.

We in Kentucky have awakened to the necessity of providing an institution of high rank for the advanced education of our sons and daughters, in philosophy, in letters, in science pure and applied, and have so far succeeded that the institution under whose auspices you convene tonight is rapidly becoming the pride and the honor of the Commonwealth. No one of the number who have co-operated to bring about this happy result can be esteemed a university builder, different from and beyond those who have co-operated with him. To the united efforts of many men and women, this result is due. It is true that I have done what I could and my official position has oftentimes given to me an adventitious prominence and precedence to which someone else would have been entitled under other conditions.

At all events, the University has grown from nothing to its present respectable proportions. Within thirty years its college classes have increased in matriculation more than ten-fold, its income in an equal ratio. The university grounds, embracing 52 acres, with fifteen buildings, supply educational facilities for our sons and daughters in a degree

which could not have been anticipated in 1880. The people of this Commonwealth are worthy of a great university. Make your University worthy of you. In your hands lies its future destiny. You can make it what you will. THe press of Kentucky, an allied and co-ordinate agency for the up-building and development of the educational, moral and material interest of the State, can make it or mar it.By their active support they can double and quadruple its efficiency within a quarter of a century. By their apathy and indifference they can cripple its energies and render its efforts futile. You are the representatives of a great and an heroic stock. The blending of Celt and Saxon, Norman and Dane made the British Islands what they are today, but in the four seas of Britain civil and religious liberty have been wrought out and established upon a firm and enduring basis. The immigrants from the mother country carried into the western hemisphere the principles of freedom which they inherited from Magna Carta and the Bill of Rights, and carried them forward to a more articulate development under happier conditions upon this side of the Atlantic, founding and up-building this greater and mightier England which has already become the chief representative of the English-speaking stock. Kentucky, Tennessee, West Virginia and western North Carolina possess a population representing the purest blood on this continent of this English-speaking race. With these traditions behind you, with the results that you have achieved already and with the brilliant future which lies before you, if you be true to yourselves true to your country and true to your God, you have every stimulus and encouragement to prolonged and continuous exertion in realizing for yourselves and your children the true and the beautiful and the good.

Again thanking you, Mr. President, Mr. Toast-Master, ladies and gentlemen, for the honor that you have done me and for the kind expressions of appreciation and regard which you have given me, I will close this somewhat abrupt and desultory address which I was invited to make.

47-M-64

Response to Board
Pure Association
Dec 28 1909

D. Whitehead
P.K.

[1907]

The State College of Kentucky is now well abreast of the other Land-Grant Colleges - easily first south of the Ohio River and in many respects the equal of the best in the Northwest although its income and building accommodations are far behind those of the great states North and West of us. Ohio, Indiana, Illinois, Wisconsin, Minnesota, Missouri and Iowa have provided buildings for their respective institutions at a cost far surpassing ours and supplied annual income from three to six-fold greater than that at our command.

By adequate support our Engineering courses of study will supply a a large percentage of the trained Engineers required in the South; and our Scientific courses of study will supply a like proportion of Scientific experts in the application of Science to the industrial Arts. Now is a rare opportunity for Kentucky to take the lead in the South and West and to maintain it.

The authorities of the State College bring these facts before you with pardonable pride. Its growth within the last 22 years surpasses that of any other institution in Kentucky. But this we hope is only the beginning of greater things yet to be. If, however, it is to expand in the future as it has grown in the past, the State, realizing its necessities and its opportunities must foster and sustain it with no niggardly hand. Income has not kept pace with expansion and with its ever growing necessities. The income from the Federal Government accruing from the proceeds of the sale of lands donated by Congress in 1862 and from the appropriation made under the Morrill Act of 1890 is divided - 14 1/2 % being given to the colored Normal School in Frankfort. In most of the other states of the Union these incomes in their entirety are given to the Colleges and Universities organized under the law of 1862. Our income is thus diminished to the extent of $5060.50 each year. Moreover the income of the College from the 1/2 cent tax imposed in 1880 is quite inelastic and has stood at practically the same figure for several years past.

The benefit which it has conferred upon the Commonwealth by the education of her sons and daughters cannot be computed. From comparatively small beginnings it has grown far beyond the most sanguine expectations of its founders. During this period its professors and instructors - those engaged in teaching and those occupied in investigation - have increased eightfold; its courses of study in like proportion. Meanwhile it has added laboratories, museums and workshops for the illustration and application of science; provided additional buildings and extended its sphere of operation theoretical and practical in manifold directions.

Its Experiment Station organized for the benefit of the farmers, with its farm of over two hundred acres; its fine herd of Jerseys; its department of animal husbandry; its experiments in cereals, grasses, fruits, hemp and tobacco (the results of which are published for gratuitous distribution among agriculturists, horticulturists and fruit growers of the State) is the best south of the Ohio river.

The same is true of its laboratories and museums, - Chemical, Physical, Botanical, Geological, Mineralogical, Anatomical, biological, Entomological, Mechanical Electrical, Civil and Mining Engineering.

Its Engineering courses measured by their systems of instruction and their results are equal to those of any technical school in the United States.

Graduates in Engineering: in Science: in Classics: in Pedagogy are in such demand that more than twice the number of Alumni, each year, could be placed at once in positions honorable and remunerative.

Necessities.

I. An appropriation of $75.000 for the extension and further equipment of the Department of Mechanical, Civil and Electrical Engineering.

2. An appropriation of $40.000 for the erection and equipment of a building for Mining Engineering.

3. An appropriation of $35.000 for the erection and equipment of a building for the use of the Normal Department and for the Academy.

4. An appropriation for the current fiscal year and for each succeeding year thereafter in order to liquidate the existing debt of $13464.19,- representing the aggregate of annual deficits which have accumulated during several years past and to provide for additional income to meet the annually increasing expenditures of the College.

We have now sketched the history of the College, and in the following section have presented its organization by departments and courses of study. Reports of departments appended and made a part of this report show the work done in kind and in degree. We have exhibited its marvelous growth and development; how setting out from small beginnings, it has grown to its present proportions. We have shown that it must advance pari passu with its sister Colleges and Universities; that to stand still is to lose ground and be left like the moraine of a glacier while the mighty mass moves silently and resistlessly on.
We have shown what other states are doing and that even with our meagre resources none of them turn out better men than we.

We have called attention to the teeming resources and boundless wealth of Kentucky awaiting the engineer to make them available, and finally we appeal to your honor and good faith pledged to the general government, to your state pride, to your intelligent self-interest, to maintain and sustain your State College in a spirit worthy your traditions, worthy your history, worthy the sires from whose loins you came. We build, our descendants will inhabit; we plant, they will reap; let us remember our lineage and praise the fathers who begat us by doing their work as they would do.

Let us foster and maintain a great institution whose beacon light will be seen from afar over hill and valley and plain, east and west, north and south, throughout all this broad land of ours.

We are with great respect,

Your Obedient Servants.

State College of Kentucky,
Jas. K. Patterson, Ph. D., LL. D., President.

Lexington, Ky.,

Matriculates increase in numbers every year, classes grow proportionately, new courses of study are added to meet the needs of the public; but the income of the College is practically at a stand-still.

A largely increased attendance of young women in consequence of the completion of the College Hall for boarding and lodging young women (for the erection of which the State appropriated $60.000) will swell our numbers beyong all precedent and emphasize the necessity for more and ampler accommodations. You will readily see that unless the educational interests of the State as represented in the State College are provided with additional means for expansion and maintenance, the progress and growth of the institution must be cut short, must come to a stand-still, must, as compared with other State Colleges relatively decline.

To cease to go forward is to go back. No state institution in all the Union has had a steadier and a healthier growth. No College has graduated abler men and women. If the progress of which we are all so proud is to continue we must have more means and the Commonwealth is our only source of supply. The College will ask the legislature of which you will be a member for money for the erection of additional and much needed buildings. It will also ask for a substantial addition to its income in order that it may be able to meet growing expenditure.

The State College is the child of the Commonwealth; it appeals to your protection; to your intelligence, to your interests and to your pride to sustain it with no niggardly hand.
The State is rich in actual resources; richer far in potential resources which the State College is a potent factor in developing.
The State, moreover, is now quite free from debt; the moment seems auspicious for the exercise of a generous liberality to enable your College to grow and expand and become a still greater power for good in Kentucky.
To you it appeals: to you it stretches forth its hands.
Make it all it ought to be and this and future generations will accord to you your meed of honor.

[Nov. , 1910]

State University of Kentucky,
Jas. K. Patterson, Ph. D., LL. D., President Emeritus.

Lexington, Ky.,

WHEREAS the National Association of State Universities has heard with deep regret of the death of our friend and colleague, Rev. Matthew H. Buckham, D.D., LL.D., President of the University of Vermont;

THEREFORE, BE IT RESOLVED that we place on permanent record in the Proceedings of this Association our high estimate of his ability and of his worth.

Born in Leicester, England, of Scottish parentage, in the year 1832, he came when a child, with his parents, to America. His father, a clergyman of ability and distinction in the Congregational Church, was a man of eminent ability and obtained a wide reputation as a minister of the Gospel. The early education of his son Matthew was obtained under the judicious oversight of his father. When prepared for college, he entered the University of Vermont, taking his degree in 1851. After studying theology and becoming a licensed minister of the Gospel, he went abroad, in order to prepare himself for usefulness in the pulpit or in the professor's chair. On his return, well equipped for his future work, he became Professor of Greek in his alma mater, which chair he filled for many years, with eminent satisfaction to his pupils and to his colleagues. He continued to discharge the duties of his professorship until 1871, when he was elected President of the University, succeeding Dr. James B. Angell, who had gone to become President of the University of Michigan. In this high office he remained until his death in the autumn of 1910.

State University of Kentucky.
Jas. K. Patterson, Ph. D., LL. D., President Emeritus.

Lexington, Ky.,

Dr. Buckham brought to the discharge of his duties a scholarship broad and deep and accurate, and an executive and administrative capacity of a high order. His pure, elegant English, his easy and ready elocution, the breadth of his conceptions and the lucidity of their expression, could not fail to arrest the attention of even a casual reader or listener. Modest and unobtrusive, the wealth of his acquisition surprised and delighted his associates and his colleagues. His admirable sense of proportion and the orderly arrangement of his argument, with his wealth of metaphor and illustration, made his addresses a constant inspiration and delight.

During his long administration, the University of Vermont made rapid strides in growth, in influence and in relative importance. He quadrupled the numbers of its students, increased the educational staff three-fold and its income four-fold. He raised the standard of admission and graduation, and inspired its government with an intelligent enthusiasm which made it a conspicuous factor in education in America. During his long administration, a wholesome religious spirit and example pervaded faculty and students, due very largely to the blameless life of unostentatious piety which "allured to brighter worlds and led the way."

Full of years and of honors, he passed over th the majority in November 1910, in the seventy-ninth year of his age and the thirty-ninth of his presidency of the University

of Vermont, leaving behind him a reputation for ability, scholarship and usefulness second to none of the great men who preceded him in this high office. His memory will long remain green in our recollections and his example will be an inspiration for years to come.

"Only the actions of the just
"Smell sweet and blossom in the dust."

RESOLVED that a copy of these resolutions be placed upon the minutes of the Association and a copy be sent to the family of the deceased.

State University of Kentucky,
Jas. K. Patterson, Ph. D., LL. D., President Emeritus.

Lexington, Ky.,

RESOLVED that we have heard with regret of the domestic afflictions which have prevented the attendance of Chancellor Kincannon and President Bryan, and of the personal illness which has kept Chancellor Strong from his place in this Association today. We earnestly hope that a beneficent Providence will deal gently with these our colleagues, remove their maladies and bring health again to their several homes. We offer them our sincere sympathy.

RESOLVED that a copy of this resolution be sent to the parties concerned.

[June, 1911]

Mr. President, gentlemen of the Faculty, ladies and gentlemen:

I thank the President and Faculty for the invitation to deliver the address upon Commencement Day to the President, Faculty and students of the oldest Agricultural College in America. I well remember the dignity, the prestige and the influence of the University of Michigan when I was a student in college sixty years ago. It had then the reputation of measuring well up to Yale and Harvard and Princeton. Founded by the descendants of the good old Puritan stock who were the pioneers of civilization in these western wilds, it grew up to be an educational force in the great west, a mighty leverage for the uplift and progress of your own and neighboring states. Its success inspired other ventures along educational lines, which found expression in the establishment of this institution for the industrial education of the masses and in the establishment of normal schools for the education of teachers. To these beneficent activities I ascribe the wonderful

progress of your state in intelligence, in accumulated wealth and in industrial enterprise.

Today I propose to present you with a brief retrospect of events and movements within my personal recollection, in order that we may be able to contrast the close of this period intelligently with the past. It is good to look back over periods with which we have been identified, whether they be centennials or jubilees. During such intervals, whether long or short, the relations of things are constantly changing. Though all unconscious of the difference, we are not today what we were yesterday or will be tomorrow. Days and weeks and months and years move on and we move with them, with as little consciousness of movement as we are of the revolution of the earth upon its axis or in its orbit around the sun. It is only when we reckon by long periods of time that changed relations become obtrusive by contrast.

Thus it is in every state, in every county, in every

city; thus it is the world over. So in every community of Christian belief, and in every individual church of every communion. The standards of beliefs, confessions and creeds gradually and imperceptibly adjust themselves to altered conditions, to modifications in the accepted body of aciëntific truth, of metaphysical and ethical speculation, of social and economic doctrine. A most miraculous inherent power is this. The Christian faith is always in accord and always must be in ultimate accord with scientific and philosophic conclusions based upon a correct apprehension of God and a correct interpretation of nature and of man.

My recollections go back with tolerable distinctness to 1842. Andrew Jackson was still alive and the signal triumph of New Orleans was still fresh in the memory of those who had followed their redoubtable leader and with him achieved a notable

victory. Webster and Clay and Calhoun were still living and the forensic triumphs of this mighty trio lingered upon the lips of all the thinking and reading men and women of the Republic. The differences with Mexico, which resulted in the annexation of Texas, had not yet come within the sphere of practical politics, and the heroism which covered with glory the American flag upon the fields of Buena Vista, Cherubusco and Chepultapec had not yet been added to her triumphs by land and sea.

On the other side, the Iron Duke, the victor of Waterloo, was still living, and Gladstone and Disraeli had entered the arena of the House of Commons and had given promise of the mighty influence which they were destined to wield upon their respective followers. Sir Robert Peel, leader of the House, was maturing, but had not yet perfected his measures for the repeal of the Corn Laws and the establishment of free trade within the British Empire. Darwin and Huxley and Tyndal and Alfred Russell Wallace

had scarcely been heard of, and though Thomas Arnold had passed away from the scene of his scholastic triumphs, his influence was still potent in moulding the morals and developing the intellect and shaping the destinies of the kingdom. The disastrous campaign of Cabool had annihilated a British army in the defiles of the Kyber pass, but the veteran Marquis of Dalhousie had not yet rounded off the British Empire in India by the annexation of the Punjab.

Indefatigable discoverers had been experimenting with amaesthetics, but antiseptic surgery had not yet come into being. Pasteur and Koch and Lister were still in their swaddling clothes. Chemistry and physics and astronomical science and geology and biology were all still in their infancy, and coupled with a liberal course in mathematics, in metaphysics and in ancient languages, could all still be comprised within the limits of a well-ordered college curriculum. Agriculture too was still in its infancy;

indeed
/scientific agriculture did not then exist. The sickle and the cradle and the flail and the old-fashioned plow held the field and sufficed to meet the necessities of the agriculturist of the day. Steamship nagigation had been introduced upon the Atlantic, but was still in its infancy. The railways of the United States covered less than one thousand miles, less than fifty of which were west of the Alleghenies. The anti-slavery agitation, which culminated in the terrible Civil War of '61-'65, was intensely sympathetic, vehement and aggressive, stimulating and fostering the antagonism of the slave-holder and laying the foundation of the gigantic contest which rent the nation in sunder for four years, deluged a large section of the country with blood and created an enormous debt, the effects of which we still feel today.

Visions of rifled guns and iron-clad men of war had been floating in the brains of artillerists and naval architects for years, but had not gone beyond the merely rudimentary, experimental

stage. The ideas of prolific inventors were crystallizing into definite shape, to find a realization later in huge cannon and armor-clad battleships and cruisers.

But if, meanwhile, before the outbreak of the Civil War, Jackson and Calhoun and Webster, Wellington and Peel, Blucher and Stein, had passed over to the majority, Lincoln and Grant and Lee, Kichener and Gladstone and Salisbury, Victor Emmanuel and Cavour, Von Moltke and Bismarck were ready to succeed them and to maintain undimmed the lustre and the dignity and the prestige which their respective mationalities had already won.

These preliminary remarks may serve as an introduction to the mighty epoch embraced within the last fifty years. At the conclusion of the Mexican War, the treaty of Guadaloupe-Hidalgo gave the United States the rich gold and silver-bearing common-

wealths of the Pacific Coast. The discovery of gold in California in 1849 stimulated travel and traffic in that direction. Thousands of pioneers traversed the weary and interminable plains west of the Mississippi and enduring untold privations, reached the goal of their wishes and of their destiny, after months of exposure to unwonted / climatic conditions of cold and heat, sunshine and tempest, in plains and deserts never before trodden by the white man.

These conditions created a demand for greater facilities for travel and transportation than had existed heretofore. Lines of railway had multiplied rapidly in the states east pf the Mississippi and north of the Ohio, and as early as 1850, the journey could be made from Cincinnati to New York in thirty-six hours, but up until this time the conception had not dawned upon the most adventurous capitalists and speculators to connect the Pacific and Atlantic coasts by all-rail communication. In the late "'50's",

however, during the Kansas-Nebraska agitation, when settlers were thronging into these states to obtain lands by pre-emption and settlement, the demand for more rapid transportation quickly grew and the practicability of connecting the Mississippi with the states upon the Pacific was brought within the range of practical finance. The outbreak of the Civil War accelerated the impulse and ere its close, rapid progress had been made in connecting the distant and outlying commonwealths of the West with the great middle and eastern states. Corresponding advances meanwhile had been made in steamship navigation, and ere the close of the Civil War, iron-built vessels propelled by steam were rapidly displacing the wooden ships which had held the mastery of the seas from time immemorial.

In the early "'40's", telegraphic communication had been established and long before 1860 telegraphic lines were

in use all over continental Europe and all over the greater number of the States of the Union, bringing into immediate contiguity the larger cities and towns and all the more important villages upon the great railway lines. These arteries of communication, railway and telegraphic, inspired the nation with new ideas and created new hopes and new efforts to realize them. As early as 1858, the first Atlantic cable was laid, but unfortunately, after the transmission of the first message from the President of the United States to the Queen of England: "America and England united. Peace on earth, good will toward men," it broke in mid-ocean. Successful communication by sub-marine telegraph did not become an accomplished fact until 1865, when a new cable was laid and the old one repaired.

For this great triumph of electrical engineering skill, the world owes a debt of gratitude to two men, Cyrus W. Field of

America and Thomas Brassey of England. These two patriots contributed largely of their means upon a venture which many regarded as reckless and certain to end in financial disaster, but undeterred by the adverse conditions which confronted them, they bent their energies more readily to the task and by means of the Atlantic cable united in indissoluble bonds the mother country and the great republic of the west. During the crisis of its fate, Cyrus W. Field and Thomas Brassey and others held a conference in London. Field had exhausted the bulk of his fortune in the venture. The others stood aghast at the additional heavy drain upon their resources. Stout old Thomas Brassey, who had already contributed more than two fortunes, as fortunes were measured by the standard of that day, said: "I have already advanced more money to this enterprise than I originally anticipated. I may lose all of it, but I am willing to risk an additional £60,000 upon the success or failure of the enterprise."

The conference rose and in less than a year the Atlantic cable was successfully laid. I remember well the thrill of pleasure with which I read an account of this stupendous achievement.

The telephone came later; not until 1877 was the Bell telephone brought into use, somewhat immature in its construction and defective in its operation, but containing the beginnings of mightier things yet to be. After the lapse of thirty years or more, the telephone finds a place in almost every well-to-do household, ministering to the comfort and to the convenience of the private home, as well as being the indispensable adjunct of every executive office, political, industrial and commercial, throughout the length and breadth of the land. The close of the Civil War left the victorious republic exhausted and the South prostrated and bankrupt, but with the energy characteristic of the race, all set themselves to work to rebuild their ruined walls, to re-establish agriculture and commerce and in less than

twenty years the Phoenix rose from its ashes in richer plumage and with statelier stride than before the great calamity of '61-'65. The belligerents had, during that fearful conflict, brought armies into the field and maintained them on a colossal scale never before equalled. They had covered spaces and distances with strategic movements upon a larger scale than had ever been attempted by Caesar or Napoleon. They had fought battles and won victories with a larger expenditure of blood and of treasure than ever before in the history of the race. But although the Civil War at its conclusion left a heritage of bitterness and of hate for years thereafter, a new generation arose which knew little of the perils and sacrifices involved and who learned of the deeds of their fathers upon the fields of fratricidal strife as they had learned of the struggles of the Revolution and the War of 1812. And today, happily, the wounds are healed, the scars obliterated, alienation and passion and revenge are re-

placed by fraternal union, patriotic co-operation and interchange of civilities and courtesies and affection, gratifying in an eminent degree to all who love their country. At last, after the lapse of fifty years, we can say, as John Tyndal said of the British Empire twenty-five years ago: "Thank God we are again a united people."

Within this era of rejuvenated activity, science and its practical application to the useful arts has developed and gone forward by leaps and bounds. By the new impulse given to biological study and biological research, stimulated by the far-reaching investigations and discoveries of Darwin and Wallace and Huxley and Spencer, the theory of evolution has been placed upon a firm foundation, and has become a practical working leverage for advanced movement in every direction, finding an application and an interpretation in realms of discovery which no one could have

anticipated fifty years ago. I remember the advent of "The Origen of Species", and the surprise, the incredulity, the apprehension and the spasmodic repugnance with which it was received by the clergy, the moralists, the exponents of philosophical systems and the interpreters of scientific thought. By the more prominent thinkers of the age, it was hailed as a new luminary suddenly shot up from the horizon and shedding its baleful or its beneficent rays upon the dominant thought and accepted theories, theological and metaphysical, of the time.

When from the present va_ntage ground we look back, we can scarcely understand how profoundly the attitude of thought and of speculation, of accepted theory and well-reasoned scientific conclusions have adjusted themselves to the new interpretation of nature and of life. Theology no longer dreads but welcomes the hypotheses of Darwin and of his fellow-workers. Moral speculation accepts it as the key of rational interpretation,

and every branch of natural science finds in it a firm pedestal upon which to stand. Extravagances there have been affiliated with it, which Mr. Darwin himself would have been the first to repudiate. Conclusions from ill-defined and hastily accepted premises have by illicit process been deduced from it, but these have been dissipated and have disappeared. The dross has been purged and the gold remains.

At the beginning of this era, when the foundations of accurate thinking and legitimate speculation were laid, the dawn of agricultural education began. To Michigan belongs the honor of the establishment of the first school for scientific and experimental agriculture on the western continent. Five years before the passage of the Morrill Act of 1862, the Legislature of Michigan had provided for the establishment of an agricultural school, which became the leader and the pioneer of agricultural education in America. In 1862, the conditions were ripe for a

new departure. Justin S. Morrill of Vermont, although the Civil War was in progress, absorbing the thought and absorbing the treasure of the nation - this great statesman conceived the idea of dedicating forever to agricultural and mechanical education a part of the rapidly diminishing area of public lands belonging to the nation. Allotments were made to the several States in the Union, including those in rebellion, of large bodies of public lands in proportion to population, for the endowment of colleges and universities for the education of the masses.

The Act of 1862 provided that "the income from these lands should constitute a perpetual fund, the capital of which shall be inviolably appropriated by each State which may take and claim the benefits 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 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 of life." Upon this foundation have been established more than fifty institutions of learning, the beneficent results of which the people of the United States enjoy today. In most of the States accepting and appropriating the national land grant, universities have been established, of which colleges of agriculture and colleges of mechanic arts form an integral part. These institutions, availing themselves of the latitude allowed in the organic act, have for the most part made ample provision for other scientific and classical studies.

The conception of Senator Morrill and his co-workers was a large and comprehensive one, and in its development larger and more comprehensive than he or they could at that time have anticipated. No serious effort was made by any of the States

to vitalize the scheme and establish the colleges provided for under the act until after the close of the war. Then the scrip was issued by the Government and given to the States, to work out the problems involved as best they could. The conceptionsof what an agricultural college ought to embrace and what it ought to be were vague and nebulous in the extreme. Why expend money to teach farmers' sons how to sow and plow and reap, to groom horses and drive wagons, to milk cows and rear calves? The farmers' son could learn these things better on his father's farm. As for book farming, the older agriculturists treated it with contempt and would none of it. If with these purely rural subjects should be associated other liberal studies, language, mathematics and belles-lettres, they were more likely to be drawn away from the farm than attracted to it. Moreover, there were relatively few instructors available for imparting to their pupils a knowledge of the sciences related to agriculture and the

mechanic arts and making practical application thereof. Chemists and physicists there were - comparatively few, however - but the chemical and physical formulae of that time had found an application different from and wholly alien to the subjects embraced in the new education.

The agriculturist of 1860 would have treated with contempt if he had understood its phraseology, the fertilization of fields and the growth of crops by chemical formulae, the feeding of stock by biological rations, the destruction of noxious insects by the artificial propagation of entomological parasites and the elimination of disease by the injection of toxic remedies. The old established universities and colleges looked askance upon the new intruders into their prescriptive domain. "A waste of public lands and of private fortunes", "the dreams of amiable but visionary enthusiasts", "another illustration of the folly of attempting to make a purse out of a sow's ear", "a foolish effort to substitute an imitation and a counterfeit article for the

genuine coin and currency of the realm", "a doctrinaire experiment that would end in failure", "a project analogous to the fantastic device to extract gold from sea water" - such were the comments and such the sceptical similitudes upon the lips of the learned, but the builders, though they experimented often unsuccessfully and failed sometimes egregiously, gradually found a light to emerge from the darkness, gradually got out of the bogs and quicksands upon firmer ground, until at last they had learned well the lesson taught by Wordsworth more than half a century before:

"To the solid ground of nature
"Trusts the mind that builds for aye."

When observation and experiment were substituted for the haphazard rule of thumb,progress began to be made and to move rapidly forward. The foundations of scientific agriculture were laid and results obtained which could not be gainsaid.

new learning with contempt to explain, to look to their own armor and to repair their own defenses. In the laboratories of the agricultural college, chemistry and biology and physics took on a new expansion and a new significance. The teachers in the new learning taught the teachers of the old. In order to hold their own and prevent their being elbowed out of court, the older institutions found themselves compelled to improve and enlarge their spheres of scientific study, to create new laboratories and place in them men abreast of the discoveries which workers in the new field had made. Who for the most part are the ranking chemists and biologists and physicists of today? Not, certainly, the exponents and expositors of these subjects in the old colleges and universities, but the active, energetic bands of enthusiastic workers and discoverers in the new.

No radical change is the growth of a day or a month or

a year. Agricultural colleges and scientific agriculture are no exceptions to this rule. First the embryonic stage, then the struggle for existence, then full-fledged maturity, then continuous growth and symmetrical expansion; first the seed, then the plant, then the ear, and at length the full corn in the ear. Scientific agriculture has emerged from the chrysalis stage and the graduate in the four-years' course therein may stand upon an equal pedestal and claim an equality with the scholar who has won honors in the liberal arts or in pure science. And what have been the results? Agricultural processes have been improved and agriculture cheapened, increased returns and improved quality in the cereals, in sugars and in cottons, in all the manifold and varied products of the soil; improved live stock reared under economic conditions; with intelligent breeding for definite results; waste lands brought under cultivation; deserts made fruitful through irrigation and exhausted fields reclaimed and made productive;

cattle upon a thousand hills, all unite in testifying to the beneficent results of the new education.

The agricultural colleges and the universities of which many of them form a part have long since vindicated their right to live. Incomes from the invested proceeds of the sale of the public lands have been supplemented by the states. Thousands have grown into tens of thousands and tens of thousands have grown into millions. Witness the colossal revenues of Cornell and California of Wisconsin and Illinois, of Minnesota and Ohio and Missouri. In many instances they have surpassed the revenues of older institutions, hoary with age and glorying in the distinction and the results achieved by their sons. Year by year they are lengthening their cords and strengthening their stakes; the mighty commonwealths in whose up-building they are potent factors, recognize their obligation to them and open their vaults ungrudgingly to supply the necessities. Resources counted by millions and

matriculates reckoned by thousands bear witness to the incomparable work they do and to its far-reaching consequences to the states and to the nation.

In 1887 an important addition was made to the agricultural college by the creation of a department called the Experiment Station, and its liberal endowment by Congress. The work of the Station supplements the theoretical instruction of the class-room by a practical application of the knowledge thus acquired to the solution of agricultural problems through observation and original research. Valuable discoveries are made every year by the diligent, intelligent and patient workers of the Experiment Station and made available to the agriculturist. An intelligent rural proprietary has through their agency been created and millions upon millions have been added annually to the realized wealth of the country at large.

To the State of Michigan belongs the honor of having established the first Agricultural College in America. Five years before the passage of the Morrill Act in 1862, the pioneer institution whose semi-centennial was celebrated on these grounds four years ago, began its work. It had no precedent to guide it, no great amount of money for the inauguration of the new enterprise, no experts in the application of science to agriculture. The problems to be solved required able men, and able men you had from the beginning. They knew that the work must necessarily be tentative and experimental for years, but they proceeded cautiously, courageously and uninterruptedly, and when the Act of 1862 became operative, Michigan Agricultural College had built so well upon the foundations which it had laid that it was able to furnish other states with trained men for the inauguration of the work, The wonder is that in a period so brief they had been enabled to train so many. For years it seemed an inexhaustible source of supply.

To the solid foundations laid by them on which to build, the agricultural colleges organized in the late '60's and early '70's owe their early success exclusively, to men educated in this college. The younger colleges readily concede the priority and the precedence which is your due. You have borne your honors modestly, with the modesty which becomes your dignity and your worth. When the history of industrial education in America comes to be written, a foremost place will be accorded to the Agricultural and Mechanical College of Michigan.

Events esteemed as of relatively small importance when they occur are oftentimes pregnant with consequences which could not be foreseen. The discovery of the mariner's compass made possible the conquest of the ocean, with all the tremendous results of modern commercial enterprise which have followed. Vasco Da Gama, by his voyage to India, doubling the Cape of Good Hope, opened up the Asiatic continent to European enterprise. Guttenberg

and coastal were the pioneers of the modern printing press, with all its beneficent results in the education of mankind. The little fleet of caravels which Columbus led across the waste of waters which stretched westward from the Spanish main, opened up a new world and led to the foundation of the great Republic with all its marvellous history.

And so the establishment of the Agricultural College of Michigan became an examplar and a beacon light for all to follow. Less than five years after Michigan became a state, the University of Michigan opened its doors for the matriculation of students, and before twenty years had elapsed, the Agricultural College began its operations. Within the limits of your Commonwealth these events were scarcely noticed at the time and outside they were not known, but with what important results have they been fraught! They have set the pace for liber al and industrial education in the West and the Northwest, and have profoundly

and industrial education throughout the Union. Not a state, east or west, north or south, has been exempt from the beneficent influence of these pioneers in the up-building and development of civilization. Marquette and Delamotte Cadillac laid the foundations, Tappan and Haven and Angell, Abbott and Beale and Kedzie and Snyder have builded, and generations still to come will enjoy the fruits of their labors. I congratulate you today upon the proud distinction which you have achieved, "primus inter pares", among the educational institutions of America.

And now my brief retrospect is closed. Marvels have been accomplished within the last fifty years. What will the retrospect of the next half century reveal? No human being can anticipate, but of this we may rest assured: "Eye hath not seen, nor ear heard, neither hath it entered into the heart of man to conceive" the infinite wealth of achievement and of knowledge which the ever-enlarging revelation of nature and of God will

then disclose.

Oftentimes imperfect knowledge begets doubt and breeds scepticism. The validity of old opinions is distrusted; old convictions become unsettled; the new are still immature, inchoate and as yet unfitted to take the place of those whose sufficiency they challenge. The ferment of the new wine has burst the bottles which held the old, and new bottles must somehow be devised for the new. Larger knowledge clarified; new facts gravitate into systems. It comes ere long to be recognized that all truth is one, even though the individual manifestations of truth be infinitely varied. There comes in time a reciprocal adjustment between old beliefs and newly discovered truth and the whole domain of human knowledge is thus enlarged. We hold fast to what is good and incprporate with it what stands the test of reality in the new. Doubt and scepticism are thus

transformed into certainty and the structure of human knowledge, instead of being overthrown, rests upon a broader basis, looms up into larger proportions, rests upon a foundation more durable than the everlasting hills.

Be it yours, young men and women of this great institution, to lead the van in the attainment of the mighty results which your children and your grand- children shall witness and record fifty years hence. Steadily, with foot planted firmly upon mother earth, and with head uplifted towards the skies, continue to lead in the conquests of nature those whom, one hundred years ago you taught how to follow. You will thus carry with you the conviction that

"Higher than your arrows fly,
"Deeper than your plummets fall,
"Is the Deepest, the Most High,
"Is the All in All."

We are just now suffering from a malady not without precedent, but not incurable. We are afflicted with a mania for change, for revolution. Change and revolution are not always synonymous with progress. Witness the Republic of Mexico and the republics of South America. Change, revolution, reorganization, to be legitimate, must conform to the fundamental laws of thought, the Law of Sufficient Reason and the Law of Parcimony.

The first requires that a Sufficient Reason exist for change, Revolution, reorganization, before these are undertaken, and that the reason therefor be set forth clearly unambiguously and fully. The burden of proof thus rests upon those who propose change. This principle was followed in the Declaration of Independence and formed the justification for the revolution. A declaration of rights, with an argumet expressed or implied, and a preamble, precedes every constitution of every state, and an appropriate explanatory preamble precedes every important piece of legislation.

Second, the Law of Parcimony provides that as few changes as possible be made until the wisdom of the change is made manifest and still further change is required for efficiency. When did it become apparent that a sweeping change and reorganization of the University was necessary for its effective work? How did it become apprrent? What committee of Trustees was appointed to investigate and take testimony? Were all the parties who were interested in the proposed change consulted? Is this document prepared and submitted by parties wholly disinterested? It is said to be the work of the Deans. What Deans were consulted and what ignored? It seems to me that the conclusion is manifest. The alleged need of reorganization was obtruded on the Board by interested parties and on ex parte information, and then a duty was delegated to these interest parties which should

have been undertaken primarily by the Board and after investigation by a committee of Trustees appointed by the Board, reported upon by this committee to the Board itself. This is a duty and a function within the exclusive competency of the Board. A fair interpretation of the duties of Trustees as outlined in the charter and in the bylaws unmistakably sustains this contention. The plan actually pursued is like that of a proprietor of a large establishment, an Astor, a Vanderbilt or a Carnegie delegating to his butler, and chief cook and major domo and housekeeper and employees and housemaids the organization and management of his establishment. Organization, like light, should come from above and not from below.

It has not been made apparent that the Civil Engineering should be swallowed up and subordinated to the Mechanical Engineering. Indeed, it is in distinct contravention of the daily arguments and importunities of the head of the Mechanical Department twenty years ago, when he was struggling to emancipate himself and his department from the control of the Engineering School. Prof. J. P. Nelson was then the Dean of all the existing engineering courses. He convinced me by his reiterated argument that Civil and Mechanical Engineering though having much in common, should be separate and distinct organizations, and thus convinced, I set myself to bring about ~~their~~ their separation. What has occurred since then to require now the amalgamation? How could efficiency be promoted thereby? What economies could be effected? This information could have been elicited by an unbiassed and impartial committee of the Board and embodied in a report and then, if it became apparent from an impart ial investigation and report that the efficiency of Mechanical, Electrical and Civil Engineering could be promoted by their consolidation into one, the consolidation could then have been brought about with the consent and to the advantage of all concerned.

I will now say a few words in reference to the Academy. The latter part of Section 11 of the charter approved May 9, 1893 provides for the Academy as a distinct and separate organization under its own principal. Section 14 provides for the appointment of beneficiaries by the several counties in the Commonwealth as an equivalent for the income from the half-cent tax. Both of these fundamental provisions are violated by the proposed change. The law requires the Academy to prepare appointees for the college classes, not a model school to be exploited for the benefit of teachers either in a normal school or the Department of Education. This is a matter on which the Legislature may have something to say, if carried into effect.

The administration of the University is vested in President, Vice-President, Deans, Council, Faculty, Sub-faculties and Assembly. This elaborate administration cannot fail to recall the fantastic constitution provided for the colonies by John Locke at the instance of Lord Shaftsbury, described by every historian as a most extraordinary document, a notable instance of a constitution made to order. It provided for a palatine, admiral, chamberlain, landgraves, caziques, baronies and manors, seignories and proprietaries. The parallelisms in our constitution to these officials readily suggest themselves. The fact is that the attempt to work all these activities in regular order and by harmonious consecution must involve red tape appalling in quantity. The mill will become choked, the motive power top-heavy. Today with all this machinery seeking official recognition at work for months, we cannot tell our financial status within thousands of dollars.

Sometime since the State Intercollegiate Association adopted on the initiative of the State University, a schedule of uniform entrance requirements. These included Solid Geometry and one year of Physics. Some weeks ago a meeting of the

Deans of Colleges was held, not a full meeting, and at the instance of the heads of the Law and Agricultural Colleges, Solid Geometry and Physics were dropped from the required schedule. This was done without the knowledge or concurrence of the other colleges and universities. Meanwhile I received a letter from the President of one of the Colleges of the Intercollegiate Association, deploring the action of our self-constituted tribunal. He said: " I regret the action of State University in breaking up our uniform entrance requirements." On the 18th inst., there was a meeting of the Intercollegiate Committee which had formed the schedule and of the Superintendents of High Schools which had been endeavoring to lift up their standards to meet the requirements of the adopted schedule. It was quite apparent from the speeches made that they felt keenly the abandonment by the State University of the schedule which under happier auspices she had induced them to adopt. It could not be regarded otherwise than as a breach of faith, as well as a marked discourtesy. And yet this is the State University which aspires to the leadership in education in Kentucky.

In all this there appears to be an attempt to control the Board and the Executive Committee through political methods and the machinery of the caucus. I cannot think that the Governing Boards of great Universities controlled by great men would abandon the initiative in important legislation to their appointees and subordinates, allow themselves to be exploited by interested persons and be content to register as law the conclusions of interested employees for their own individual aggrandisement.

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ORDNANCE OFFICE
REC'D APR 23
1883

Enc. 1

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Know all men by these presents that the Agricultural and Mechanical College of Kentucky, a corporation chartered by the laws of the State of Kentucky is held ~~bound~~ and firmly bound to the United States of America in the penal sum of Nine thousand four hundred and twenty five and $\frac{10}{100}$ dollars, for the payment of which well and truly to be made to the Secretary of War, or to such officer as he may designate the said College doth bind itself firmly by these presents. Given under the hands of W.B. Kinkead Chairman and James K. Patterson Assistant Secretary of the Executive Committee of the Board of Trustees of the Agricultural and Mechanical College of Kentucky, and under the seal of the College hereunto affixed this 18th day of April 1883.

The condition of this obligation is such that whereas the said Agricultural and Mechanical College of Kentucky is an established College within the United States (having an annual income exclusive of tuition fees of Twenty six thousand Dollars) and having capacity at the same time to educate not less than one hundred and fifty students, and whereas the said College has heretofore applied to the President of the United States to detail an officer of the Army to act as Professor thereof and the President by virtue of the Authority vested in him by section 1225 Revised Statutes has detailed such an officer to act accordingly, and whereas the Secretary of War by the Authority vested in him by said section

is about to issue to said College for the military instruction and practice of the students thereof the following arms &c to wit:

Two 3-inch rifled guns, wrought-iron, model 1861 at $450	$900
" Carriages and Limbers, 3-inch gun at $325	650
" gunners haversacks at $3.35	6.70
" handspikes, trail at $1	2.00
Four Lanyards at 10 cents	.40
Two pruning wires at 10 cents	20
Four sponges and rammers 3-inch at $1	4.00
" sponge covers 3-inch at 30 cents	1.20
Two tube pouches at $1.50	3.00
Four thumbstalls at 20 cents	.80
Two tompions 3-inch at 30 cents	.60
" vent covers at 40 cents	.80
One pendulum hausse 3-inch	2.50
" pendulum hausse seat	60
" pendulum hausse pouch	75
Two paulins 12 by 15 feet at $11.75	23.50
One hundred and fifty Springfield "Cadet" rifles, cal. 45 with appdgs at $18,	2700.00
" " " " bayonet scabbards, steel, cadet at 91 cents	136.50
" " " " Waist belts and plates at 50 cents	75.00
" " " " Cartridge boxes cal. 45 at $1.25	187.50

being together of the value of Four thousand seven hundred and sixty two and 55/100 dollars

All of which property when issued the said College hereby ~~agree~~ agrees to account for quarterly on blank forms to be prescribed by the Chief of Ordnance and to return all of said property to the Chief of Ordnance or such officer or person as may be designated to receive the same within thirty days after demand by the Secretary of War:

Now therefore if the said College shall take good care of and safely keep and account for the said property and shall when required by the Secretary of War duly return the same within thirty days in good order to the Chief of Ordnance, United States Army, or such officer or person as the Secretary of War may designate to receive them then this obligation shall be inoperative and void, otherwise shall be and remain in full force and virtue

The Agricultural and Mechanical College of Kentucky by
W. B. Kinkead Chairman of the Executive Committee

James K. Patterson
Assistant Secretary of the Executive Committee of the Board of Trustees of the Agricultural and Mechanical College of Kentucky.