ECHOES FROM

CARUTHERS HALL

ROBERT L. CARUTHERS, L. L. D.

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CARUTHERS HALL.

NINE LECTURES DELIVERED BY MEMBERS OF CUMBERLAND UNIVERSITY FACULTY.

WITH A SUPPLEMENT:

"THE OLD GUARD,"

BY CHANCELLOR NATHAN GREEN, LL.D.

(*ILLUSTRATED.*)

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PREFACE.

THE publication of this volume has been planned for the purpose of bringing before the public the best thoughts of the honored and eminent men who compose the Faculty of Cumberland University. Chancellor Green, who, at the suggestion and request of representatives of the Board of Publication, selected these lectures and obtained permission from their several authors to publish them, gives the following account of their origin:

"It has been the habit of the members of the Faculty of Cumberland University to deliver lectures occasionally upon subjects of a popular scientific or literary character, and in regard to other matters calculated to benefit the young men of our day. These lectures were designed primarily for the students, but as they were delivered of evenings in Caruthers Hall, the college chapel, many of the citizens of Lebanon have attended them, kindly saying that they have been instructed and entertained.

"At the suggestion of partial friends, a few of these lectures are presented to the public with the hope that they may do good. There is also appended a very brief sketch of some of the noble men who inaugurated and fostered the University, and who are now asleep. The matter contained in this volume has been committed to the representatives of the Board of Publication, and they alone are responsible for its arrangement and the order in which the lectures appear."

It is well that these lectures should have a wider audience

than that which heard them when they were first delivered, and well that the people should have an opportunity to look in upon these toilers as they patiently do their work in study and lecture hall. No class of workers do more valuable service, and none deserve higher appreciation. To cultivate their acquaintance is to come nearer the centers of influence whereby the generations are uplifted and character made better.

All former students of Cumberland University will welcome this volume by reason of the precious associations of other years, and also for the merit of the lectures themselves. The faces of "The Old Guard" will be a joy and an inspiration to those who have sat at their feet and learned wisdom. They were indeed giants in their day, and by their fruits they are known and still remembered. Many others who have not attended the University, but have known the authors of these lectures or the characters described in the Supplement, will welcome a volume which will help to a better knowledge of them, and will bring the unfoldings of truth on the several topics discussed. The general reader will also accept this volume as a meritorious contribution to the literature of the day, and will give due honor to the source which has produced it.

The Board of Publication is glad to serve as the channel through which the public may receive these scholarly productions whose influence might otherwise have been limited to the narrow circle that heard them from the platform. We, its representatives, have experienced peculiar pleasure in bringing this volume through the press, and trust that multitudes of readers will be equally delighted as these reverberations from Caruthers Hall shall reach them through these printed pages. W. J. DARBY, *General Manager.*

J. M. HOWARD, *Book Editor.*

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THE OLD GUARD.

By CHANCELLOR NATHAN GREEN, LL.D.

GOVERNMENT.

By NATHAN GREEN, LL.D.,
Chancellor and Professor of Law.

The family is the great laboratory of society. Here it is that government begins. Let us begin with it.

I am persuaded that too little is said and written of the importance of this Heaven-ordained institution. I say Heaven-ordained, for no one can doubt that this little government is in the order of nature directly, and we Christians firmly believe that the almighty Father of our race organized it.

In all countries and among all peoples, whether savage or civilized, the family exists. There are republics and despotisms and mild monarchies to govern tribes and nations, but within all these the family government prevails unmolested. Republics become empires, and monarchies are overthrown and republics established in their stead; but amid all these changes and great upheavals the family remains the same.

Laws are passed by parliaments and legislatures and decrees issued by princes to control and direct individuals, but never do these statutes undertake to destroy the family. So universal is its immunity from interference that it may be said to exist by a sort of *jus gentium*. It seems as though the great Author of men and worlds had laid his restraining hand on prin-

cipalities and parliaments, saying: "You may form what governments you like for nations, but touch not the family, for it is of my own ordaining." And this is well, because the families are the constituent elements of the State as well as its foundation.

Seeing the wonderful liberty this little government enjoys, we shall further see its momentous responsibility and importance. As the materials in the edifice will afford strength or weakness to the building, so the durability, purity, virtue, and value of all society and every government will depend upon the quality of the families of which it is composed, because only from families come individuals, and an aggregation of individuals makes society and governments. Is it not true then that the family is the great laboratory?

The family is small. It is within one curtilage. Its members are under one roof. The laws of this government are easily promulgated, and they may be readily repeated and as often as necessity may require. The association of the members is constant and intimate. The confidence as well as the affection is such as exists nowhere else on earth. The authority of the parents is undisputed. Their jurisdiction is exclusive, and from their judgments there is no appeal. Of course we are assuming that the parents violate none of the criminal laws of the State.

The parents have this extraordinary advantage and great power over their offspring at a period of incalculable importance. And I hesitate not to say that their highest duty before God and the world is the proper care, culture, and training of their children. The natural and undying affection which is implanted in our hearts toward our little ones will secure them against physical want and suffering. Alas! for the

children, and alas! for the world, many parents care to go but little further. The brute will provide for its young. Are we but brutes? We act no better part if we look only to the food and clothing and bodily comfort of our progeny.

Every parent has upon him the responsibility of the intellectual and moral welfare of his children. By as much as the immortal mind is superior to the mortal body, by so much is the duty of providing for the wants of the one greater than the other. How careful is the mother to see that improper food shall not be given to her child! How watchful that the little one taking its first steps shall not fall into the fire or down the stairway! How she will labor till late in the night to provide suitable and comely garments! How she will wrap it with woolens and furs, if need be, to protect it against the cold winds! All this is right. But still more care, more watchfulness, more pains, more effort should be bestowed upon the disposition, temper, mind, and soul of the child. It is impossible for parents to escape their accountability in this regard. Society, government among men, and God himself will require these things of them. If all parents would always use even the same energy and care to produce in their children wholesome morals that they do to build up healthy bodies, what a vast change would be wrought in society even in one generation!

So much depends on the proper attention of the parents that it may be truthfully asserted that at their door lies the sin, to a great extent, of the drunkenness, fraud, lying, and violence with which the country abounds. As a rule, the child becomes the man that his father and mother make him. The flour which we

make into bread is good or bad, according to the care and diligence of the miller who made it. If he failed in any part of his duty while it was in the process of making, whether that failure were mere neglect or willfulness, the bread is injured, or, it may be, ruined. So with every other manufactured article. As the potter can give any shape to the future vessel while the clay is yet soft, so, as a general rule, the parent can produce any kind of character he may choose, depending on the manner in which he manipulates the tender material in its formative period. Wherever we may open our eyes we see abundant evidences of the truth of this proposition. History abounds with instances in point.

I have in my hands a book on "Character," by Samuel Smiles, from which I desire to present a few extracts pertinent to the subject I have undertaken. In these the writer states the special influence of the mother.

"While homes," says the author, "which are the nurseries of character, may be the best schools, they may be also the worst. Between childhood and manhood, how incalculable the mischief which ignorance in the home has the power to cause! Between the drawing of the first breath and the last, how vast is the moral suffering and disease occasioned by incompetent mothers and nurses! Commit a child to the care of a worthless, ignorant woman, and no culture in after life will remedy the evil you have done. Let the mother be idle, vicious, and a slattern; let her home be pervaded by caviling, petulance, and discontent, and it will become a dwelling of misery—a place to fly from rather than to fly to; and the children whose misfortune it is to be brought up there will be

morally dwarfed and deformed—the cause of misery to themselves and to others."

Quoting from Joseph de Maistre, the same author continues, speaking of mothers, "They have written no 'Iliad,' nor 'Jerusalem Delivered,' nor 'Hamlet,' nor 'Paradise Lost;' they have designed no Church of St. Peter, composed no 'Messiah,' carved no 'Apollo Belvidere,' painted no 'Last Judgment;' they have invented neither algebra nor telescopes nor steam-engines, but they have done something far better and greater than all this, for it is at their knees that upright and virtuous men and women have been trained—the most excellent productions in the world."

That is beautifully said, and is a deserving tribute to that most potent factor in the creation of character—the mother. The influence which the mother of our own Washington had upon him is well known. He was left without a father at the age of eleven years, and on that noble woman, his mother, was devolved the duty of giving tone and turn to the great character which has been the admiration of the whole world, and will be as long as history shall be read. To these same ennobling and precious home influences are referable the characters and achievements of Napoleon, Wellington, John Newton, and Cromwell. The same is true of Lord Chancellors Bacon, Erskine, and Brougham, and of Canning, Curran, and President Adams—of Paley and Wesley.

John Quincy Adams delivered an address before a Boston audience on one occasion, in which he said: "As a child I enjoyed the greatest blessing that can be bestowed on man—that of a mother who was anxious and capable to form the characters of her children rightly. From her I derived whatever instruc-

tion (religious, especially, and moral) has pervaded a long life. I will not say perfectly, or as it ought to be; but I will say, because it is only justice to the memory of her I revere, that in the course of that life, whatever imperfection there has been, or deviation from what she taught me, the fault is mine and not hers." And thus I might proceed to fill a volume drawn from the biographies of great men, all going to show that they received their bent, their impulse upward, in the early years of life and in the sacred family circle.

On the other hand, it is equally true that the men who have cursed and disgusted society and disgraced the image of God have received their bad impressions, have taken the first steps down the declivity, directly under the home roof. It would be cruel to say that it is, ordinarily, the wish of any parent that the child of love should become a bad man and a monster; such is rarely the case. The great evil is generally the result of inattention, failure, neglect. It is a sin of omission, but none the less a sin on that account. Negligence is often a crime. The negligence of the dispatcher to announce to the trains on his road the proper time for stopping and running often results in the most terrible destruction of life and property, for which he is accountable criminally. Our failure to pay our taxes will result in a sale of our property and, it may be, in the loss of a home. And those who merely neglect the "great salvation" provided in the gospel for sinful men will lose a home of infinitely more importance; so that it is no extenuation of the crime to say that it is a mere want of action, a mere negligence, for it is not so regarded in the laws of men or in the laws of God.

If any one should ask me, "How shall I make a child good, so that he may become a good man?" I would answer by saying, First, be good yourself. This is no doubt the most important of all influences in the family—parental example. The child is an apprentice in the art of life. He will learn, and learns more from example than he does from precept. His trusting heart and credulous mind can not be convinced that any thing is wrong which he sees his parents do. On the contrary, he thinks it is right. Would a master workman, training his apprentice, give him for imitation a wretched, faulty, disjointed pattern, and direct him, by looking at that, to produce a perfect specimen of the particular art? How absurd! He would rather supply him with the best, even a perfect pattern. Would the school-master, teaching his pupil to write, give him an awkward scrawl for a copy? The learner would surely imitate it. In the family, the very young child is helpless in this regard. He sees no one else, scarcely, and is shut up to an observation and a consequent imitation of the conduct of his parents. How careful, how circumspect, should parents be at all times, for the counterpart of their words and actions will be as inevitably reproduced in the lives of their children as are the physical features of the one stamped upon the countenances of the others.

In the next place, I would say, to make a good child, exercise the greatest watchfulness in correcting natural evil tendencies, and in stimulating the little one to do right because it is right. A great statesman has said, "The price of liberty is eternal vigilance." Most emphatically can this sentiment be applied to the conduct of parents. The price of a good child is a pure example, self-denial, suffering, watchfulness—nay,

eternal vigilance. This involves, of course, a humble trust in God and much earnest and tearful supplication.

Now, if one should ask me how to make a child who will become, when grown, a pest and a nuisance to society, I would answer, First, set a bad example. He will follow it. If you drink whisky, so will he. If you swear, he will also. If you lie and cheat and abuse and slander the neighbors, your child will. If the parent withdraws from all that is good and associates with the bad, so will the child.

In the next place, to secure a bad child, and ultimately a bad citizen, let him alone—I say, only let him alone. Let him have his own sweet will about every thing. Never "cross" him; never restrain him; never instruct him in his duty. Let him go when, where, and with whom he may choose. When the teacher corrects him, denounce the teacher; when the preacher chides him, ridicule the preacher; when the neighbors report him, abuse the neighbors. If this course does not succeed in making the child bad and the future man a monster, then there is nothing in human observation and experience.

Another phase of my subject is that of compulsory education. Shall the State compel parents to send their children to school and compel children to attend? This is a grave subject. It is one for the politician, or rather for the statesman; and although it is new in this country, it has for some time been under consideration in Europe, and has been acted upon by some of the more advanced continental States. In Prussia, for example, education, to a limited extent, is absolutely required by the State, and there are intimations that such will be soon the case in other nations, and in some of the States of our own country.

Some of the greatest minds in America have already advocated the adoption of this system with us, and it is rapidly gaining friends. Indeed, the arguments put forth to sustain the principle are exceedingly plausible and perhaps can not be refuted. It is said that ignorance, being the mother of vice, the State ought to exert its power in dispelling and removing this great cause of evil, and this applies with great force in a country like ours, where the right of suffrage is universal and the people are the governing power.

It is argued that upon the virtue and intelligence of our people depends the perpetuity of our free institutions, and that the State should spare no effort to promote those qualities among the masses so necessary to the existence of the government.

A distinguished writer has lately said he did not fear the ballot if it should come through the schoolhouse, and he insists that the State has as good a right to compel the children who are to make the men who are to cast the ballots to become educated men as it has to compel the young man to come to the relief of his country in time of war. He insists that in both cases the life of the nation may be involved. If our young men may be forced to undergo the drilling needed to make them soldiers, why may they not be compelled to submit to the school-master long enough to be prepared as voters?

This is the argument, and it is ingenious, but to my own mind not conclusive. In making up our minds on this interesting question we must remember that we are not Europeans but Americans. Many propositions and many schemes would be admissible in such a government as Prussia which would be wholly out of place here.

Among European monarchies the State is in the habit of interfering with the subject in matters of religion, dictating in some cases how one shall worship God, while with us it is one of the highest points of our civilization that every man shall worship God according to the mode which may suit him.

We think nothing of governmental interference in France or Germany in many things which we would not endure in our own country. Because, therefore, certain arbitrary acts of these foreign governments are submitted to, and even have the appearance of working well, we must not suppose similar laws in our own States would be submitted to or would be right. Cotton will not grow in Alaska, nor will Iceland moss thrive in Central America. There is a great disposition to follow any thing new, especially if it comes from abroad. Let us remember that we are "a peculiar people, a chosen generation." Let us not forget that we of America have taken a new departure in human liberty and human civilization, and that having so recently and by such a mighty effort shaken off European excrescences, we can not now afford to graft upon our young tree twigs which have come of their old stocks.

It is a fundamental principle in the common law that the parent has the right to the services of his child during minority. This doctrine has its origin in that great commandment issued by the Chief of lawgivers from Sinai: "Honor thy father and thy mother, that thou mayest live long in the land which the Lord thy God giveth thee." It is therefore the perfection of wisdom from which there can be no appeal. This makes the family a government, and the parent is placed at the head of that government. It is the only

human government which was organized by the Creator. In pursuance of this wise mandate the common law has been careful to uphold the right of the parent, and never to interfere except in cases of absolute necessity. Its policy has been non-intervention; and so sacred are the rights of the parent regarded, that his power to inflict chastisement is never challenged except where it amounts to brutality. He may, even, in his discretion, leave at his death all his property to strangers, by will, to the utter exclusion of his children; and he has many other extraordinary powers which we need not stop here to enumerate. This right to the child's services rests in part, no doubt, upon the circumstance that on the parent is devolved the care and support of the child, during all its tender years. And none but a parent can appreciate the great anxiety and suffering of mind and body to be endured in the proper attentions to these helpless ones whom God has given him.

Happily, the Almighty has implanted in our hearts an undying love for our offspring, which is in general a sure guaranty against any abuse of our power or our sacred trust. By the divine law and by the municipal law, every father has a vested right in the services of his child. He may command him to labor in his shop, store, or field, or he may command him to labor in the field of another, and take the wages of his son for his own or for the general maintenance of the family. During the period of minority the parent has as perfect a right to the services and wages of his child as formerly the master had to the services and wages of his slave, or, as we now have, to the services or wages earned by a domestic animal. The services of the child, in very many instances, constitute the parents'

whole estate. The banker owns his stocks and the farmer owns his lands, and from the interest on the one and rents from the other an income and a support is made; but the parent who has no stocks and no lands must often depend on his children's labor for his own support and theirs. In that case he may say truly of his children: "These are my jewels;" these are my all.

Our Federal Constitution declares that no property of any citizen shall in any case be taken from him, nor shall he be deprived of its use without just compensation. That wise clause would protect the banker in the enjoyment of his bonds and the farmer in the enjoyment of his lands. Shall it not by fair interpretation be extended to the case of the parent who has neither, but relies wholly on the earnings of his children? If we admit the right of the State to pass a law by which officers shall be sent to invade his sacred little family government and take his children away, whether opportunely or not, and compel them to go to a school not of his own choice perhaps, and deprive him of their services, which constitute his own and their support, is it not a breaking down of the spirit if not the letter of the constitutional provision? Education is important, but bread and meat are indispensable. Learning is good, but clothing and food and shelter are of paramount importance. We must look at this subject practically. If all men were bankers and land holders a compulsory law to educate might be well; but such is not the case. The great masses are poor, and thousands of men could not afford to relinquish their children's services without great suffering to both. Laws must be made for society as it is—for the many and not for the few.

If the child must go to school by law, of course he must go at stated times, when the teacher is there and when the other scholars are there. The parent and child are made to accommodate themselves to the school, and the officer of the law and not the parent must judge of the matter. The law, to be effective, must operate alike on all. No discretion must be allowed the parent. Any such clause in the law would be the knife by which the law itself would be emasculated.

Should the law allow that even the teacher or some officer might suspend its penalties in extreme cases, see what a state of things we should have! These extreme cases must be investigated. The private affairs of the family, its distresses, its privations, its necessities, all those sacred things we may now keep to ourselves, would be paraded before some tribunal, to be known and heard and perhaps laughed at by a gaping crowd. Should a compulsory law prevail, it must have a sanction, or otherwise it would be worthless.

A set of officers in every school district would be required—some to compel the attendance of scholars and some to judge of the infractions of the law—for the law would certainly be violated, and that, too, very often. These officers, to be efficient, must be paid, probably by a fine upon the delinquent, the informer to receive one half and the government the other, after the manner of a *qui tam* action. Can any one doubt that all this would lead to a system of espionage, to petty despotism, to feuds, and often to bloodshed? No American citizen will submit to intermeddling in the private affairs of his household; and this interference is equally offensive, whether it comes from an officer of the law or a private person. I am

opposed to compulsory education, because it conflicts with the right given to the parent by the law of God and the fundamental law of the land. I am opposed to it because if effectively carried out it would necessarily operate with great hardship upon thousands of poor citizens, by depriving them often of their only means of support, or putting them to the greatest inconvenience. I am opposed to it because it would lead to an invasion of the family—that holy place—by strangers. I am opposed to it because the natural affection which parents have for their children will prompt them generally to advance them to the extent of their ability. If the State will provide the schools by suitable taxation, the great majority of parents will gladly avail themselves of the advantages offered.

Lastly, I am opposed to it, because it would soon result in strife between the different sects of Christians, free-thinkers, and those who reject the Scriptures in whole or in part.

Some would insist, as they now do, upon teaching the Bible in the public schools and others would oppose it. Protestants, if in the majority, would have King James' or the late English version, while the Catholics would insist on their own version, and the Jews would urge that only the Old Scriptures should be read, and the atheist that there should be none at all. Thus the dominant sects would control the legislation, and the other sects, with equal rights of conscience, would be forced to pay taxes to support schools they hated, and possibly to send their children to schools whose teachings they despised. If the State must legislate on this subject, let it use incentives other than force. Let it require a certain degree of learning to entitle one to the ballot.

But even this much might be unjust and inexpedient. Indeed, after much thought, my own humble opinion is that the less we are interfered with in our family affairs, the control and education of our children, by the State, the better it will be for the State itself, the children, and the parents. But I dismiss this most fruitful topic and proceed to another branch of my subject.

Government should begin in the family; and it is but a step from the family to the school-room. If the government in the first has been proper, the task of the teacher is easy. Unfortunately, however, the master can not always rely on family support. He must therefore formulate and exercise a government of his own as if he had no help elsewhere. He must not only instruct, but he must govern. And the two are so intimately blended that the one can not be separated from the other. Thus the teacher who can not instruct well can not govern, and he who can not govern successfully can not instruct effectually. Whenever we talk of government we think at once of punishment. Government implies law, and law is a nullity without a sanction. And in municipal law that sanction consists in a fine or some torture of the body.

Following this the school-master seems to think the rod is an indispensable factor in his administration, and in days past he used it with more frequency than discrimination. I do not say the rod or other corporal punishment should be entirely ignored, but I do say it should be the extreme medicine of the administration rather than its daily food. It should be seldom displayed, but should rather be kept out of sight, and better and higher inducements should be presented

to the child than the fear of a castigation by brute force. How many sad mistakes have been made just here! How many children have been ruined by the improper and intemperate use of force often impelled by anger!

As the physician in days gone by often destroyed the life of his patient by the terrible mistake of withholding water, and instead thereof administering some nauseating drug, so the teacher has often embittered and discouraged the whole life of his pupil by the use of stern force, where a sweet, cheery word, with kindness and hope expressed, would have been a complete specific. The day has been, but is now passing away, when to tame the ox or the horse ropes and staves were used. The animal was forced to submit at the outset. He had no alternative. He was not consulted. He knew nothing but force. Fear made him obey. His disposition in many cases was spoiled, and he was never to be trusted. Now men have adopted toward these useful animals entirely different and opposite methods. The creature is taught to love his master. All fear is removed. He hears only words of kindness and even of affection. His work becomes actually a work of love. He will do any thing for his master, knowing that he will be rewarded in due time with kindness and corn. Thus treated, he does not kick or break away. He will stand or move at the word, and when he draws he will draw willingly, and draw with might and main.

Our Savior said to his followers, "the children of this world are wiser in their generation than the children of light." Shall it be said that the keeper of the stud and the dairy are wiser in their methods with the dumb creatures in their control than ourselves and

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those like us, who have in our training those who think and reason—members of our immortal race? How much better is the child than the horse! How much more can he be influenced by better motives! How much deeper and more susceptible are his affections! How much higher and nobler are his aspirations.

The horse has no conscience, but the child has. The well-weaned horse does not love his mother; the child does. The horse does not care what other horses think of him. He does not expect to be rich or great. He does not think one day of being in the pulpit, at the bar, or in Congress, or even in the seat of the pedagogue. He is not influenced by the feats of Bucephalus, who bore the great Macedonian conqueror, nor has he heard of the achievements of Dexter or Maud S. or Spokane of modern times. He has no anticipations of death, and does not expect to get to heaven. How few then are the motives that would influence the brute on the one hand and how infinite those which would induce the child on the other! The horse is controlled by pressure upon two reins, but the teacher may touch a thousand cords to which the child nature will respond. It should be his study to acquaint himself with these, so as to manipulate them with skill. Thus acting, he will find little use for the rod.

There will be found now and then a child in whose heart folly is so bound up that nothing short of the rod of correction will bring it out. But when this becomes the necessary resort the punishment should be administered without passion. Anger begets anger, just as mirth begets mirth. Correction, administered kindly and even affectionately, is far more effective and lasting than when delivered in a fret or a rage.

In the next place, I must be permitted here to denounce the manner of punishment sometimes given. I have seen a teacher who had discovered two small boys talking in study hours approach noiselessly from behind them, seize each by the hair, and then bring their heads together with a violent thud—enough to produce concussion of the brain. That teacher was a preacher of the gospel, but he deserved to be expelled from his church and indicted and punished in the courts. Allow me to suggest that if the body must be tortured, the head and face, the seat of the brain and so many of the senses, should at least be exempt. Nature is abundant in her provisions. *Verbum sat sapienti.*

The punishment should be graduated to the offense. Better too little than too much. Here, if ever, we should err on the safe side. Ordinarily, censure before the school, private reproof, a bad mark, a letter to parents, detention of the pupil after school hours, will suffice. In the next place, I wish to say that the human mind can entertain but one thought at the same time. If, therefore, the teacher can keep the mind of his pupil interested in the work before him, there will be little need of other government. To effect this children should not be kept confined long upon one subject or on uncomfortable seats. Recesses should be frequent and each task very short.

The teacher and the parent should remember that the whole of life is before the child. When the house is hastily built the great weight of the superstructure upon the unhardened cement beneath produces a wall cranky and unsafe. The wall should go up slowly. One brick must be carefully laid at a time, giving opportunity for the cement to become dry and adhe-

sive. Then the wall will be solid and capable of supporting an indefinite pressure from above.

If the teacher can fasten in the mind but one or two thoughts in a whole day he has done well—well for himself, well for the child. I speak of this here because the plan I suggest will make easy work for the teacher in governing, and easy and delightful work for the young learner. The school will become attractive to the child. He will rejoice at the privilege of going rather than look upon it with dread and terror. I am aware that while most intelligent teachers will agree with me in all this, they will refer to the very foolish notion which exists among many of their patrons and, unhappily, among many of our school boards and school directors, that the children should go to school early and come home late, and remain at work all the time. But the teachers of the country should control in this matter, just as the physician and the lawyer control the patient and the client. The great question is, "What is best for the pupil?" And the teacher should decide it.

I now come to speak of laws for the government of schools and colleges; and I set out with the proposition that the fewer the rules, the shorter the code, the better for all.

There is in human nature a disposition to resent restraint of any sort, to resent coercion, even when the thing commanded is right and of easy performance. This is well illustrated by Shakespeare, where Prince Hal commanded the doughty Falstaff to give his reasons, and the latter replied that if reasons were as thick as blackberries he would not give them upon compulsion. The case of Shimei is also in point. In David's weakness and distress Shimei had cursed him.

David told Solomon that when he should ascend the throne he desired him to remember Shimei's offense. Solomon afterward called Shimei and reminded him of the indignity to his father, and commanded him that he should never cross the brook Kidron, saying that in the day he crossed that stream he should forfeit his life.

Here was the command. Had it not been issued the probability is the man would never have thought of crossing the brook, but no doubt an instantaneous desire seized upon him to go over, just because it had been forbidden, and he never rested until he did it. This was just what the wise king expected and desired, as it afforded him the opportunity of avenging the insult to his father.

It may be difficult to account for the disposition in our race to which I refer, but we must all admit that it does exist. It may arise from an innate sense of freedom or an innate inclination to rebel against authority. However this may be, it becomes us to recognize it and adjust our administration with reference to it. Hence, I repeat, the laws and rules in the government of students should be exceedingly few and very short.

There is a principle to which I advert, a knowledge of which will greatly aid us in the management of schools. President Johnson, during the days of Reconstruction, announced it as the proper plan for the government of the Southern States. Said he, "The people must be trusted."

Every body likes to be trusted—the child, the servant, the friend, the wife, the husband, the student, and—I speak it with reverence—our heavenly Father above is included in this remark, for "without faith it

is impossible to please God." He has made us like himself; we are, in some sense, his express image. Many a thief has been made for the want of a knowledge of this principle. The housewife who counts the potatoes and the loaves of bread, and watches the cook to see what goes out and exactly what comes in, will inevitably beget in the servant a disposition to steal, which will be carried out the first opportunity.

My little son asked me one Sunday if he might sit in a certain part of the church during service with another boy. "Certainly," said I; "my son, I know that wherever you sit in the church you will behave like a gentleman." And so he did. Nothing could have induced that boy to have misbehaved. He felt that the responsibility was thrown upon him—that he was trusted.

It is a great mistake for us to assume that the young men and women who come to our institutions of learning are all bad—all determined to do wrong. It is a great mistake for us to assume that we, their teachers, are better than they are, for such is not the fact. As a rule they have been reared in good families; they have been taught politeness, reverence, right and wrong; they have conscience, respect for themselves, and a due regard to public opinion. Besides this, the great mass of them have a desire to learn, and are willing to submit to all reasonable requirements for that purpose. Now, I say, to thrust into the faces of such young men a voluminous and exacting code of laws, regulating their hours of study, their behavior to their instructors, to the citizens, and to one another, prescribing a time to rise up and a time to lie down, a time to walk and a time to talk, a time to recreate and a time to pray, is calculated to raise a feeling of resent-

ment, to beget in the matriculate the spirit of rebellion. I trust I may be pardoned, in closing what I have to say, to refer to my own experience and observation.

When I became connected with Cumberland University as a trustee and then as a teacher, more than thirty years ago, there was a formidable code of laws in force. It was not so large a book as the municipal code of Tennessee, but it was divided into chapters and sections, and related to every possible situation and condition of the student. In fact, it was such a set of laws as I have heretofore indicated. This code was presented to the student immediately after his matriculation. It was itself a study, and a much more difficult and objectionable one than many of the text-books in the regular curriculum. It provided for monitors and tutors, who had power to invade the students' rooms. It recognized a detestable system of espionage. It exacted certain marks of respect to the professors. Throughout it assumed that the professors were exalted beings and far removed from the students, and that the latter were not only inferior persons, but that they would violate every enactment of those sacred by-laws if the opportunity occurred. It prescribed hours of devotion; it regulated and restrained young men even in their liberty of locomotion. And for a violation of these and scores of other laws various penalties were affixed. The result was that the faculty found it necessary to hold a regular court one day in each week to try offenders. Saturday was state's day. Before this awful tribunal scores of culprits were formally summoned each week to appear.

Absence from class, absence from prayers, tardiness

three minutes and a half, walking out at the wrong time, visiting a fellow-student's room in study hours, and scores of other lighter and heavier crimes were on the trial docket.

It would not be safe for me to estimate at this distance the number of lies perpetrated on such occasions, for, contrary to the rule of common law, the offender was put on the witness stand and asked to testify against himself, which generally he was loth to do. It would hardly be respectful to the memory of those who sat in judgment to tell some of the penalties inflicted. Among others, however, I remember that some were required in the presence of the assembled faculty and students to make most humiliating confessions of sin and earnest promises of future good conduct, and especially begging the pardon of some particular teacher whose dignity had been offended.

It is easy to imagine what a state of things all this would bring about. Resentment and spite toward the by-laws and the professors, bickerings, and hard feelings among students who were witnesses against their fellows, looseness of conscience and want of reverence for the truth, consumption of valuable time, dissatisfaction among patrons, and an eternal worry and embarrassment for the professors. It was not to be endured.

The war between the States, which broke up the Union, broke up the college. That war which overwhelmed so much that was good buried also forever out of our sight much that was evil, and I am happy to say, among other things, the by-laws of Cumberland University. Upon re-opening in 1865 no copy of them could be found. I have much desired a copy for a long time as a curiosity, but can find none. So

we began without laws, and seeing it worked well, have continued without laws. Our whole code is comprehended in this one phrase: "*Semper præsens, semper paratus*"—always present at the class and always ready to recite. As is our Savior's formula of the moral law, "Thou shalt love the Lord thy God with all thy heart, soul, and strength, and thy neighbor as thyself," so is *semper præsens, semper paratus* a complete expression of college law.

We find that every young man brings a law with him. He learned it from his mother and his father. He imbibed it from the community in which he was reared. He has it in his heart and conscience; in short, he is a law unto himself. We now assume that he knows as well as we do what is right and what is wrong. We assume that the family and the community in which he was bred is as good as ours. We assume that he will do his duty. We recognize the fact, heretofore ignored, that students have rights as well as teachers. We meet him as a gentleman; we treat him as a gentleman both in the class-room and upon the streets. We throw upon him the responsibility of a gentleman and he rarely disappoints us. We have no spies. We never invade his private apartments except to visit him when he is sick and offer him our aid and our sympathies. We do not concern ourselves as to when or where he shall walk or ride or hunt or visit. All this is none of our business. We do not coerce him in matters of religion. While we advise him to attend church, all our religious exercises are purely voluntary. We do not believe there is any virtue in compulsory prayers. We insist upon nothing except that he shall demean himself as a gentleman, obey the laws of the land like other citizens,

and that he shall be always present at his class and always prepared to recite.

What has been the result? Astonishingly good. For twenty years we have administered the affairs of our institution upon these liberal principles. I can not say that in all that time we have had no disorder whatever. No government is perfect. But I will say there is a vast difference in favor of our modern code. As a rule our students have been deferential, punctual, sober, and studious; and we would not on any account return to the old method.

I hope it will be understood that in all that has been said no reflection is intended upon the government of other schools or colleges. I have only meant to compare the two systems adopted first and last by the corporation with which I am myself connected, and by no means to criticise others.

Lastly, let me say to you, my friends and colaborators: Of our subjects we must be perfect masters; we must interest the minds of our students; we must teach with energy, teach with enthusiasm; then, as to the government bearing upon our pupils, the yoke will be easy and the burden will be light.

What Is It?*

By S. G. BURNEY, D.D., LL.D.,
Professor of Systematic Theology.

This to you, young gentlemen of the graduating class, is a happy, a proud day—a day that crowns your years of self-denial and patient, persistent toil with coveted baccalaureate honors. It is, moreover, a day of joyous congratulations on the part of your kindred—fathers, mothers, brothers, sisters; also on the part of numerous warm, personal friends.

Aside from the noble self-complacency consequent upon the honorable completion of your respective scholastic duties, you have the pleasing assurance of the possession of intellectual and moral ability to form and execute purposes honorable in themselves and beneficent in their results. One hard battle gallantly won gives valuable experience, gives more self-reliance, and more courage for other conflicts, and generally presages other and greater victories.

But another source of self-felicitation open to you to-day is the power of self-control which you have acquired during these years of ardent and patient toil. "He that ruleth his own spirit is better than he that taketh a city." Perhaps the most difficult thing men are ever required to govern is *self*. He that can govern himself can govern every thing else that it is

*An address to the graduating Classes in Cumberland University, delivered on Commencement Day, 1884.

properly his province to control. He that can not govern himself can govern nothing well, not even irrational animals, much less men and schools and armies and nations and churches. On the contrary, the power of self-control surpasses in value all other human powers, because without this faculty all other powers, however varied or brilliant, are sure to be neglected or abused or prostituted to useless or ignoble ends. But the faculties of self-denial, patience, and endurance fit a man for any duty or position to which his natural capacity and education are adequate, and give a guaranty of success which nothing else can give.

The fact that you are to-day accepted as worthy candidates for baccalaureate honors demonstrates that you possess in a commendable degree that laudable power of patient and persistent self-denial and integrity of purpose which harbinger success.

Under the inspiration given by earnest endeavor in your college course you go forth to-day with the high resolve to achieve other and greater conquests in other and more perilous fields of labor. Be self-reliant, but expect success, not as a thing of chance, but as the legitimate reward of well-directed and persistent labor.

It is supererogatory to say in a formal way that you carry with you the hearty *good-will* of all the faculty, trustees, and a mixed multitude of others who sincerely desire your eminent success in every laudable enterprise in which you may engage.

But you have had enough in this line of thought, at least for the present. *Too little* of a good thing sharpens the appetite, gives a keener relish for more, but leaves us hungry and not in the best humor. *Too much* of a good thing oversatiates and leads to disgust

—possibly to something worse. For five consecutive days has been set before you a literary feast sufficient in quantity, quality, and variety to satisfy the most cormorant-like and also the most fastidious literary epicure. During this time about forty literary performances have been had in this hall. Of course your appetites are pretty well satiated, and are becoming a little fastidious; still, I am required to inflict on you another performance.

It is common for speakers to announce their subject and then make the speech. This gives the audience the advantage of the speaker, enabling them to anticipate him; and as men generally are more interested in their own thoughts than in those of others, and of course better pleased with their own, they are liable to lose interest in the speaker, and not unfrequently deem the happiest passage in his performance his passage from the platform or pulpit to his seat. Unwilling to be put at any such disadvantage, I shall reverse this rhetorical canon, and instead of first announcing my subject and then making my speech, I shall first make my speech and then announce my subject.

I am on single duty, having nothing to do but to make my speech. But you are on double duty, having both to attend to the facts as I present them, and also to determine from those facts what I am talking about. This last duty will afford you a fair opportunity for the exercise of your skill in inductive logic.

There is of course a limit to human acquirements. Many things, however covetable, are impossible of attainment by us, by all finite beings. These you can readily enumerate for yourselves; still, human possibilities are great. Numerous and invaluable acquisitions lie within the range of human possibility. This

fact you, young gentlemen, have already actually verified in a praiseworthy manner, and it is believed you will in the coming years continue to verify it. But I wish on this occasion, so prolific of diverse emotion—joyful, yet sad—to commend to your most earnest and favorable consideration a possible acquisition which is an indispensable factor in every truly successful and happy life. Blessed with it no life, however humble, obscure, or uneventful, or void of romance, can be really unhappy or an ignominious failure; without it no life, however dazzling or brilliant or richly crowned with other gifts and graces, can be justly accounted a truly successful or happy one. As a philosophical truth, the only truly successful life is the life made happy by benefactions to others. Those that bestow are more blessed than those that receive.

The acquisition which I commend to-day, however, is not always an object of eager and persistent desire. Many estimate it far less than they do gold and worldly pomp and power; some estimate it less than they do genius and literary distinction. This failure of proper estimation is because its true value is not properly known.

But the fact that many are ignorant of its value does not make its possession less really a blessing, nor destitution of it less a calamity. Many a golden treasure which was once within my reach has been lost because I did not know its worth. But my ignorance affected my interests alone and in no sense the value of the treasure. It was my calamity not to know its worth—not to desire and appropriate it.

This acquisition that I commend to you is not in itself a veritable nondescript, at least not more so than many other mentionable things; still, it is in the

highest degree unique—*sui generis*—a genuine *nonesuch*. Yet, as we shall see, it is in some of its characteristics like many other familiar things. This is literally true, though there is nothing wholly like it in the realms of matter or of mind, of facts or of fiction, of entities or of phenomena. It is neither an entity nor a myth, yet it is a sensible reality, as real as the light of day. It is not void of vitality or force, but is a living, irrepressible power. We may predicate of it individuality as distinct from personality, or personality as distinct from individuality, or one, or both, or neither at will. As an individuality it is simply a fact as distinct from other facts; as a personality it is void of consciousness and of freedom—the ordinary characteristics of personality.

We rightfully predicate of it action, powerful action; but its actions are not those of deliberate purpose but of pure spontaneity, not of freedom but of sheer necessity. Like the rainbow it has succession, but only a relative identity—is never the same to a plurality of individuals nor to the same person for the millionth part of a second. Unlike the rainbow, it may have perpetual continuity. Like time, it may have an endless efflux, but like life, it never returns to the point of its departure. Like the infant earth, it is without form, but unlike the infant earth, it is not void. It is without dimensions, yet fills a place all its own. In itself a distinct reality, it may nevertheless be metamorphosed into its contradictory. It is acquirable by all, but the crown jewels of the world can not purchase it. It is retainable by all, but only by the utmost fidelity. "Eternal vigilance" is the price of its retention. It may be bartered for other things, but nothing in heaven or earth can substitute

it. When lost it may sometimes be regained, but, like a pretty face badly burned, is thereby despoiled of some of its former beauty. Unlike a pearl or diamond, its possession by one person is not its exclusion from others.

Its essential characteristics are everywhere and always the same, yet its incidental qualities are as diverse and contradictory as the forms, features, and fancies of its possessors. Without eyes or ears or taste or olfactory nerve, it, like the *mimosa pudica*, or sensitive plant, has exquisite sentient and perceptive power. Like persons of culture and taste, it discreetly commends and applauds the beautiful and the good, but unlike serpents and geese and other goose-like sibilants, it never hisses at performances which it has no capacity to appreciate. Unlike the discursive judgment, it never thinks or reasons, never doubts or hesitates, but, like instinct, leaps swift as the electric spark to its object when perceived.

Like the custodians of the Eleusinian Mysteries, its possessors form a peculiar class, yet within that class are included every variety and contrariety of condition, culture, and opinion—the learned, the less learned, and the unlearned, the rich, the less rich, and the extremely poor. It is the exclusive possession of no one age, but of all ages, of no one nation, but of all nations, of no one religion, but of all religions —of pagans, Mohammedans, Jews, and Christians. It is common to conservatives, liberals, fanatics, and the superstitious. Nor is it the peculiar treasure of the wise and prudent, the pious and the good, but is often the boasted possession of the indiscreet and the foolish, of the ruthless tyrant and the remorseless persecutor for opinion's sake.

Men, blindly impelled by selfishness, jealousy, envy, and malice, often mistake these vile passions for the behests of its authoritative voice, and in its imperial name perpetrate infernal deeds. In its name and with its concurrence most unjust and cruel wars have been waged and tragic deeds of darkness perpetrated. Like a faithful and well-drilled soldier, it is ever true to its leader, and always does valiant service, sometimes in a good and sometimes in a bad cause. It is strictly law-abiding, but knows no law but the subjective, and no authority but that of its possessor. As an individual possession, what it approves in one it approves in all, and conversely, as a common possession of A and B, what it approves in one it often condemns in others.

Like human nature, it has many defects; but like human nature, it has many noble qualities and some grand possibilities. This will appear from the following statements. Like every thing else entitive or phenomenal, it has its mission, and functions suited to that mission. Its office, in large measure, is to hold in check wanton willfulness and maintain the reign of harmony and peace within all the realm of the human soul, to guard its possessor against all self-imposable evil and to facilitate the acquisition of every available good. Unlike the sychophant, it never flatters; unlike the false friend, it never deceives. Like a true friend, it approves and cheers when recognized duty has been done, and when temptation is near and danger threatens, it whispers, in the graphic words of the prisoner to his jailer, "Do thyself no harm."

It is an ever-present benefactor to its possessor, his faithful guardian angel by day and by night, the conservator of good health, muscular vigor, personal beauty, dignity, and grace. It is a preventive of

guilty and tragic dreams which are often more frightful than horrid nightmare. It has talismanic power against domestic infelicities. It inspires courage in danger and fortitude in the severest calamities. The path of its possessor may not be strewn with pearls or diamonds of high commercial value, but it is in itself a pearl of far greater price. It is the light of the soul's inner world, whose perfection invests the outer world with a radiance and beauty which seem divine.

Who has it has what neither heaven nor earth can give; who has it not had best not been born. It has a correlative that bears the same surname, but whose cognomen is BAD. There is a striking family likeness between them, but like Isaac and Ishmael their hands are against each other.

As the world can not endure two suns, nor Persia two kings, so no man can endure the presence of these antithetical correlatives. Like light and darkness, the presence of the one is the exclusion of the other. BAD in infancy was as fair and as lovely as its relative, but its development was under adverse conditions, and like Lucifer, falling as lightning from heaven, it became a psychological and moral monstrosity, whose supreme delight seems to be to torment mankind.

In early childhood its fair and radiant features were suggestive of angelic innocence and beauty, but in perverse old age, suggestive of the guilt and moral deformity of *diabolos*. It is not a deity, nor is it unconditioned, but the conditions given, it is omnipotent in its own sphere of action. Like Tantalus, its delight seems to be to tantalize those in its power. Like the adder it is armed with a remorseful sting, whose virus is a living death.

It is the high prerogative of every rational creature

to choose between these two antithetical correlatives—one or the other is inevitable to all—one is the highest attainable good, the other the prince of subjective evils.

I sincerely hope that you, young gentlemen, will all carry away from your *Alma Mater*, and sedulously foster with scrupulous care through all the conflicts of long and prosperous lives, this priceless jewel—a GOOD CONSCIENCE, and never writhe under the scorpion-like stings of a BAD conscience.*

*All the statements in this paper, it is believed, are in harmony with the true theory of conscience, but some of them are in conflict with the popular theory. Some of the terms, however, require to be taken in a tropical sense.

MORALITY OF THE ANCIENT ROMANS.

By W. D. McLAUGHLIN, A.M.,
Professor of Latin and Greek.

We have before us this evening the morality of the Romans at the time of the introduction of Christianity. This subject could be treated as an ancient Irish worthy once treated the subject: "Snakes in Ireland." After several weeks of careful, patient, and laborious investigation, he finally expressed the whole body of his essay in language about as concise as his subject, to wit: "In Ireland there are no snakes." So we can say in general terms, at the introduction of Christianity, the Romans had no morality.

As we are to deal with the Roman Empire during the time of its decadence, it may not be unprofitable to consider the main cause of its downfall and the downfall of other nations. I am well aware that I am treading upon ground traversed by sages, philosophers, historians, statesmen, and poets, as well as seniors, sophomores, sub-freshmen, and almost all who can read and write.

In Jewish history, both national and individual, we find that obedience to the divine law insured success, and, on the other hand, disobedience thereto was followed by misfortune. The rewards and punishments, however, were not always contemporaneous with the acts themselves. The flood was sent by

reason of the wickedness of the world, Noah was preserved because he "was a just man." Faithful Abraham became involved in trouble by telling the truth, though not the whole truth, his purpose being to deceive only just a little. Moses, the servant of the Lord, was not permitted to enter the promised land, the divine voice proclaiming the reason: "Because ye trespassed against me among the children of Israel at the waters of Meribah-Kadesh in the wilderness of Zin; because ye sanctified me not in the midst of the children of Israel."

Joshua was successful at Jericho, but by reason of Achan's transgression, the Israelites under him were defeated at Ai. They were made servants of the king of Mesopotamia for eight years, because, by communion with the neighboring tribes, they descended to idol worship. The Philistines sorely defeated them once because of the laxity of morals on the part of the high-priest, and of general dereliction of duty on the part of the people. David's successes and reverses, both as individual and king, are measured by his virtues and vices. The subsequent history of the Jewish kings and people follows precisely the same rules.

In view of these facts we can appreciate Solomon's maxim: "Righteousness exalteth a nation, but sin is a reproach to any people." Now is this true of all nations? I answer, with some emphasis, that it is true not only of people collectively but of individuals. Righteousness or upright conduct is conformity to divine law, and sin or immoral conduct and immoral habits carry in themselves the seed of destruction. As poisonous substances received into man's physical system impair and destroy, so,

just as surely, do immoral habits and thoughts impair and destroy the moral man. It requires no logic to prove this; we see it taking place around us—and perhaps within us—every day. The man who steals or lies or contravenes any of the laws of moral conduct, impairs his moral powers, just as a stab from a dagger would injure him physically. It requires, therefore, no special act of Providence to consummate the destruction of a people or individuals after basely immoral habits have entered. After the commission of great sins we look for the smoke and fire of Sodom and Gomorrah. But let us remember that sin is itself a destroyer, that the wages of sin is death—slow death as well as speedy death—and that retrogression as surely follows it as effect follows cause. You will find that the cause of the downfall of nations as given in biblical history finds its solution in accordance with this general law, namely, that morality builds up and immorality destroys.

Now there are two elements that enter as factors into every civilization. These factors are intellectuality and morality. The intellectual forces are radical—tending to subvert the established order of things, while the moral forces are conservative. A declination in either the one or the other of these will be followed by a corresponding declination in the general product. The two when developed simultaneously and kept in a sort of harmonious equipoise will produce the highest order of civilization. I know it is usual to ascribe to genius, knowledge, science, diplomacy, and the like, the glory of successful revolutions, while the moral forces connected therewith are, in part, or wholly ignored.

We are all ready to laud to the skies the astute diplomacy of a Bismarck or Beaconsfield, to extol the scientific discoveries of a Tyndall or Huxley, and to magnify the skill and knowledge that have produced such beneficent results in the political, scientific, and industrial world, but we forget that silent conservative force without which the utilization of these products of mind would be hopelessly paralyzed. The strongest support of individual, social, or national character is morality. And the highest type of morality is that which follows closest in the wake of Christianity. No device of mind, or shrewdness of intellect, or brilliancy of genius can supply its place. It is, most emphatically, a *sine qua non* to every enterprise or institution that has worthy ends and permanence of existence in view.

There is prevalent, a vague and loose idea about sin, that it is a convenient term used principally by preachers to scare people with; that it is applicable almost solely to outrageous acts, such as murder, arson, and the like, and, if connected at all with little misdoings, the effects of it somehow or other can be dodged. A little advantage taken in a horse swap is only an indication of superiority of wit, a little too much toddy is simply a mistake of judgment. No penalty attaches to such little things. That is to say, if I cut my finger just a little or pull only a few hairs out of my head there will be no pain. Now when it is understood that natural and revealed or moral laws are equally divine in that they have the same Author, and are equally imperative in their several fields of operation, then it will be seen that the willful misrepresentation of a fact, or the harboring of an impure thought will make a moral cripple,

just as a leap from a two-story window will make a physical cripple. Sin is nothing more than want of conformity to law, and its penalties are nothing more nor less than the *natural* results that flow therefrom. If you can dodge or thwart the pain or inconveniences that result from a dislocated member, you may indulge in immorality with impunity.

What is true of individual life is true also of national life, the latter being only the sum total of the former, and consequently all national growth or degeneration are simply the index of the individual status. And I am not so sure but that the Sunday-school superintendant and the preacher are our best statesmen after all.

France once tried the experiment of enthroning reason to the exclusion of virtue, and with what disastrous results you are all doubtless familiar. The intellectual vigor of Demosthenes and his compatriots could not rescue their beloved Athens from downfall, when, to use his own expression, the whole country was full of traitors and men that were the enemies of the gods and their fellow-men. And it is a significant fact that Rome was hurrying to ruin with accelerated momentum at the time of her greatest intellectual splendor. It was the halo that was shed around her by such historians as Livy and Tacitus, by such poets as Horace and Virgil, by such philosophers as Paetea and Seneca, that makes her grand even in her dissolution.

You may take our own country, which is in the van of civilization, with all her improved means of travel and communication, with her labor-saving machines of all kinds, with all her conveniences and luxuries of physical and intellectual life; and then

suppose every man devoid of principle and a corresponding degradation on the part of women, and convert our churches into drinking saloons, our intellectual vigor remaining the same, and it is easy to see that the wheels of progress would be immediately reversed, and that our greatness would not last a decade.

I have dwelt somewhat at length on this part of the subject because the young gentlemen of the University are all more or less interested in the subject of History, and are doubtless so captivated by the brilliant thoughts and deeds of great men in great revolutions that they are in danger of quite forgetting that silent underlying principle so tersely expressed by the wise man, "Righteousness exalteth a nation, but sin is a reproach to any people."

A brief summary of Roman History, authentic and legendary, is about as follows: Romulus sometime in the past, say eight hundred years B.C., was ordered to be drowned, but the Fates preserving him, he was nurtured by a wolf, or by a woman named Wolf. As he grew up and a restless ambition began to betray the royal blood in his veins, he led a band of adventurers to the banks of the Tiber and there founded a city. He fortified his town with walls. His twin brother, Remus, who had some fun in him as well as royal blood, jumped over the walls in mockery. Romulus killed him. After suitable police regulations had been established, and a legislative body composed of one hundred senators had been appointed, it occurred to Romulus and his band, as there were none of the opposite sex in their new city, that it was not good for man to be alone. So he sent embassies among the neighboring tribes to ask permission for

the Roman youths to call on their daughters with a view to marriage. The ambassadors, as the historian states, were nowhere kindly received, but they were met with the universal response that no young men, until they had established a character, could call on their daughters. It is stated that Romulus was very despondent on the receipt of this news, and, I presume, the young men were too. Determined not to be foiled in a matter of such vital importance, and being pretty well acquainted with human nature, he got up a big show—a circus—and had posters sent out for many miles around. On the appointed day—sure enough—here they came in great crowds, big, little, old and young, and among them a great many pretty Sabine girls. It thus incidentally appears that in those days the girls were fond of going to circuses. The signal being given, says the historian, the Roman youths each seized a girl—stole her. Now that was a very wicked procedure, but all will admit that there were some mitigating circumstances connected with it. It is a warning, however, to girls not to go to circuses. I will also add that this custom of stealing virgins instituted by the old Romans has not been wholly abandoned up to this good day.

How much truth there is in this legendary narrative concerning the origin of Rome and of her social and civil polity is not known. The traditional statements have too much the air of fiction to justify any reliable conclusions as to the morality of the times. The whole story as given by the ancient historian sounds very much like the Mother Goose stories of the present day. The history of Romulus was doubtless told by nurses and grandmothers to amuse the children.

The regal government remained for nearly two hundred years, but was abolished on account of the wickedness of Tarquinius Superbus. Then followed the consular government of about five hundred years' duration, interrupted once by the decemviral government and by two triumvirates, the last of which resulted in Augustus Cæsar being proclaimed Emperor. As an evidence of the rigid morality of the Romans during this whole time, up to at least the time of Marius, we are told that no enterprise of a public nature, whether in peace or war, was undertaken without first consulting the auspices. If the omens were favorable, the enterprise was undertaken; if unfavorable, it was deferred. We would call this superstition, but it shows a religious feeling, a recognition of a power superior to themselves, to which they gave reverential obedience. The family life was sacred, and for over five hundred years divorce was unknown among them.

Whatever else may be said to have contributed in these early days to the strength of Rome, it can not be denied that the peculiar organization and discipline of the family were valuable promoters of it. The father of a family, or *pater familias*, was absolute king of the household as long as he lived. There was no "sweet ane-and-twenty for the Roman Tam." The grown-up son might establish a separate household, but in law all that the son acquired, whether in his father's household or his own, remained the father's property. In relation to the father, all in the household were devoid of legal rights, wife and children included. In the worst cases of abuse, religion, it is true, pronounced its anathemas; but the gods are slow, as lictors or constables, to execute the judgments

of men. This power of the husband and father, though doubtless often repressive of the pleasures of the women and children, yet assured to the children a wise guardianship up to an average of forty years. If the child is trained for that period of time in the way in which he should go, he will not be very apt to depart therefrom in his after years. If the parental authority now were a little more rigorously administered and continued a little longer, I believe a better citizenship would be insured.

It must not be understood, however, that the Roman father was a tyrant, for "the moral obligations of parents toward their children were deeply felt by the Roman nation;" and it was reckoned a heinous offense if a father neglected or corrupted his child, or if he even squandered his property to his child's detriment.

It was here in the family that the Roman youth learned and practiced that obedience to authority which trained him to respect those in power, and reverence the laws, and made him well-nigh invincible on the field of battle. There was no theme more delightful to the later Roman writers than the rigid morality of their forefathers and the dutiful obedience of their children.

At the accession of Tiberius to the imperial throne, in the year of the Christian era 14, the Roman empire embraced nearly all Europe, all of the then known Africa, including Carthage and Egypt, and Asia as far as the Euphrates. It contained not less than one hundred million inhabitants, of whom not less than sixty millions were slaves. Cicero informs us that of the one million two hundred thousand inhabitants of the city of Rome, in his day there were not more than two thousand proprietors.

At the lowest extreme of the social scale were the slaves, without family, without religion, without possessions, without any recognized rights, passing from a childhood of degradation to unpitied neglect in old age. Many eminent senators advocated the brutal law that when a master was murdered his slaves, however numerous, should be put to death. Only a little above the slaves were the lower classes who formed the vast majority of the free-born inhabitants of the Roman empire. They were, for the most part, beggars and idlers. Despising honest labor, they asked only for bread and the games of the circus, and were ready to support any government that would furnish them these. They were delighted with the polluted plays of the theater and the ghastly scenes of the arena, where criminals and slaves were compelled to fight with wild beasts. "Their life, as described by their contemporaries, was made up of squalor, misery, and vice."

Immeasurably removed from these were the constantly diminishing crowds of the wealthy and the noble. "Every age, in its decline," says a writer, "has exhibited the spectacle of selfish luxury side by side with abject poverty, but nowhere were these contrasts so startling as they were in imperial Rome." The great majority might be on the point of starvation while the rich were spending a fortune at a single banquet. Many of the free-born were so poor that they could afford only one garment even in winter. Pliny tells us that he saw Paulina dressed for a betrothal feast in a robe which cost, in our money, two million dollars. Debauchery, gluttony, and extravagance rioted in the heart of a society which had no higher aspirations than the gratification of

the animal propensities. A poet has thus summed up the life of a Roman noble:

"On that hard pagan world disgust
And secret loathing fell;
Deep weariness and sated lust
Made human life a hell.
In his cool hall, with haggard eyes,
The Roman noble lay;
He drove abroad in furious guise
Along the Appian Way;
He made a feast, drank fierce and fast,
And crowned his head with flowers—
No easier nor no quicker passed
The impracticable hours."

At the summit of this rotten social system stood the Emperor, who, in most cases, was king in vice as well as king of men. He had absorbed all the powers and functions of government. The Senate, it is true, still held its sessions, but their decrees were always in conformity with the will of the Emperor. As Gibbon very justly observes, he was at once priest, atheist, and god.

Among the first acts of Tiberius, in whose reign Christ was crucified, was to have murdered all whose talents would fit them for imperial honors, or whose aspirations seemed to be in that direction. By the law of high treason, not merely actions, but words, looks, and gestures were construed as offenses against the majesty of the prince. The suspected were presumed to be guilty, judges were found to condemn them, and soon followed confiscations and executions. He was a man of reserved character, of great dissimulation, suspicious, revengeful, and confiding in no one except his prime minister, Sejanus, who was equally abandoned in character as himself. Sejanus at length fell

under his suspicion, and he and all his friends and relatives were massacred. Tiberius, after a long career of crime, was smothered at the instigation of his successor, Caligula.

Caligula ascended the throne A.D. 37. Not content with murder, he ordered all the prisoners in Rome and numbers of the aged and infirm to be thrown to wild beasts. He claimed divine honors, erected a temple, and instituted a college of priests to superintend his own worship. For his favorite horse, Incitatus, he built a stable of marble and a manger of ivory, and frequently invited him to the imperial table. In derision of republican government, he conferred upon this horse the honors of consulship, and in mockery of religion he appointed him high-priest. After a four years' reign he was murdered by his own guards.

He was succeeded by the imbecile Claudius. Though deficient in judgment Claudius was not destitute of good nature, and he was impelled to the commission of many crimes by his abandoned favorites. His dissolute wife, Messalina, ruled him at pleasure, but she was finally put to death by the Emperor for her shameless crimes. He then married his niece, Agrippina, the infamous mother of the infamous Nero, who caused him to be poisoned by his physician.

Next came Nero, in whose reign St. Paul came to Rome, at which time we may reckon the introduction of Christianity. To rehearse even a few of the crimes of this monster would be sickening. I will mention only one. In the year A.D. 64, one year after St. Paul's arrival, there was a great conflagration in Rome and the greater part of the city was destroyed. Suspicion had fastened on Nero as the author. Historians

are divided as to the justness of the suspicion. At any rate, to remove it from himself, he charged the Christians as being the incendiaries and had them slaughtered indiscriminately. Tacitus, who was an inveterate hater of the Christians, thus describes the massacre:

"Various forms of mockery were added to enhance their dying agonies. Covered with the skins of wild beasts, they were doomed to die by the mangling of dogs, or by being nailed to crosses, or to be set on fire and burnt—after twilight, by way of nightly illumination. Nero offered his own gardens for this show, and gave a chariot race, mingling with the mob in the dress of a charioteer, or actually driving about among them."

Surely, "When the righteous are in authority the people rejoice; but when the wicked beareth rule the people mourn."

In justice to Nero it should be said that he was held in great esteem by the boys—the *ignobile vulgus*. He did many things to the detriment of the better class for their gratification. That his tomb was decked for many years with spring and summer flowers is evidence that he lived in the hearts of some of his countrymen.

Thus far I have said nothing of the part that the women played in this polluting and polluted drama. It is best, if you can not say something good of the fair sex, to say nothing at all. I will follow this rule, save to add one statement of a contemporary writer, and that is that women married in order to be divorced and were divorced in order to marry, and that noble Roman matrons counted the years not by the consuls, but by their discarded or discarding husbands.

On this vast moral waste of misery, squalor, poverty, voluptuousness, debauchery, envy, and murder, there were, it is true, some just persons. The image of Justice was still left, but the goddess herself had taken wings and flown away. A few Burrhuses and Senecas were still striving for the pristine virtue and morality of their forefathers, but the tide of evil was so great that they were overwhelmed and finally killed.

The outlook for the human family at this time was peculiarly gloomy. Rome had hitherto been the conservator and promoter of a measurably healthy civilization, but had by her vices lost that prerogative, and, what was more lamentable, there appeared no people upon the whole face of the earth of sufficient moral worth to whom this charge could be intrusted. Athens, with her broadly liberal republicanism, and with her philosophy almost divine, could not rescue her people from ruin occasioned by their vices, and Rome, with her strongly centralized government and her admirable system of laws, had made a most signal failure in the same direction. The Spaniards and the Celts of Gaul, as dependents of Rome, had become involved in her degeneration. The old monarchies of Egypt, Persia, and Babylon had long ago lost their civilizing power and intellectual hegemony. Our forefathers in Northern Europe had not yet attained that condition that could be called civilization even.

But man's extremity is God's opportunity. "The fullness of time" had come and Christ was born, upon whom all healthy civilizations in the future were to be founded, and his distinctive appellation was Jesus: "For he shall save his people from their sins."

N. LAWRENCE LINDSLEY, L.L.D.

SOME TYPES OF CIVILIZATION.

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What is civilization? Like many other questions, this one also has been variously answered. Civilization has been taken to be merely the multiplication of artificial wants and of the means and refinements of physical enjoyments. In this sense it is an evil rather than a good, and is scarcely preferable to barbarism. It has been taken also to signify both a state of physical well-being and a state of superior intellectual and moral culture. That is better, and is more coincident with the sense in which I shall use the term on this occasion. You see that it is a relative term, its antithesis being barbarism; and, as there have always been degrees of barbarism, so there have always been degrees of civilization, the lowest degree of the latter being somewhere in the neighborhood of the highest degree of the former. The one shades off by imperceptible gradations into the other, so that no man can tell exactly where the one begins and the other ends.

Various tests have been employed. The Greek used a literary, or, perhaps more strictly, a linguistic test. He was proud of his language, and indeed it was something to be proud of. He it was who invented the word "barbarian," which I have said is the antithesis of "civilized." With him every man who

could not use the Greek language with facility was a barbarian; or, in other terms, he was a stammerer, one who could not half talk, as the word is said by some literally to mean. But you could not adopt such a test, for the sublime egotism of the Greek is no longer regarded as the polite and proper thing. The German has just as good a right to affirm that his language is the only classical one as the Englishman has to affirm it of the English, and he has as much ability to make good his claim. And if you should venture to call every Englishman or American a barbarian who introduces barbarisms into his use of the English language you would diminish the ranks of the civilized quite rapidly.

On the other hand, the Roman's test was a social one. If a man or a people were not Roman citizens either by birth or by adoption they were not civilized; they were barbarians. At least this was the general test.

With the Hebrew the test was a religious or ecclesiastical one. Whoever did not belong to the theocracy was a Gentile, and "Gentile" and "heathen" were with him synonyms. This test has not entirely disappeared, as you are very apt, some of you, to rate him highest who is a member of your own church, and we are still more liable to call a Japanese or Chinaman a barbarian merely because his religion is not ours; or the Mohammedan, merely because he is a Mohammedan, though there is truly a pre-eminent Christian civilization.

The religion of a people does have a marked influence on the civilization of that people, but I am not aware that the religion inculcated in the New Testament has a more marked influence on modern civiliza-

tion than the same religion as presented in the Old Testament was intended to have upon the ancient civilization. The chief difference in the two cases arises, I apprehend, from the fact that the church of the New Testament dispensation understands and executes its mission better than the church of the Old understood and executed its mission. On this point I may add that some members of the present church who disbelieve in foreign missions would have been more at home and more congenially associated had they been born twenty-five hundred years ago and held their membership in some pre-Christian Hebrew synagogue. The Hebrew civilization derived a marked characteristic from the fact that the Hebrew thought no man had any share in or right to the Messianic privileges except himself. The Hebrews were orientals, and the characteristic of their civilization just alluded to was not altogether peculiar to them. The Chinese call themselves the Celestials to this day, and you all know how impenetrable to foreign intrusion the Chinese empire has always been until comparatively a recent period. The Japanese civilization has always been equally exclusive until still more recently, and the Corean also.

I mentioned the Greek civilization just now and said that one of its characteristics was exclusiveness. But I may add that this exclusiveness was not based altogether on literary and æsthetic culture. It was doubtless based to some extent on the Greek doctrine of autochthony. Some of you are doubtless aware that the Greeks did not believe in the unity of the human race. The Greek, and the Greek alone, was made out of Greek dust, which, in his estimation, was much better soil than that out of which any body else was

made. The national and intense assertion of this doctrine gave more or less character to the Greek civilization; and we may be sure that the Athenians pricked up their ears and turned up their noses when Paul, in his address before them, stated that God had made of *one* blood all the nations of the earth. It was as much as to say to Paul: You need not try to insinuate yourself into our favor and your religion upon our notice by claiming kin with us. We do not know you. And thereupon they got up and walked out, and left Paul speaking to the empty benches. It was uncivil, from our point of view, in the Athenians to treat Paul in that way, but it was just like them to do it, especially when touched upon that point. You have probably met with a few people in your day who believed that they were made out of better earth than the rest of mankind, though they are not sufficiently encouraged in the belief to make it a peculiarity of our civilization, as it was with the Greek. But I should do Greek civilization scanty justice if I were to fail to say that its military genius and statesmanship was not sufficiently dominant to produce a distinct type of civilization, though its literary and artistic genius was. Greece produced no statesman whose wisdom has influenced succeeding ages. We look not thither for law and clean-cut exhibits of man's social and political relations and duties to man. When Greece is mentioned we think not of government and legislative codes, but of philosophers, and poets, and sculptors, and painters. *These* are the dead though sceptered sovereigns whose spirits from their urns still rule us. The genius of Demosthenes, the orator, was the genius of an artist rather than of a statesman; and there was but one Pericles, and the

glory which he gave to Greece was not a typical civilization, but the flash of a meteor. But the philosophers and artists had their schools. Rome is our law school and our military academy. As he who would be an artist or a philosopher must know about Praxitilles or Plato, so he who would be distinguished in war or law must know about Cæsar or the Twelve Tables.

There are other ancient civilizations which recent research has brought into too great prominence to justify me in leaving them quite unmentioned here—the Assyrian or Chaldean, for instance, which manifests itself in Assyrian architecture and art, and in the military, domestic, and religious affairs of kings and people. The Assyrians were not barbarians—far from it—though as to whether their civilization would fall under M. Guizot's first, second, third, or fourth hypothesis it is impossible to say; possibly neither. In the first place, there was society; and, in the second place, society into which the individual was not wholly sunken. But, so far as known to us, its ruling idea was military *conquest*. Abraham, before his divine call, was a representative of the Accadian phase of this civilization. He was born and brought up in lower Chaldea, and spent the first seventy years of his life under the influence of the elaborate and powerful system of idolatry introduced about the time of his birth by King Sargon I. But Abraham's soul remained "pure as a white lily in muddy waters" amid the seductive influences which won over even Terah, his father, and perhaps all his brothers and kinsmen. Terah was not only an idolater, as the Scripture informs us, but, as Jewish tradition says, his business was that of a manufacturer of idols. Abraham re-

mained faithful to the God of Noah, called him by no new name, and worshiped him not under the form of any image.

In the days of Abraham the Accadians already lived in solid houses of brick, whose walls were made very thick to protect the inmates from the southern heat. The windows were high up and small. Trees were planted around for the purpose of shade. Hand-made pottery of many kinds abounded, and their embroidered garments and tessellated cushions of tapestry were famous far from home. Sun-dials marked the hours of the day, which had already been divided as we now have them. The smith and the jeweler furnished field and camp and house and the person with a long list of implements, weapons, and ornaments in various metals. There were combs, and head-dresses, and mirrors; and music on guitars, drums, tambourines, harps, etc.; and wine cups and drunken feasts, very much as with us; and large trade was carried on with other nations in blue clothes and broidered work, in chests of rich apparel, and ivory, gems, cedar, and pearls. Drainage and irrigation converted the marshy flats of the south and the dry, dusty stretches of the north country into gardens of exceeding beauty and richness, and the palm-trees, burdened with dates, grew on the banks of the streams in such luxuriance as to render the people unmindful of the absence of fig, or olive, or vine. The most beautiful of trees—the palm—was also the most varied in usefulness. Its fruit, hanging in clusters of amber or gold, is at once pleasant to the eye, delicious, and nourishing—the food of the poor and the luxury of the rich. The crushed kernels of it fed the goats and sheep, and the gashed stem or trunk yielded a drink which took the

place of wine. The tuft or crown which grew from the top and the inner fiber and pith were boiled for food. Mats and baskets were made from the leaves, while the trunk furnished pillars for houses, and roofing, and furniture. The whole district in Abraham's day was exceedingly fertile and highly cultivated; shady with palms, tamarisks, and acacias, rich in pomegranates, and golden with fields of the finest wheat. Millet and sesame grew to a fabulous height, and all kinds of corn plants produced two and three hundred-fold. Such was the civilization and such the enchanted land in the midst of which Abraham spent the first seventy years of his life, and which at the call of God he was to exchange for Canaan.

Canaan—and the mention of that name reminds me of another early civilization of which I should be glad to speak if I had time—Canaan was the land of settled population, with towns and governments long antedating Abraham's day; a land of corn fields, figs, vineyards, and fortresses; a land of which an authority earlier than the patriarch speaks as abounding in wine more than water; a land in which all the trees were fruit-bearing, and that yielded barley and wheat, and that had no end of cattle; a land over which a profound moral corruption had already spread when the patriarch entered it; where human sacrifices marked the worship of the gods, and where unnatural sins so abounded as to receive their name from Sodom.

I say it would be interesting to dwell more at length on this early civilization and the neighboring Phœnician and Egyptian, but I must hasten on to the final and the chief inquiry of this lecture: To what extent does Christianity influence civilization, and what is the character of that influence? This leads

me to remind you that the term civilization is a social term, and if analyzed would be equal to some sort of social organization, plus certain manners and customs. There can be no civilization where there is no state or government. To what extent does Christianity influence social organization, and manners, and customs? That it does do so every body admits, as is evident in the universal use of the phrase Christian civilization.

Our modern European civilization (in which I include the North American) is made up, we may say, of ten essential elements. Six of these elements are not peculiar to it. They are common to other civilizations, ancient and modern. The difference between the two consists in part at least in the other four elements. How is the presence of these four elements in our civilization to be accounted for? They are due in part to Christianity, but not entirely. They are partly attributable to the very genius or spirit of the Caucasian races. Christianity could scarcely make an Aryan or Indo-European out of a Semite, or vice versa. It was not intended that it should do so. Our civilization for instance is being influenced largely by our extensive and increasing railroad systems. But Christianity of itself could scarcely have taught the Semitic and Hamitic peoples to build railroads. The Caucasian races are characterized by a spirit of restless enterprise and progress which has always been wanting to the sons of Shem and Ham, and consequently the civilization of the former has always differed from that of the latter, and always will, until race distinctions shall have diappeared. Western Asia had the gospel either in its Old or New Testament forms long before Europe

and America, and so far they had greatly the advantage, but it is true that Europe and America have long been sending the gospel and a better civilization back to Western Asia. The Asiatics have never had the power that the sons of Japheth have, to resist the downward tendency. They have had their city builders and warrior heroes, but they have furnished modern times but little to talk about and write about except *ruins*—no science, no philosophy, no literature, no law; and though they were the first to receive the gospel, they were also the first to lose it. To the sons of Japheth, for some reason or other, has passed the responsibility and the honor of being the world's teacher. Truly they are dwelling in the tents of Shem. If I fail as a teacher for a want of intellect or will power or disposition or acquirement, I must be supplanted by another and more efficient teacher. The world must be educated. And I should like to say here, at least in parenthesis, that when we as a government, or as a people, cease to fulfill our function as a teacher in the broad and truest sense the world will no longer have any use for us, and we will cease to be. That, I think, is certain. There is a vast deal more than mere professional zeal in the missionary entreaties of such men as our Dr. Bell and our Hails. There is in the matter a deep philosophy, and if you will not misconstrue my use of the term I will also say a deep divine decree. It is an entreaty which comes not merely to our church or to any church, but to our nation and to our civilization, and woe be to our nation and to our civilization when the chief end of our national political parties shall become a question of mere "ins and outs"—a mere question of personal and

selfish greed. The age of Louis XIV. was the most brilliant age in French history, but it was also the age in which the least amount of good accrued to the people, a fact which the king mourned in his last days. But here and now the people make the government and the people make the civilization, and do not let us forget that people in the aggregate have missions to fulfill as well as people in their individual capacity. Ours is an educational one.

But I digress too far. I was saying that one reason why the Caucasian civilization differs from some ancient and modern civilizations lies in the very genius or spirit of the people. Another cause lies in geographical and climatic influences. The civilization of South America, for example, can never be of quite the same type as that of North America; and the civilization of Northern Europe can never be quite the same as that of Southern Europe. Geographical and climatic surroundings influence the literature and habits of a people, and these influence to a marked degree the civilization of that people.

But the cause of difference with which we are chiefly concerned lies in Christianity. But here if we should enter into a minute discussion of this phase of the subject, the necessity of additional analysis would immediately confront us; for while in their general features the Roman Catholic and Protestant civilizations are the same, it is obvious that in many important particulars they widely differ. The civilization of the middle ages of European history was Roman Catholic, but it was widely different from the Protestant civilization of the eighteenth and nineteenth centuries — widely different indeed from

the modern Roman Catholic civilization in countries where Protestantism has had little opportunity to influence it. The civilization of the Mexico of to-day is Roman Catholic civilization, so also is that of several of the South American States; but it is scarcely worth while for me to remind you that the civilization of these countries is radically different from and exceedingly lower than the type which obtains in this and some other Protestant countries. The strength of Roman Catholicism, if we may judge it from its history, consists for the most part in the solidity of its organization, and the emphasis which it places on the doctrine of obedience. Hence, it comes naturally to be the handmaid of despotic government, and puts a clog on the wheels of all progress; for is it not an obvious fact, notwithstanding occasional apparent exceptions, that the arts and sciences of civilization do never find congenial soil in despotic countries? Look at Ireland; look at Italy; look at Spain. And the only reason why the Roman Catholicism of the United States is not similiarly deleterious is because of the restraining and neutralizing influence of our Protestantism. Roman Catholicism, I say, is the handmaid of despotism and clogs the wheel of all progress. Its tendency is—and this is the tendency of every degree of Episcopacy—to elevate society, whether ecclesiastical or civil, at the expense of the individual. Its only cry is the church, the church, the church, while, so far as it cares, the individual can sink lower into ignorance and sin, and go to ruin if he wants to.

But the tendency of Protestantism, especially of Republican Protestantism, is to elevate the individual. It is the handmaid of liberty and progress.

It remembers that society, organization, church, state were made for man and not man for the church or state, and it elevates the type of civilization accordingly. I said to you just now that the age of Louis XIV. was one of the most brilliant in French history. So it was so far as the government was concerned; but it was one of the darkest so far as the people were concerned. When the form is a more or less stringent despotism, there is a vast difference between having a fine government and a fine people. When the form is a more or less stringent prelacy, there is a great difference between a fine church and a fine membership. The one does not necessarily imply the other. That which does most for the connection, or the society, or the organization, or the state, or whatever it may be called, is not the best unless it also at the same time does the most for the individual. And the converse of this proposition is also true.

The broad difference then between Roman Catholicism and despotic civilization on the one hand, and Protestant and Republican civilization on the other, is that the latter produces a free and healthy individualism, while the former does not, but destroys it wherever it finds it. A striking illustration of this is furnished even in the matter of proper names. Under the dominancy of the old Roman Catholic despotism it was by no means the rule for men to have more than one name. It was simply Jones, or Smith, or Brown. It was only under the humanistic, the elevating, the liberalizing influence of Protestantism that men generally came to be called Paul Jones, or John Smith, etc. It is a tribute to the importance of the individual, and to that extent at least a confes-

sion of the influence which Protestant Christianity directly or indirectly has on our civilization.

But let us drop the adjectives Roman Catholic and Protestant, and in order to appreciate the more keenly the influence of Christianity upon the world-civilization, let us look, at least briefly, at the highest type of it, presented, not in the Semitic or Hamitic races, but in the Japhetic Greeks and Romans, and thereby give the world-civilization in the absence of Christianity the best advantage possible in the argument.

The two prominent characteristics of the civilization of Rome during its golden age were heartless cruelty and unfathomable corruption. Being past feeling it gave itself up to lasciviousness to work all manner of uncleanness with greediness; filled with all unrighteousness, wickedness, covetousness, maliciousness, envy, murder, strife, deceit, malignity; insolent, haughty, without natural affection, unmerciful, etc. These are terms applied to it by a contemporary writer. There was never an age, says another historian, which stands so instantly condemned by the bare mention of its rulers as that which recalls the successive names of Tiberius, Gaius, Claudius, Nero, Galba, Otho, and Vitellius, and which after a brief gleam of better examples under Vespasian and Titus, sank at last under the hideous tyranny of Domitian. More writers than one speak of the enormous wealth of this period side by side with most revolting poverty; "its unbounded self-indulgence; its coarse and tasteless luxury; its greedy avarice; its sense of insecurity and terror; its apathy, debauchery, and cruelty; its hopeless fatalism; and its unspeakable sadness and weariness

and despair." Tacitus, with all his resources of words, finds it difficult to vary his language in describing so many suicides. At the lowest extreme of the social scale during the golden days of the Roman civilization were sixty million of slaves, "without family, without religion, without possessions, without recognized rights, and toward whom none had any recognized duties, passing from a childhood of degradation to a manhood of hardship and an old age of unpitied neglect." Masters had the right by law to put them to death at their pleasure; and when they were beaten by way of punishment the custom was to swing them with weights tied to their feet to prevent them from moving. When punished capitally they were either crucified or burned alive, and if a master of a family happened to be killed in his house and the murderer could not be discovered the rule was to hold the slaves responsible. Tacitus relates that in one instance four hundred were put to death on this account, and many eminent senators openly advocated the brutal law. It was not unusual for the master to put the aged and useless slave to perish in an island in the Tiber; and some there were who would drown them as food for the fish in their ponds.

Only a little higher in the scale were the common people, by far the larger body of the citizens of the empire. They were beggars and idlers, familiar with the grossest indignities of an unscrupulous dependence. Among the twelve hundred thousand inhabitants of Rome in Cicero's time, there were scarcely two thousand who owned any property. Out of about sixty thousand dwelling-houses in Rome only one thousand seven hundred and eighty were what we would call family residences; the rest were tenement

houses. According to public sentiment trade and manufacture were servile employments, and hence the common people spent their mornings in lounging about the court-house and other public places, or in dancing fawning attendance at the levees of rich patrons for a share in whose bounty they daily struggled. Their afternoons and evenings were spent in idly gossiping at the public baths, or in listlessly enjoying the polluted plays of the theater, or looking with fierce thrills of delighted horror at the bloody sports of the gladiatorial arena. All that they asked of the state was bread and the games of the circus, and they were ready to support any administration, however despotic, if it would only supply these needs.

Trajan, on one occasion, by way of celebrating one of his victories, set ten thousand men to fighting in the arena, with one another and with wild beasts, and for purposes of such barbarous amusement hundreds of thousands of gladiators were supported at the expense of the government. And when the patricians wished to give what we call private entertainments the fashionable rule was to engage a hundred pairs of the gladiators and set them to butchering each other. Titus Flamininus even celebrated his father's funeral by a three days' fight of seventy-four gladiators, and this also was the patrician custom; and so popular were these barbarous sports that there was not a town in the Roman Empire from Britain to Syria that could not boast of an arena; and it was not until Christianity had been preached two hundred years that an edict was passed forbidding even women to fight. This is Roman civilization of which I am speaking. The strangest thing perhaps is not

that such things were so common, but that they were actually approved by such enlightened sages as Cicero and Titus.

An ancient and well-known writer informs us that they were without natural affection; and in proof of this statement other historians tell us that the murder of new-born infants was not only practiced, but was an allowed practice in all the states of Greece. Even in polite and shall I say civilized, Athens, the abandonment of children by their parents to wild beasts was permitted without blame or censure; and yet the Athenians called every body barbarians but themselves. When king Attalus murdered his own children in order to leave his crown to his brother even the humane Plutarch applauds the act as a merit. Even the wise and virtuous Solon gave parents permission by law to kill their children. And philosophers supported the custom by argument. Aristotle thought they should not only be permitted but even encouraged to do so, and Plato was of the same opinion; and later in Italy the crime was daily perpetrated, and the soil of the empire from one end to the other was stained with the blood of murdered infants. This was the civilization of Greece and Rome.

As to the lowest and nameless grades of indecency, it may not be a matter of surprise that they were generally practiced, but it is remarkable that they should have been sanctioned both by public law and social opinion. Neither Seneca, nor Xenophon, nor Plato, nor Aristotle, nor Socrates, nor Cato, is excepted from the revolting account of such writers as Plutarch and Quintillian. Plato and Socrates even went so far as to hand their wives over to their

friends, or in other words, to procure their unchastity, an evil so prominent in Paul's day that he finds it necessary to bring to bear against it inspired legislation in his second epistle to the Thessalonians. And this is the boasted civilization of Greece and Rome of which I am speaking.

But the tale is too long. Some time ago I prepared an address in which I compared ancient pagan and Christian civilization in respect to the matter of public and private charities. So the comparison might be continued in detail in respect to various other things. But the tale, I say, is too long, and in many respects too revolting. View the great mountain in the dim distance, as some one has said, and it seems clothed in an azure hue of beauty; but come near it, and the azure hue of beauty has faded away and we see nothing but giant crags and unfathomable abysses of darkness. So we see pagan civilization for the most part at a distance. View it more nearly and the blackness of its abysses of corruption become visible to us. Christian civilization has its defects, and it might be profitable to point them out, but whether so or not, it is infinitely better than civilization without Christianity.

WHAT IS OVER OUR HEADS?

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Who will decide what is over our heads when "above is below and below is above," when "depth is swallowed up in height insurmountable and height is swallowed up in depth unfathomable?" When the direction up twelve hours later is down, what is there over head which is not under foot?

Those who have not made astronomical magnitudes and distances a special study rarely ever accept them with the confidence they do distances from place to place on the earth's surface. They consider their determination based upon principles vague and uncertain, or, if not, at least beyond the comprehension of all save the practical astronomer; and he is usually believed to draw very largely upon his imagination. When such persons enter an observatory, and see the apparently complicated instruments they usually leave it feeling that the science which requires the use of all these appliances is utterly beyond the comprehension of the common mind. There is no sufficient reason for this incredulity and misconception: but the man is rarely ever moved who surrenders to the common prejudices against the conclusions of astronomical science, and encases himself in the narrow theory which makes the earth the central and the largest thing in this universe.

The surveyor measures a line along the bank of a river, and from its extremities the angles to a tree on

the opposite bank, and with these data finds the distance to the tree; or he measures very carefully a base line five miles in length, and from its extremities the angles to signals on hills on each side of it ten miles apart, and thence to others from twenty to forty miles, thus covering your State with a network of triangles, whose sides he computes, and thus determines the distances from your capital to Knoxville, to intermediate places, and to places from one end of your State to the other. No one hesitates to accept his results as strictly correct, while perhaps not more than one in ten would comprehend without difficulty the methods by which he reaches them. Now, why should his results be accepted without question and the astronomer's rejected? Is the latter more visionary or does he deal with things less real? As a rule, practical astronomers are the most cautious of all men in expressing an opinion. Their reputation depends upon scrupulous accuracy; without it they become the jest of their profession. For instance, no one is so guarded in what he says of the physical constitution of the sun as he who has made that his life-time study. Lecturers often pick up what they say, enlarge and amplify, until the original is not only unrecognized, but absolutely perverted. If they are not practical astronomers it is well to accept their assertions with caution.

The fundamental principles of practical astronomy are not different from those of theodolite surveying. In finding the tree's distance, or that of Knoxville from Nashville, essentially the same methods are employed as those used by the astronomer to obtain the distance to the moon, to a planet, to the sun, to a star.

The instruments of an observatory are less compli-

cated than the steam engine; any one familiar with the details of either readily understands all the peculiar manipulations. In our national observatory is a common laborer, without education, whose duty it is to assist in moving and pointing the great twenty-six-inch instrument. This man, while engaged in his special work, has discovered several double stars before unknown. Professor Swift, of the Rochester Observatory, has a little son who, when only thirteen years of age, discovered several new nebulæ.

A few days' experience teaches you how a surveyor gets his results, and also how worthy they are of confidence. So in astronomy you can transform more from the ideal to the real during one evening in an observatory with a practical man than by studying a fortnight. Like surveying, it can not be taught to purpose without practice, being no exception to the adage, "Any thing is simple enough when you know how it is done." Methods are resolved into a long succession of steps, it is true, but each is based upon the most simple principles, and when the last is taken you look down from an eminence over an easy flight, though it may be difficult to see the connection between the first standard measure and the astonishing result. Difficulties in this branch of knowledge, if not unreal, are at least much exaggerated. There is no other science of which so many fundamental principles may be learned with the naked eye, and it is almost incredible how much can be and has been done with instruments of less than a three-inch object glass. Often you hear of one who, by self-denial, has secured a small instrument and made a start on the road to eminence. You have one to-day from your capital (now of the "Lick Observatory") who began

in this way, and is now better known in Europe than among yourselves. Some who could purchase only the object and eye-glasses have made of these their own instruments. The last transit of Venus developed so many amateurs that one astronomer remarked, "This country is one great observatory." Whose fault is it that we are not all astronomers in some sense? Do we lack instruments? We have but to step out any clear evening with an upturned face and truth-loving heart to study the heavens by a celestial globe that can not be surpassed but by its infinite Artisan. Our opera glasses will serve us better than many of the best instruments of the ancient astronomers. If we wish to go further, for a mere pittance we can furnish ourselves with a better telescope than Tycho Brahe's. Were there as much money looming in the distance as there is in the field of the mechanic, the physician, or the lawyer, eminent astronomers would be as numerous as noted men in other departments of life; and the appalling distances and magnitudes of this science would be as familiar and as universally accepted as distances over sea and land.

Difficulties there are, it is true, but the novice in any thing retraces his steps over and over again, re-examining his premises, doubting and returning for more assurance, before he finally triumphs. If one would *master* the field of astronomy, he must enter its sacred precincts armed and equipped with the highest style of mathematical analysis. His road to eminence, however, is no more exacting than that to distinction elsewhere. Because we may not all be Newtons, La Places, Herschels, or Leverriers, will we be nothing, reject the life work of such minds, and balance our opinions, without study, against their logical demon-

strations? The common prejudices against their overwhelming results are without a true basis, and while these are entertained we can not get the idea of God's greatness which he intended that we should receive from his works and word.

As already intimated, astronomy, like surveying, has its base lines, of which the first to be measured is the earth's radius or semi-diameter. The difficulty of measuring a line accurately perhaps rarely occurs to any one, while science has really been taxed as much for this as for any thing else—perhaps more than for any thing else. Nothing can be had to measure with that will continue of the same length. If a rod of iron, wood, glass, or any thing is cut an exact yard or meter long, when it gets warmer or colder it is not the same length. The standard unit, then, is such only at a given temperature, and since we can not use it and preserve this temperature constant, we must find how much it varies for a change of one degree, note its actual temperature every time it is applied to a line, and correct for the difference from an assumed standard temperature. With such an ever-varying standard length the exact distance from the earth's center to the circumference of its equator must be found by measurements made upon its surface in a great number of different localities. These are made by the methods of geodetic surveying, and consist first of a base line from four to ten miles, whose length is so carefully determined that it is known to be correct to within half an inch. Next a chain of triangles based upon it is located, extending north and south for hundreds of miles, all of whose angles are measured with the greatest scientific accuracy, and then all their sides are just as carefully computed.

From these results, with the exact directions of the various lines, the length of a north and south line extending through the entire chain is computed. The difference of the latitude of its termini are found by astronomical observations, and thus the length of an arc of a terrestrial meridian intercepting several degrees in that particular locality is found. Every civilized nation strives in this way to contribute the length of a meridian arc, and also that of an arc of a parallel of latitude, as extensive as possible. With the data thus furnished the dimensions of the earth as known at present have been determined. The principal of these arcs were the combined French and English of twenty-two degrees and nine minutes, the Russian of twenty-five degrees and twenty minutes, and the Indian of twenty-one degrees and twenty-one minutes. Several other smaller arcs were used which influenced the result to some extent. Colonel Clarke, of England, with all such data available, a few years ago found the equatorial radius of the earth to be $3{,}963\frac{3}{10}$ miles and the polar nearly 3,950. After a few years the additional data of an arc of latitude of about forty-seven degrees, resulting from the connection of the geodetic surveys in North Africa with those of Western Europe by the great quadrilateral spanning the Mediterranean Sea, and the arc of a parallel of latitude in the United States extending from the Atlantic to the Pacific with the arc of a meridian reaching from the Gulf of Mexico to the lakes, will enable a still more accurate result to be determined. Future computations based upon these ever-accumulating data will perhaps change but very little this — the first astronomical base line—from $3{,}963\frac{3}{10}$ miles, and with it the distance to the moon may now be deter-

mined; and the methods will prove it to be our nearest heavenly body.

When the moon is in either quarter, only one half of its illuminated surface being visible, the earth must obviously be at right angles to the line joining it to the sun. At such a time measure the angular distance between the moon and sun. If no angular instrument is at hand, take a pair of compasses or a folding foot-ruler, point one arm at the moon and open the other out until it points to the sun at the same time. Now, if the opening between these two arms were five sixths of one right angle, the sun would be about four times as distant as the moon; or, if eight ninths of a right angle, it would be six times as distant. In fact, the actual opening between the arms of the compasses will be so near a right angle that the difference from it will be inappreciable with ordinary instruments. In this way Aristarchus proved the sun's distance many times greater than that of the moon. Now, to find the distance from the center of the earth to the moon, place two men on the same north and south line, one as near the north and the other the south pole as possible, with the necessary instruments, and when the moon is crossing the meridian of each let him measure carefully the angle between a vertical line and the line from himself to the moon. Then let each observer find his latitude and longitude very carefully by observations upon a few stars, with which and the known dimensions of the earth the exact distance and direction of a straight line through the earth from one to the other can be determined. These data, with the distance of each from the earth's center which is easily found, are all that must be known to find all the parts of the four-sided figure

formed by lines from each observer, one to the moon and one to the earth's center, one diagonal of which is the distance from the earth's center to that of the moon. The computation of this quadrilateral by simple trigonometric methods is just such a problem as the surveyor is often required to make. The distance to the moon has been determined several times by this method, and is very accurately known. This work is simple and easily enough understood, yet the observations are laborious and require great care, and the computations of the parts depending upon the earth's dimensions are difficult and tedious.

The parallax, as it is called, of a body in the solar system is the angle between two lines drawn from it, one to the earth's center and the other just touching its surface at the equator. For illustration, suspend a ball two feet in diameter at a distance of fifty-seven and three tenths feet, draw one line from the eye to its center and one just touching its surface, and the angle between these lines will be just one degree. If this ball's radius is one mile instead of one foot its distance would have to be fifty-seven and three tenths miles to subtend the same angle of one degree. Again, in order that the earth's radius—$3{,}963\frac{3}{10}$ miles—may subtend the same angle its distance must be fifty-seven and three tenths times $3{,}963\frac{3}{10}$, or about 227,000 miles. But the moon's mean distance is 238,868 miles, so it must be still farther away, and the angle subtended by the earth's radius at this distance is fifty-seven minutes and two and one third seconds—less than one degree—and is called the moon's mean equatorial horizontal parallax. Hence, if the parallax of a body is known its distance from the earth is an easy arithmetical problem, and *vice versa*.

The moon's mean distance now being known, her diameter can be easily found by measuring the angle between two lines drawn from the eye to opposite sides of the moon when at its mean distance and taking one half of it, which will be the angle subtended by the moon's radius. This angle is fifteen minutes and thirty-five seconds, or about three elevenths of the moon's parallax, and hence the moon's diameter is about three elevenths of that of the earth, or 2,160 miles.

The next distance to be determined, which is also the second astronomical base line, is that of the sun, and it, too, must be found from his equatorial horizontal parallax. The problem of the sun's parallax is the capital one in astronomy. The method used in finding that of the moon is far too inaccurate to be used in computing that of the sun on account of his much greater distance. From the definition and illustration just given we understand that what is wanted is the angle at the sun formed by two lines drawn from his center, one to the earth's center and the other so as just to touch its surface at a point on the equator—in other words, it is the largest angle at the sun when at his mean distance that a line $3{,}963\frac{3}{10}$ miles long can subtend.

By observations made hundreds of years ago Kepler discovered the law: The squares of the times in which the planets revolve about the sun are proportional to the cubes of their mean distances from him. These periodic times may be observed by any one, and are all known with great accuracy. By means of this law the astronomer knows with the same accuracy the relative distances of the planets from the sun—that is, their distances compared with that of the earth

taken as one or the unit and called the astronomical unit. The problem now before us is to find these absolute distances in miles by first finding the length in miles of the astronomical unit by means of the sun's parallax.

Halley's method deduces it by means of the difference between the parallax of the sun and Venus during her transit over his face, and may be illustrated by supposing two persons, one sitting and the other standing, to observe the line traced out upon the wall of a building in front of them by the head of a third passing between them and it and at a distance from them of about one fourth that of the wall. Knowing the distance in feet between the two observers, the angular distance between the lines traced by the head of the third person, and the relative distances of each from the other and the wall, the absolute distances in feet between the same may be obtained by a simple arithmetical calculation. So two observers stationed at different points on the earth see the planet Venus pass across the sun's face at different distances from the sun's center, and in an indirect way measure them with considerable accuracy. These differences of distance due to the positions of the observers are proportional to the difference of parallax of the two bodies, and, while both change their directions, Venus changes the faster, and thus seems to move past the sun from east to west. At the time of the last transit (December, 1882) the sun's distance was about three and seventy-eight hundredths times that of Venus, making, therefore, the parallax of the latter three and seventy-eight hundredths times that of the former, and the difference of these two and seventy-eight hundredths times that of the sun; so, when this dif-

ference has been made out from the observations taken, we have but to divide it by two and seventy-eight hundredths to get the parallax of the sun. Figure 1 illustrates the method.

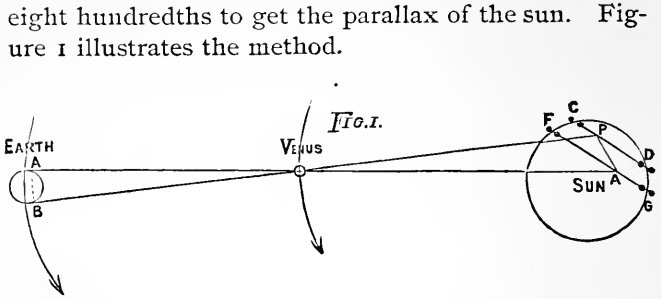


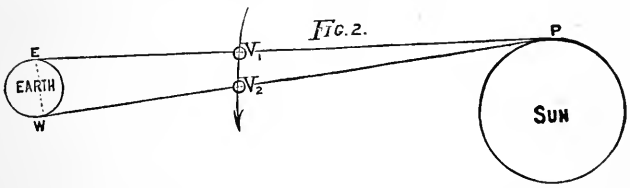
FIG. 1.

Let one observer be at A, as far to the north as possible, who will see Venus come on the sun's face at F, and will observe very carefully when she just touches it on the outside and again when she just touches it on the inside or gets entirely on the sun. He will see Venus pass across on the line F G, and must observe the time when she gets to the sun's edge at G and when she gets entirely off. These observations will enable him to tell how long the center of Venus is in crossing the sun. Another observer, as far south as possible, at B sees the sun cross on the line C D, and makes a similar set of observations, by which he finds the time the planet's center was crossing on his line. It must be remarked that it is impossible for any observer to get the times of the several phases to greater accuracy than within five seconds of time, which yields an error in the required distance of one mile in four hundred miles. In the transit of 1882 some of the best observers at the same station differed in their times by ten seconds. The time Venus would be in describing the diameter of the sun being known by means of the times of transiting the lines F G and

C D, their lengths as compared with it are also known, and thence their distances from the sun's center, the difference between which furnishes the length (P Q) of the perpendicular to them in seconds of arc. But P Q in seconds is in the same ratio to the difference of the parallaxes of the sun and Venus as the known distance in miles between the observers A and B is to the earth's radius. The differences of parallaxes thus becomes known, which, divided by two and seventy-eight hundredths, gives the sun's parallax. The line A B in this proportion becomes known from the earth's dimensions and the two observers' latitudes and longitudes.

Another method, called the Delislean, separates the observers as widely as possible in longitude, while they should be as nearly as possible in a line parallel to the planet's motion, and the geographical position of each should be known with great accuracy. Each observes the several phases as in Halley's method, and the differences of time for the respective places as observed by each, with the known relative positions of the observers, furnish the data by which the parallax is deduced in a manner similar to the one just given. Figure 2 illustrates the method.

FIG. 2.



The observer at E notes the times of external and internal contacts at P when Venus is at V_1, after which the observer at W makes the same observations when

she is at V_2. By the similar triangles, E W P and V_1V_2P, the angle E P W is easily found, and thence the sun's parallax.

The photographic method was used chiefly by the American observers in the last transit. In this the object is to get as many photographs of Venus on the sun's face as possible. The apparatus is illustrated by figure 3.

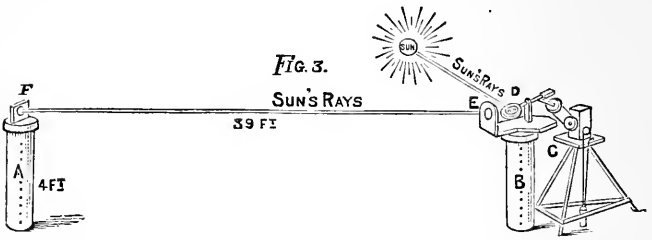


FIG. 3.

Two hollow cylinders (A and B) of iron, four feet high and one foot in diameter, are set firmly in the ground, in an exact north and south line, about thirty-nine feet apart, with their tops on the same level. A large lens (E) is mounted on B, and behind it on the same cap-plate rests a heliostat turned by the clock-work supported by the stand (C) just behind B. The clock-work turns an unsilvered polished glass reflector (D) of the instrument, which throws the light of the sun through the lens E to the plate F on top of the cylinder A, called the plate-holder. The reflector D is so turned as to keep a steady pencil of sunlight in the direction to F. The accurate polishing of this plate is the most difficult and delicate task in the construction of the apparatus; a small defect in its surface makes the work worthless. The plate-holder is inclosed in a dark room (not shown in the

figure), with just enough light admitted through a small window glazed with yellow glass to enable the party to see how to work. An opening through the wall of this dark room is made opposite to the plate-holder, which is opened and closed by a sliding piece called the target, in which there is a round opening that admits the light to the plate F when the target is moved back and forth across the opening in the wall. The glass plates on which the photographs are taken are all prepared, before the day of transit, with the sensitized coating, and dried, numbered, packed, and sealed up in boxes so as to exclude all light. When the hour arrives to begin work the chief astronomer stands with his hand on the target, and, at a signal from the photographer when a plate is adjusted, passes the target rapidly across the opening, exposing the plate to the light about one tenth of a second. Just as the opening in the target is opposite the plate a point projecting from the lower edge presses a spring that breaks a current of electricity going through a chronometer, which is connected with a cronograph recording the beats of its seconds on a sheet of paper, thereby recording with them the exact instant the exposure was made. One photograph can be taken about every minute. In front of the sensitized plate is suspended a plumb line of very fine silver thread, which is photographed on every plate with the sun and exactly through its center. By means of this image of the plumb line the angle can be measured with precision, which is made by a line joining the centers of the sun and Venus with the meridian. The diameters of these photographs are about four inches. The position of the center of the image of Venus with reference to that of the sun and its north point has to

be very carefully measured for every photograph, and such is the care required in this work that with the one measuring engine two years will be occupied in measuring the 750 photographs taken by the various parties during the last transit.

When these measurements are completed the results for each plate are introduced into complicated formulæ, the solutions of which give small corrections to be applied to the tabulated values of the parallaxes of the sun and Venus for the same instant at which the photograph was taken, such tabulated values being made from the best mean values now known. Thus each photograph is made to furnish its own new value for these quantities, and the mean of all is taken as the final result. These are the essentials of the photographic method. But the methods by the transit of Venus were decided before the last transit (1882) to be inferior to others, and little benefit is expected to be derived from them. This method can not give a result with a less probable error than one mile within four hundred and seventy miles, or the sun's distance within two hundred thousand miles.

Another method of the problem of the solar distance is based upon the difference in the attraction of the sun upon the earth and moon due to their difference in distance from him caused by the moon's rotation around the earth. The moon's distance being accurately known, and the difference in the sun's gravitating force upon it and the earth due to this distance being determined, the ratio of the moon's distance to that of the sun's must result, and from this the latter's distance. It promises a more accurate result than the transits, and will therefore receive much attention in future from practical astronomers.

One of the best methods of solving this problem consists in making measurements on the planet Mars, at the time of rising and setting, when he is nearest to the earth and therefore opposite to the sun. This method is illustrated by figure 4.

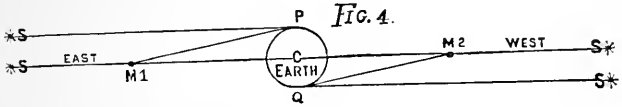


FIG. 4.

Suppose Mars (M) in the position just mentioned, when seen from the center of the earth should appear almost in the same direction as some fixed star (S): to an observer (P) on the equator at the time of rising he would appear farther east than the star by the angle S P M_1, because the star is so far away it would appear exactly in the same direction from P or C. At setting the observer will be at Q, and Mars then will appear farther west than the star by the angle S Q M_2. Now, if both these angles are accurately measured, one half of their sum will be the sun's parallax.

Another method, and the one which will be the best after accurate observations through a few hundred years, is by the perturbations produced by the earth upon the planets Venus and Mars. This, of course, can not be illustrated, and is only mentioned.

The last methods that will be mentioned here are those by the velocity of light, and by the constant aberration of light which depends upon this velocity and that of the earth in its orbit. These are practically the same. They are equally as good as any now available. It is found by observations on the eclipses of the moons of Jupiter that it takes light just four hundred and ninety-nine seconds to traverse the mean

distance from the sun to the earth. The velocity of light has been carefully measured by Foucault, Michaelson, Newcomb, and others and found to be 186,330 miles per second. This multiplied by four hundred and ninety-nine will give the sun's distance, from which his parallax may be deduced.

After combining the results from all the best methods now available the solar parallax is found to be eight and eight tenths seconds (8.8″), which perhaps can not be in error either way by as much as the one hundredth of a second. Now, returning to the illustration already given, in the case of a ball of one mile radius at the distance of fifty-seven and three tenths—or, more accurately, 57.29578—miles, we have seen the angle formed by two lines drawn, one to the center and the other just touching its surface, is one degree. To subtend an angle of eight and eight tenths degrees it is evident it would have to be removed 3,600 seconds, divided by eight and eight tenths seconds, or four hundred and nine and one eleventh times as far, or $23{,}439\frac{1}{10}$ miles. Then if its radius be increased to that of the earth, this distance would have to be increased $3{,}963\frac{3}{10}$ times to subtend the same angle, and this brings us to the sun's distance, equal to about 92,896,000 miles, or the round number of ninety-three millions of miles. This, then, is the adopted length of our second astronomical base line—the mean distance of the earth from the sun, *or the foot-ruler of the universe*—and its length is perhaps not in error over one hundred thousand miles.

The importance of this distance justifies the foregoing lengthy details of the methods of deducing it, since when established in so many independent ways, its accuracy is demonstrated and its great length may

and must be insisted upon; and furthermore, by it all other astronomical distances and magnitudes are fixed. If its probable error of one hundred thousand miles is thought to be too great to allow it to be styled accurate, what would be said of an error of one and one half inches in the measurement of a building fifty feet long? It would be regarded as of no consequence, and yet it would be greater in proportion than the other. This distance is far more accurately known than that from your Capitol to the court-house of any town in its vicinity, though it may have been measured and traveled over, which is not true of the sun's distance. The distances between the station points in a geodetic survey, some of which are over fifty miles apart, are known to within a few inches and are verified by several independent determinations, and yet they were never measured, and can not be to any such accuracy over such hills, valleys, and streams as intervene.

The most skeptical may test the greatness of this distance for himself without instruments, without transits, without mathematics, by observing the duration of a central total eclipse of the moon. The records give this at over three hours, which is one two hundred and twentieth part of the time required for the moon to go around the earth. If then the objector considers "the earth the largest thing in the universe," he must have its shadow where the moon crosses it of at least the same diameter as the earth itself, though it is really much less. So the whole orbit of the moon must be two hundred and twenty times the diameter of the earth, or half of it must be that many times the earth's radius; and this last divided by three and one seventh would give the moon's distance from

the earth about 280,000 miles. Then by the method already suggested he can prove with a pair of dividers that the sun is more than three hundred and fifty times as far away as the moon, which more than makes the great distance.

The 93,000,000 miles can not be evaded, and hundreds of things are accepted as facts on far less evidence. Our standard length, the foot-ruler, as used in every-day life, is less accurately fixed than is this—the foot-ruler of the universe. With the one is measured the great earth, with the other the astronomer measures the great universe. We would be at sea without ours; he can tell us nothing of the great structure he tries to grasp without his, so we must allow him to have it.

The relative distances of all the planets having been determined long ago in that of the earth from the sun as unity, their distances in miles are now easily obtained by multiplying by 93,000,000. These being known in miles, magnitudes of the planets are easily determined in the same unit. As already stated, the parallax of the sun, 8.8″, means the earth's radius subtends that angle at the sun, or its diameter 17.6″. But the diameter of the sun—and any one can measure it—as seen from the earth, is about 32′, or 1920″, and is therefore nearly 110 times the diameter of the earth, or about 866,500 miles. To help us get some conception of this we are told to imagine the sun's center placed to coincide with the earth's, and its surface everywhere will extend more than 200,000 miles beyond the monthly orbit of the moon. How can we grasp the illustration? It is too big for finite minds, as is almost every thing in the great universe. Who then will estimate the power of the Hand that holds

and guides that fiery ball through the trackless ocean of space? Yet we shall see it as a small body and as much lost among the myriads of others as a small star among the rest.

Their distances and diameters being known, the dimensions of all the planets and their satellites large enough to show a disk may be determined by a method the same as those used in computing the dimensions of the sun. Then the laws of gravitation enable the masses of these bodies to be found, those having moons by means of the attractions between the moon and primary, those without, by means of the disturbances each produces in the motions of one or more others. By measuring these attractions and disturbances, and knowing the distances of the attracting and disturbing bodies, the relative masses are made out, and from their relative masses to the mass of the earth, whose absolute mass is known, their absolute masses are determined by a simple multiplication.

Calling the density of water 1, that of the earth is 5.6, of the sun 1.4, of Mercury 12.5 (nearly that of mercury), of Venus 4.8, of Mars 4.0, of Jupiter 1.3, of Saturn 0.7, or about that of seasoned wood, of Uranus 1.2, and of Neptune 1.1. These present a strange variety. When the diameters of the heavenly bodies are found, their volumes, by the principles of geometry, are known to be proportional to the cubes of these diameters. The volume of the sun is thus found to be more than one and one third million times greater than the volume of the earth. But since his density is only one fourth that of the earth, his mass is only about 332,000 times that of the earth; so the masses are very different from their volumes. If we divide the mass of the sun into one million equal parts and

take one of these as the unit, the masses of the planets will be: Mercury, 3; Mars, 3⅓; Venus, 23½; Earth, 30½; Uranus, 442½; Neptune, 516; Saturn, 2,856; Jupiter, 9,543; Sun, 1,000,000.

Besides these major planets there are now known about 250 smaller ones, called planetoids, with diameters varying between ten and four hundred miles, and their mass combined less perhaps than that of Mars. From two to six of these little blocks are discovered every year, but are so insignificant that little attention is bestowed on them. All their orbits are between those of Mars and Jupiter, and most of them can be seen only with the large telescopes.

Of the secondary bodies called moons, or satellites, twenty are now known, some of which are larger than the primaries, Mercury and Mars. Our moon is nearly as large as Mercury, and one in each of the groups of Jupiter and Saturn are nearly as large as Mars. To this class of bodies belong also the rings of Saturn, as they consist of great belts of moons so close together as to appear like a continuous ring of matter. These, with his eight moons, make Saturn one of the most interesting objects in the whole heavens.

Still another class of bodies called comets are seen occasionally. Some of them are of vast dimensions, though of insignificant masses. They struggle across the heavens in a lawless, jack-o'-lantern-like way to the great admiration of the few and the terror of the many. These bodies defy all attempts to discover what and how they are and do, little being known of them. With the exception of a few that have consented to their periods of return being made out, which vary from three and a quarter to thousands of years, they seem to delight to show themselves when

least expected, to stalk across the heavens in perfect contempt for the laws and rules of routes and ways observed by the more dignified members of the solar family, and sometimes defiantly to rub around and switch their tails in the very face of the day-king, and then dart away into space as if his gravity clutches could take no hold upon them. They change their form, figure, and dimensions with such disregard to studied and well-digested theories as to what they are and what they should be and do, as to confine all remarks of the astronomer to what they have done and how they look, leaving the prophecies of their future and the conjectures concerning their past to those having less at stake. What are they? Why do they seem to obey some of dame nature's prescribed laws and defy others? These are still unanswered queries. The spectroscope in reply to the first indicates in an uncertain way hydrocarbon, sodium, and magnesium without defining their condition. Kepler says: "They are as numerous as the fish in the sea, while, however, the great number of them are too small for the powers of the telescope." Perhaps many of them have always belonged to the solar system; many, no doubt, while wandering through space have been captured by our sun or one of his subjects, and have been tamed into willing citizenship, while others coming to us on parabolic or hyperbolic orbits, as they sometimes seem to do, are only transient visitors, since if they go out from us as they came, they go upon a track that never returns upon itself, and must therefore continue out and out until the boundary line between the territory of this and some other sun is crossed.

Still another set of bodies called meteors should be

mentioned, "whose name also is legion." They vary in size from a few ounces to a few hundred pounds. It is estimated that about four hundred millions of these are picked up by the earth during every twenty-four hours. Most of them give us no notice of their arrival except by a long, narrow streak of light which evinces their reduction to gases that fall ultimately as dust to the earth. The zodiacal light is supposed to be the sunlight reflected from a great, dense ring of these, of which each little member, as if aping the planets, travels around the sun in as perfect obedience to Kepler's laws as if it filled a place as important as that of the great Jupiter. As to how these myriads of little things came to be where they are, and what their destiny is, perhaps there can be but one conjecture—some are the debris, the chips and spalls left over in the manufacture of their far greater and more honored kinsmen, the planets, and their destiny is to be ultimately gathered up by the planets. There is also conclusive evidence that some are the cold, dead fragments of dying and decaying comets.

Having now noticed all the various classes of bodies in the solar system, and their variety in magnitude, condition, and character, it is just as wonderful to contemplate the vast space through which they are distributed and the variety in their movements. Since the mass of the sun is so many times greater than all the rest of the system, it would be absurd to claim that any other body could be the center around which all the rest revolve. It would indeed be a fertile imagination that could conceive by what magic power the earth could sway around its center the sun three hundred and thirty-two thousand times its own mass.

The Copernican system, making the sun the great center around which all the rest with their systems of moons revolve, follows as a necessity if the relative dimensions of the sun and the planets are rightly appreciated, whatever the appearances may be to the contrary. If a model should be made of the system, representing the sun by a globe two feet in diameter and reducing all dimensions by the same scale, a circle five miles in diameter would be required in which to set it up. Some of the bodies would be smaller than grains of sand, and even Jupiter would be a ball only two inches in diameter. If the model were set up in an open plane on the earth and started upon movements of the same character, and with periods proportional to those of the heavenly bodies, the whole system would doubtless be as long in being discovered as the actual one has been. And if there was nothing else besides the representatives of the system in the circle of five miles, it would seem absolutely vacant. Now conceive the model sun expanded into the real, and all else enlarged to the dimensions of the actual system, would the real space occupied be less vacant in proportion? It is absurd to talk of the waste of space, however, when its dimensions are infinite.

Starting from the sun, which turns on its axis once in twenty-five or twenty-seven days, we find the order, distances, and periods as follows:

Planet.	Miles.	Period.	Velocity.
Mercury,	36 millions.	88 days.	30 miles.
Venus,	67 "	225 "	23 "
Earth,	93 "	365 "	18½ "
Mars,	141 "	687 "	15 "
Jupiter,	483 "	11.86 years.	8 "
Saturn,	886 "	29½ "	6 "
Uranus,	1,800 "	84 "	4⅓ "
Neptune,	2,800 "	164 "	3⅓ "

From Mercury the sun would appear in diameter two and one half times as great as at the earth, while his heat in an atmosphere like ours would be nearly seven times as great, but at the other extreme to Neptune the sun appears only one thirtieth of his diameter to us and his heat is only one nine hundredth as great as ours.

The great central, God-appointed king of day dwarfs every thing else in the solar system. Concentrate all the planets, moons, planetoids, comets, and meteors of the solar system except the sun in one single body, and it would make only one seven hundredth part of the sun's mass, while Jupiter is about two and one half times as great as all other bodies together except the sun. All the worlds under the sway of this "bridegroom coming out of his chamber and rejoicing as a strong man to run a race," are no more hinderance or burden to his march through space than would be a four-ounce weight to the contestant on the race-course. His light so far exceeds that from any artificial source that all except one appear absolutely dark when held between him and the eye. If the atmosphere was out of the way and a sheet of ice held so that his rays would fall upon it perpendicularly and be all absorbed, they would melt a thickness of fourteen and one half feet in one day. With the atmosphere, the obliquity of his rays, and the fact that he is half the time below the horizon, his heat is sufficient to melt a thickness of one hundred feet per year. The temperature of his surface exceeds many times that of our hottest furnaces, and his interior must be at a still higher temperature. Short-sighted humanity regards him as made solely to bless earth and its life-peopled surface with his light and heat, and yet very few ever think

how much is derived from the sun. The fires that drive our engines owe their energy to him. The strength of the animals that work for us, the waters of our springs, the food we eat, all the things that make physical life what it is, come either directly or indirectly from the fires of the sun. Is the warning strange then: "Take therefore good heed . . . lest thou lift up thine eyes unto heaven, and when thou seest the sun and the moon and the stars . . . thou shouldst be driven to worship them." The Bible symbol of a calamity is, "The sun was obscured," etc. Let the hand that made the sun lock out his light and heat from earth but a few days, and the frosty fingers of death would lock every pulse of life in icy fetters forever.

An exceedingly puzzling question is: "How is this supply of heat kept up?" If by combustion, where does the fuel come from? The impossibility of this theory is evident before the question is finished. If the fall of meteors into the sun is suggested, their number can not possibly be sufficient, otherwise their presence in sufficient numbers would be manifested by disturbing the planets Mercury and Venus in their orbits. The one theory that is at all tenable is that the contraction of the sun under the action of its own weight is the only adequate source of the requisite supply of heat. The calculation has been made and it is found that two hundred and twenty feet annual diminution of its diameter is sufficient. This rate in the age of the human race would diminish the diameter so little that it would scarcely be perceptible.

Think how little of this light and heat is caught by the widely scattered members of the solar family. If all they have received for hundreds of years were instantly

thrown back into the sun, perhaps we would hardly recognize any increase in his temperature. What must be said of this great apparent waste? Or first, rather who will undertake to prove there is any waste? Even of those light-rays that reach the earth only an infinitesimal part are utilized by the eyes of the animal kingdom. Are the others reaching it lost? It would be a very narrow and selfish view of the economy of the heavens to say that great fire-ball is a mere hearthstone and lantern for this earth and her sister planets. The earth's one two thousand millionth part of his light and heat would scarcely be missed by him. Not more than one two hundred millionth part of his influences even starts out toward the entire solar family. Is the rest lost? These influences go out in straight lines forever, and therefore can never return to replenish his wasting energies. As the light and heat of the stars, so his are ever tracking the same course on which they started until they reach their destination. Even some rays which strike us and earth do not end their mission here, but are reflected off again into space. We read some of the history of the stars through these winged messengers, and why may not inteliigences of keener eye and swifter and more ethereal movements, by watching ahead of these reflected rays, be reading the whole drama of human history as it is now coming up to them? Is it impossible that we may some day be among these same inteliigences, reading over again our honorable or shameful part in this drama?

How science fails us when we would strain our strength to know these things and follow out the hints thus thrust at us! She tells us of the iron grip of gravity, of the dazzling brilliancy, gaudy hues, and

the chemical properties of the glorious sunlight, of the life-giving cheer of his heat rays, and of the mystical electric thrills that come form the fire-ball king of day, and is this all that can be told? Can two or three little blunted, feeble, finite senses of a still more feeble, finite being perceive all the various influences scattered from that seething, tossing vulcan-shop? Impossible! We know comparatively nothing of what is under our feet, though we may handle and turn it in every phase; and how can we pretend to know of that which dwarfs earth to nothingness and is millions of miles above our heads.

Thus far only an imperfect outline of some of the leading features and characteristics of the solar system —its distances and magnitudes—have been considered, and if these are regarded too great, what will be said of the distances to the stars? To the natural eye observations the so-called fixed stars seem always to occupy exactly the same relative positions, and indeed such observers of a thousand years ago if present now would see the stars sensibly as they saw them then. The refined methods of astronomy, however, in our day have proved that the stars are really in motion—so slight though that it would require thousands of years to make such changes in their relative positions as could be detected by the unassisted eye. The positions of the stars are designated in star catalogues by what is called right ascensions and declinations, which are exactly analogous to longitudes and latitudes of places upon the earth. Observations from time to time upon the stars show that these co-ordinates are changing a very little every year, some more and some less, some in one direction and some in another. The greatest of these annual changes is

seven seconds of arc. Many change only a small fraction of a second.

As a rule the brighter stars are found to have the greatest proper motions; there are so many exceptions to this, however, that it can hardly be called a rule. The greater proper motions of some stars were supposed to be due only to apparent proximity to us, and hence astronomers have made observations on some of this class to ascertain the fact.

The star α Centauri, beyond all reasonable doubt, has been found by such observations to be by far the nearest fixed star to our solar system. This is a star, or rather a binary star, of the southern hemisphere, so far south that it does not rise above the horizon of our latitude, so if we wished a view of our nearest star neighbor we would need to go several hundred miles farther south.

The distance of a star is ascertained by what is called its stellar parallax, which differs from the parallaxes of the solar system. In the latter the earth's radius is the unit; in the former the mean radius of the earth's orbit or the mean distance to the sun is the unit—that is, the parallax of a star is the angle at the star between two lines drawn from it, one to the sun and the other to the earth, when the line joining them is at right angles to either of these lines. We measure our houses with a foot-ruler and distances over our State in miles, but there is a far greater relative difference in the unit of length used in our astronomical home—the solar system—and that used to express its distance from the stars or other suns.

There are two methods of deducing stellar parallaxes which need to be understood to appreciate the results flowing from them. Station an astronomer

at the observatory near the Cape of Good Hope, from which the star α Centauri can be observed, and let him measure with the best instruments very carefully on several nights in succession the exact distance the star crosses the meridian, or north and south line, from the point directly over his head, called its zenith distance. This he can get to within one hundredth of a second by taking the mean of several measurements. Six months afterward, or when the earth is on the other side of its orbit and in exactly the opposite direction from the sun, let him make a similar set of measurements on the same star and take their mean. One of these sets of course will have to be made in the day-time, and both should be made in the times of the year when the line from the earth to the sun is perpendicular to that from the sun to the star, which times are easily determined. Now the difference between the two measurements divided by two will be the stellar parallax of that star—that is, it will be the angle at the star made by two lines drawn from it, one to the sun and one to the earth.

The other method of this problem is: Find if possible a star near enough to that whose parallax is desired to be in the same field of view of the telescope with it and yet known to be immensely beyond it, and measure their distances apart every time they can be seen during one year. Find from these measurements the greatest difference of their directions and divide it by two for the stellar parallax. These are mere outlines of the two methods; the details and reductions must all be omitted.

There have been thirteen different determinations of the parallax of α Centauri by one or the other of these methods, made by some of the best astronomers

of the world, and the mean of their measurements is 0.93″—less than one second—which means a line 93,000,000 miles long subtends an angle at this star less than one second. A recent determination, considered more accurate than any before made, makes it 0.75″

Returning to our illustration of the ball, whose radius of one mile was found to subtend an angle of one degree at the distance of 57.29578 miles, if we remove it 3,600 times as far, or 206,265 miles, it will subtend an angle of but one second. Now if we make its radius 93,000,000 of miles long, it will have to be removed 93,000,000 times yet farther, or over nineteen and one fifth millions of millions of miles away to subtend still an angle of but one second. But the parallax of *α* Centauri is 0.93″, or less than one second, which requires it to be still farther away, or nearly twenty and one half millions of millions of miles distant from us, and *it can not be less.* If in error at all, this calculation is on the safe side. The child can do the "ciphering" in this arithmetical problem as well and as intelligently as the astronomer, and both will reach the same result. Perhaps it may be denominated incomprehensible and therefore absurd. If that word stakes out the boundary line of our creed in any thing, its field will have one virtue—any one can survey it. *One* million of miles is incomprehensible; so is a million of any thing to us—except perhaps a million of dollars. You may call it nonsense—call it any thing you please—but the man does not live and never has who can make any impression upon the bulwark of logic surrounding and supporting it. "Two and two make four" rests upon no better basis.

This is not only the nearest star to us, but so far

the nearest that no other is known to be within nearly double its distance. From all the work of the great astronomers in this direction only between twenty and thirty stars have been shown to have any parallax, and of these about a dozen or fifteen are visible in our latitude. Of these the next nearest to us are 61 Cygni of the fifth magnitude and one without a name in the constellation of the Great Bear. Their parallaxes are about 0.51″, and hence their distances are about thirty-eight millions of millions of miles.

Castor and that bright star Sirius have parallaxes less than one fifth of a second, and their distances therefore are about one hundred millions of millions of miles. α Lyræ, or the bright star Vega; is distant one hundred and twenty millions of millions of miles and the Pole star two hundred and fifty millions of millions of miles. The remainder of the dozen are not so well determined and are less important.

The average distance of all the stars of the first magnitude—about twenty in number—is still not known, but the estimated parallax of at least half of them is less than one tenth of a second, which corresponds to a distance of about one hundred and ninety-two millions of millions of miles. Of the thirteen of this class visible in our latitude, more than one half have been found to have no measurable parallax with the best instruments and most accurate modes of observation. There are more than twenty or thirty stars that have a sensible parallax, but only about that number have been discovered and measured. Of all the millions of stars visible through the best telescopes, it is estimated that not one hundred will ever be found to have a measurable parallax. This means that the stars are so far away that the

whole orbit of the earth appears to them only as a point, and to the great mass of them a sphere the size of the whole solar system, vast as it is to us, is utterly inappreciable. Our long measuring line has failed us very soon. Having carried us out to only about twenty or thirty stars it leaves us to conjecture other and vaster distances by contrasting the relative brightness of these few known stars with the others. Were all the stars of the same magnitude and of the same intrinsic brightness, and their apparent differences of magnitudes the result only of their different distances, then these could be determined approximately. But they are known to be very different in these respects. Of the few whose distances have been determined, some of the smallest are much nearer than the largest and brightest.

It does not follow, however, that we may not form some idea of their relative distances from their magnitudes, as it is reasonable to suppose that the average of these for the stars of any magnitude bears some proportion to the number by which it is designated. It is customary to express these vast distances in the time it takes light to pass over them. Light moves at the rate of 186,330 miles per second. Hence, of the stars whose distances have been determined, from Centauri, the nearest to us, light is over three and one half years coming to us, while from the most distant, σ Draconis, it requires one hundred and thirty years. Light requires thirty-five years to traverse the mean distance of stars of the first magnitude, and seven hundred years for that of stars of the eighth magnitude. That wonderful man, Herschel, who penetrated farther into creation than man had ever done before, estimated seven thousand years as the time

required for light to reach us from the extreme boundaries of the universe.

The dimensions of the universe are so great, the light coming to us from its overwhelming distances is so dim, and our ideas of the style of its architecture so imperfect, that the great astronomers can not pretend to give more than a rough outline of it. Some features they can describe with a near approach to certainty, others only with a greater or less degree of probability, while others are presented with no better basis than inferences and conjectures. These outlines by Professor Newcomb are substantially as follows:

1st. The great mass of stars is spread out in or near a widely extended plane passing through the Milky Way, in outline like a flat disk, with diameter eight or ten times its thickness.

2d. The stars in this space are collected into irregular clusters numbering from two to many thousands, with vacant spaces between and no definite outline.

3d. Our sun, with its planets, is near the center of this star-bed, so that we see nearly the same number of stars in opposite directions, more or less as these coincide more or less with its plane.

4th. The stars seen by the naked eye are scattered in space nearly uniformly, except a few clusters—Pleiades, Coma Berenices, etc.

5th. Without definite boundaries and full of clusters and vacant places, it is as impossible to assign definite limits to the star-bed as it would be to a cloud of dust.

6th. On each side of the star-bed the boundaries are just as impossible to be defined as its edges, from ignorance of distances and from a gradual diminution of density.

7th. The nebular regions are on each side of the star-bed, and very few nebulæ are found near and within it.

A criticism on the third of these conclusions suggests itself to any one. We can not conclude that the sun occupies the center simply because our telescopes can see the same distance in all directions. But these are the results of the life-work of such astronomers as Herschel, Struve, and others, and are infinitely more easily criticized than improved.

As to nebulæ little is known. They are irregular masses of cloud-like or diffused light distributed through the heavens. Some, by the aid of the telescope and spectroscope, are proved to be only masses of gas; others, by the very large telescopes, are seen to be clusters of stars, while others, by the highest powers of the telescope, appear as gases, but by the spectroscope seem to be star-clusters, and, if so, of numbers overwhelming. Their forms are various, and the question still open is whether those known to be star-clusters really belong to our stellar system, or whether they constitute other stellar systems like ours and entirely separated from it. The latter is the popular idea, especially with the lecturers. One serious objection, however, is if they were other galaxies or universes outside of ours they should be found as abundant in one direction as another, which is not the fact, and therefore the astronomers favor the former idea.

A specially interesting inquiry has been, How does our sun compare in magnitude with the stars? The curious result is that he is a star less than the average, and if placed at the distance of the stars would twinkle with as little significance as those of the

third or fourth magnitudes. What an overwhelming thought this thrusts upon us—that all the thirty or fifty millions of stars are suns, each with his system of planets like ours, and each isolated from all the rest in the same way! This doubtless is the true idea. Indeed, some of these systems are shown by the great telescopes to be systems of suns, as in the case of binary stars, the smaller revolving around the larger; and a significant fact is that the two stars nearest to us are of this class. No doubt this was the case with our solar system in its earlier history, when Jupiter was a small sun giving forth his own light and heat.

The solar system is so orderly and beautiful a structure, every member keeping so accurately its own orbit through countless revolutions by a constant balancing of the gravitational and centrifugal velocities that analogy suggests the natural query, Do these millions of suns and clusters scattered through space constitute a great and grand system of a like orderly structure, and, if so, what is it? This is the broadest question the study of the stars can suggest. Is our system, which is but one among unnumbered millions, a model of this structure? Some astronomers and divines have thought so, and have tried to point out the position of the great center around which all else is made to circle forever, and find in it the throne of God and heaven; and "the idea is a grand and captivating one." All the careful researches of Kant, Lambert, the Herschels, and all their illustrious successors have never reached even an approximate solution of the problem. In every direction we are brought face to face with "the infinite in space and time." "It is not known what the universe is to-day,

nor what causes are modifying it from age to age, and all the light on it are some faint glimmerings through boundless darkness." Generation after generation adds a little more to the insufficient store of information, but the question is without doubt beyond the ken of the too finite inhabitant of this planet. As already stated, the stars move, and in a period of ten thousand of years quite a number of the brighter ones would be seen to have changed their places very considerably, but it would take one hundred thousand years to change materially the aspect of the constellations, so slow is the relative rate. As far as the motions have been observed, and as far as they can be for centuries, they take place, and will continue to take place, in perfectly straight lines. Hence, if each star is moving on some orbit, it is so immense that no curvature has been discovered since the time accurate measurements for the positions of the stars began to be made. Not the slightest weight of evidence can be given from the whole range of astronomical research to prove that Alcyone, of the seven stars, is the great center, as suggested by one. From the true point of view this is entirely a baseless speculation. If there is any regularity in the motions of the stars as to direction or rate, observations with accurate instruments and methods are confined to far too short a period to discover it. By a kind of average of directions it is found that the sun moves toward a point in the constellation Hercules, and at the rate of about one third of a second every year. There are instances of motions of clusters and groups in a general direction independent of their relative motions, which Mr. Proctor calls "star drift," and he gives as examples the Great Bear and the Pleiades.

One of the most wonderful cases illustrating irregularity and rate of motion is that of the star 1830 Groombridge, which moves every year over seven seconds. Its parallax being one tenth of a second, its motion every year is therefore seventy times the distance of the earth from the sun, if its motion is at right angles to the line in which we see it, but if oblique it is greater. Its velocity, then, is over two hundred miles per second. A fair estimate of the gravitating force of the fifty millions of stars in the universe has been made by Professor Newcomb, and to allow its full effect upon this star he estimated the whole force to have been exerted upon it from a point at an infinite distance all the way to the center of the system, and the velocity it could impress he finds to be only twenty-five miles per second; and, *vice versa*, if a body were projected from this center with that velocity all the stars in the universe could not stop it, but it would fly off into infinite space, never to return. This velocity, however, is only one eighth of that of 1830 Groombridge, and by the law of velocities from gravity its rate must arise from a mass sixty-four times as great as that of our universe. Where, then, did it get its break-neck speed? Not in our universe, nor can it belong to it if what we see of it is all; since it is impossible for that visible to us to stop it or bend it from its course before it will have passed beyond its limit. It is called the "runaway star," now passing through our system for the first and last time. Arcturus, having a velocity of fifty miles per second, is in a similar condition. These and similar stars settle the question of the center of the universe by showing that if it has one it must be far beyond the reach of the greatest telescopes, and so, if all the stars

belong to one system or universe, the part we see of it with the same telescopes is a very small fraction of the whole.

As to the present or future extent of our knowledge of the universe of God or of his universes, if we must so speak, it or they will ever be to us practically infinite in magnitude as he is infinite in greatness. Furthermore, is it possible to think of infinite creative power without thinking of an infinite creation in evidence of it? Every increase of power thus far in the telescope simply extends the visible limits of the invisible limitless; therefore, if we could go to the apparent utmost boundary in any direction, would not the same infinity surround as when we started? "The spirit of man acheth with this infinity. Insufferable is the glory of God. Let me lie down in the grave and hide me from the persecution of the infinite, for end I see there is none. End there is none to the universe of God! Lo! there is no beginning." "Canst thou by searching find out God? Can'st thou find out the Almighty to perfection? It is as high as heaven. What canst thou do? Deeper than hell. What canst thou know?"

The enthusiast sometimes says man's wonderful knowledge has mastered all the secrets of the universe overhead, and with the microscope has completely explored the other universe beneath our feet, which is about as far from the actual facts as are the conclusions of the dignified insect swaying in the wind on the tallest weed of his ten-acre meadow when he sings, "What I see and know of earth is all there is to know." Man's presumption has even attempted to build up out of nothingness, by spontaneous generations and evolutions, both these universes with

their peopling millions, and thus has tried in vain to eliminate the Great Evolutionist. Job made as foolish a mistake once, and God said to him: "Gird up now thy loins like a man, for I will demand of thee, and answer me. Where wast thou when I laid the foundations of the earth? Declare if thou hast understanding. . . . . Who laid the corner-stone thereof, when the morning stars sang together and all the sons of God shouted for joy? Hast thou perceived the breadth of the earth? Declare if thou knowest it all. Where is the way where light dwelleth? And as for darkness, where is the place thereof, ... that thou shouldst know the paths to the house thereof? Canst thou bind the sweet influence of Pleiades, or loose the bands of Orion? Canst thou bring forth Mazzaroth in his season? Canst thou guide Arcturus and his sons? Knowest thou the ordinances of heaven? Canst thou set the dominion thereof in the earth? Will thou fill the appetite of the young lions? Who provideth the raven his food when his young ones cry unto God? Shall he that contendeth with the Almighty instruct him? He that reproveth God let him answer it."

But the utilitarian query meets one here as elsewhere, What profit in all these brain-puzzling inquiries? Much every way, but the Bible shall answer: "The heavens declare the glory of God, and the firmament showeth his handiwork." There is perhaps no more reason for claiming that "the undevout astronomer is mad" than for saying this of other men. At any rate, the Bible prohibits one from insulting an intelligent audience with an argument to prove the existence of God, in that it has specified the class who deny the fact. Yet it is our duty to make every thing

contribute to a correct idea of his infinite greatness and goodness in the study of his works. The Bible is full of hints and suggestions drawn from these wonderful heavens. How often the heavens and the stars, the heavenly bodies and spaces are mentioned! A proper conception of their greatness is necessary in order to get the full meaning of the first clause in the Lord's Prayer. The Bible, by reference to them, overwhelms us with our nothingness and again with our greatness, thus: "When I consider thy heavens, the work of thy fingers (not right arm, but as a little thing), the moon and the stars, which thou hast ordained, what is man, that thou art mindful of him? and the son of man, that thou visitest him?" Thus again he is elevated infinitely: "They (the heavens) shall perish, but thou shalt endure; yea, all of them shall wax old like a garment, ... but the children of thy servants shall continue." Let us not fail to get the argument here. To aid us, taking Professor Newcomb's estimate that, from the present rate at which the sun parts with his light and heat, our solar system must have been about eighteen millions of years in attaining its present condition, who can tell the years yet to pass before the fires of the stars shall go out, and "they wax old and perish?" Yet at that time, when it comes, those called "children" shall still be in the eternal bloom of youth. This helps us to see one reason why God bowed the very heavens to give its King for man: something in man is like him. Was it not the same thing we call human nature, making us brothers after regeneration?

When we look up at the stars let us remember, if Christians, that the hand that made and upholds them belongs to that right arm underneath us on which all

our hopes depend. "Who, then, can be against us?" If not Christians, let us remember against that same hand and arm, absurd as it is, our little puny powers are raised in defiance, and who, then, can be for us?

Will the cares of a universe cause God to forget us? If but a little child at his mother's knee from his heart repeat his "Now I lay me down to sleep," were it necessary, God would hush "the music of the spheres" to hear it. And in that other prayer for the older children—"Our Father who art in heaven"—why were we not taught to say "Great God of the heavens?" That would not have meant half so much. He is just as infinitely great in parental tenderness as in the workmanship of his hands over our heads and under our feet. Who is this "Our Father?" Can we give or comprehend an answer? Every flower under our feet whispers, He is my breath; every sparrow splits his throat to tell, He is my song; every hill and mountain of earth pointing through the clouds signals back, He is my support; every star in the universe twinkles down, He is my light; but every Christian heart cries out, He is my breath, my song, my support, my life, my light, my all.

What is the Christian's relationship to the great *Son* of this great family, "without whom there was not any thing made that was made." Though he is "King of kings and Lord of lords," he yet calls them brethren and promises, "They shall be kings and priests unto God," and "they shall be like him;" kings perhaps in the realms into which we have been peering; certainly no less a king than that. Who will say what that sense of sight will be that shall "see him as he is," or that knowledge that shall "know even as we are known?" But how can it be less than

the sight and knowledge with which the "Elder Brother" sees and knows his works? We only peep with a twenty-six-inch telescope. Think of seeing Saturn and his rings and knowing them as we see and know the beauties of a landscape! But we can not imagine.

Can it enter into the heart of man to conceive what shall be the home life of that great family of kings and priests and workers that shall take rooms in "that house of many mansions"—"that house not made with hands eternal in the heavens?" The theologian will be there comparing notes with Elijah and Paul on foreknowledge and decrees, and looking into the mystery that the angels bent over the battlements of heaven to see. The lawyer will be there, and along with Chancellors Moses and Kent will admire the beauties of the constitution and code of heaven, and review the many cases lost and won by the Great Advocate, to find in each a greater mystery than in "the rule in Shelly's case." The physician will be there reading up on the "balm of Gilead" from the library of the "Great Physician there." The astronomer will be there admiring the history and destiny of an infinite universe from its incipiency, when "God said let there be light," unto the time when it shall have grown old and perished. The scientist will be there realizing how wonderfully every fact points to the great truth, "There is one God, and science is the knowledge of him." The poor man, unknowing and unknown, will be there, who saved but "one soul from death," wearing a star in his crown eclipsing the great Sirius. The musician will be there, and such music! Every body shall be in the choir, with God-built organs, harps, hearts and voices that shall never

grow old, while millions of angels shall join the chorus.

What a family gathering that will be! Will you and I be there? is a question outweighing this universe.

"Praise ye the Lord; praise him, sun and moon; praise him, all ye stars of light. Let every thing that hath breath praise the Lord."

IGNORANTIA LEGIS NEMINEM EXCUSAT.

BY ANDREW B. MARTIN, LL.D.,
Professor of Law.

All human knowledge, in so far as it is the certain perception of truth, is simply acquaintance with law. Law, in its most abstract and comprehensive signification, is defined to be that system of rules to which the intellectual and physical world are subjected, by which the existence, rest, motion, and conduct of all created and uncreated entities are regulated, and on the due observance of which their being or happiness respectively depends.

It is impossible to conceive of any place where law is not, and equally impossible to conceive of any creature that is not subject to it. It pervades and controls all existence. It requires obedience, and punishes disobedience, and from the one—obedience—flows all human happiness, and from the other—disobedience—all human misery. There are many of the requirements of the universal law which men perform involuntarily, as those of breathing and sleeping; and others, again, to which we are impelled by irresistible desires implanted within our being, as eating and drinking, actions involuntary and irresistible, which belong alike to all animated nature. But law, as addressed to intellectual beings, declares an infinite variety of moral duties, touching which man's obedience or disobedience is voluntary, and it is in respect of

these duties that men need constantly to be reminded that obedience is the condition precedent of human happiness. But if I do not know this law how shall I obey it? and if I blindly violate its requirements will my ignorance shield me from its penalties?

To show in some degree the extent to which the maxim selected as the subject of this lecture is applied in such cases, and to present incentives to a more thorough study of the law of God and of man is the object of this address.

I separate law into three grand divisions:

1. The law of nature, and by this I mean the moral law of God in its relation to man's soul.

2. The physical law, by which God controls all matter.

3. Municipal law, by which is meant human law made for the control of human society.

The moral law, or the law of nature, as I have termed it, is the dictate of right reason whereby man determines any action to be morally good or bad. Lord Coke, in alluding to this great system of rational and immutable law, says it is that which God, at the time of the creation of man, infused into his heart for his preservation and direction. It is distinctly asserted by many writers on the subject, and such is practically the declaration of Lord Coke, that a knowledge of this law is communicated through the human heart and understanding, and that independently of all revelation and divine positive law, the conscience and reason of man are alone sufficient to discover to him its every dictate.

It is certainly true, whether it be the result of sentiment or reason, or of both, that man is possessed of a quick and lively faculty, by means of which he is en-

abled to know instantly good and evil. Numberless illustrations of this fact may be given. The pains of others excite our compassion, we abhor murder, we condemn ingratitude, we love our benefactors, we venerate age, love our parents and our children, we admire and praise, though we may not practice, sincerity, honesty, virtue. These conclusions of approval or disapproval are quick, instantaneous in almost every case. Indeed, the existence in man of this faculty is verified by his consciousness and by his every-day experience, though he may be able to give no other account of it than that God has chosen so to form him.

It must follow, as a consequence of these views, that a knowledge of natural or moral law is as universal as human nature, unless it be true that human nature is one thing at one place and in one age of the world and another at a different place and in a different age; and upon this question I entertain no doubt. Mankind has undergone no change in nature since mother Eve beguiled with forbidden fruit the representative man of the race. Adam, in his fall, acquired and had impressed upon his degenerate nature a knowledge of good and evil, an ineffaceable knowledge that has been transmitted from sire to son through all the mutations of time, until it has reached your bosom and mine.

It is not only a law universally known, but it is of universal obligation, binding upon all men everywhere. The Christian and the heathen do not differ in their accountability to God under this law. In the beginning all men were placed upon a common level, both in respect of their knowledge and capacity to acquire a knowledge of the will of God; and if, in the

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progress of the race, some have advanced to higher ground and have appeared to be peculiarly favored of God, the only effect has been to heighten their obligations while those of the others have remained unchanged. In other words, I believe it to be true that man can not, in his accountability to God, sink below the common level fixed by natural law so as to escape its penalties, but that he may, by reason of illuminations outside of the law of his being, be enabled to have a more perfect knowledge of the will of God, and accordingly be held to a stricter accountability. The law of nature, of which I am speaking, must not be confounded with the positive law of God. There is a wide difference between the two, not that they are established by different authority, for the same God who made the one law made also the other. But the difference lies in the nature of the duties required, and the extent of obligation imposed by the one and the other law.

The law of nature enjoins all those actions which are morally good—that is, such as are in their nature essentially and positively good, such as fear, reverence, and love of God, temperance, charity, benevolence, virtue, peace. These virtues are all dictated by the law of nature, and would be the common practice of mankind if the voice of that law were heeded. So also the same law forbids all these things that are morally bad—that is, that are in themselves essentially and positively evil, or, as the law-writers say, *malum in se*. Such are irreverence, blasphemy, hatred, malice, revenge, envy, covetousness, lying, stealing, burning, killing, and all dishonest dealing. These vices are all forbidden by the law of nature, and, sitting as a judge in our very being, for every duty neglected which it

requires, and for every vice conceived or enacted which it forbids, it silently but certainly pronounces its judgment of condemnation in every human heart. Upon the other hand the positive law of God commands or forbids the doing of certain things indifferent and not in themselves of evil nature, and which only become evil by reason of the disobedience of the law that may be involved in the act or omission. Of such laws we can have no intuitive knowledge, and a positive revelation is necessary to make us conscious of guilt in their violation.

I may more distinctly present the difference in natural and positive law by the use of an illustration: Thou shalt not kill is a law of nature. The fact that God has made it a positive law to all who have a knowledge of the Bible, does not make it any the less natural law. It is difficult to reason about a thing of simple consciousness, but self-preservation is said, by way of pre-eminence, to be the first law of nature, and in some way I have a sense that it is my right and duty to defend and prolong my life. I put on it a priceless value, and I concede to no human being the right to take it away. This sense of right and duty is not received from the teachings or example of men, nor from human laws, nor the laws of Moses or the prophets, or from any part of the Scriptures. It is a part of my being, impressed upon it by the natural law. I am not unlike other men, or rather all other men are just as I am, impressed with a sense of the right and duty of self-preservation. So that each, by the law of his nature, is proclaiming to every other, "Thou shalt not kill."

Remember the Sabbath day to keep it holy is a positive law of God and not a natural law. There is

nothing in my nature that tells me one day is holier than another. Man is a religious animal by nature, but there was nothing in him that set apart one holy day from the seven until the positive law of God revealed it to him.

Recognizing the true difference between natural and positive law to be what I have attempted to show, it follows that murder committed by any reasonable creature, no matter where or when, is a conscious crime against the natural law of God, while, on the other hand, no one can be held a Sabbath-breaker who knows nothing of a Sabbath. In other words, the natural law is of universal knowledge and obligation, while positive law is binding only so far as it is or should be known. This proposition is not so startling after all. It does not follow that God has one law for one part of the world and another and different law for another part, nor that he has put a premium on ignorance. The Scriptures, in so far as they are now received as a guide to men's actions, contain but few positive laws, but are largely an iteration and illumination of natural law.

The ceremonial and civil laws of the Old Dispensation were ordained alone for the Jews and passed away at the dawn of the spiritual kingdom under the New. So the inspired word of God, as now addressed to man, teaches but few lessons which have not without it found lodgment in the mind and heart of man. These remarks must not be construed as an intimation that the Scriptures are unnecessary. On the contrary, they contain the words of God and he speaks nothing in vain. They are God's instrumentality for the redemption of the race. They enlighten men's minds as to the truth, they teach us our whole duty to God,

they help our dull reason and quicken our consciences, and with the greater light which they give, enable us to carry the illuminated truth into distant regions that lie in darkness.

Ignorance of God's inspired word, which results from neglect of opportunities, or simply following the dim light of natural law, if God has placed within possible reach a clearer revelation of his will touching us, is a sin for which men in Christian and heathen lands alike will be held accountable.

But I can not further pursue this branch of my subject. It is evident under natural law that no man is punished except for conscious sins, and that in respect of such sins the maxim, *ignorantia legis neminem excusat*, can have no application. In the grand assize of heaven no man can say of himself, I knew not the will of God, but each will stand condemned under the law of his being, which is also the law of God.

The second division of the law which I have denominated physical law, consists of those inexorable rules of God, by which he controls the world of matter.

Of this system of laws, man in the beginning of life has no knowledge whatever. He is blinder than the beast. The untutored child will walk off the precipice; the beast knows better than this. The cowboy is caught oftener than his herd by the cyclone, and man was nearly six thousand years old before he understood the delicate processes of incubation, though it was "familiar science" with the barn-yard hen before the flood.

But however dense may have been the ignorance of man in the past of these laws, and no matter how little we may now know of them, they are binding alike upon all everywhere and under all conditions,

upon the learned and unlearned, the old and the young alike. It is literal truth that ignorance of these laws excuses no one. Their decrees are certain and irrevocable, their penalties inevitable and merciless. Desert of punishment, as a rule, is unknown. When the train goes crashing through the bridge it carries the veriest villain the world ever saw and the prattling babe to the same inevitable doom. The executioner did no more for Guiteau than Guiteau did for Garfield. In these cases physical laws were violated and physical death followed alike in each, and in neither would repentance have healed the wound or brought back the life.

Why is it that God impresses upon man's mind and heart a sense of the requirements of his moral law and not of his physical laws? Why is it man may escape through repentance the penalties for the violation of the one and not of the other? God's ways are past finding out, but they are absolutely just. There is a reason for this distinction and a just one. I may not understand it, but it exists and accords with eternal right. Dimly outlined in my mind is this answer. Man never could have known the will of God without the revelation of divine impressions on his mind and heart. Through his unaided reason he might demand a cause for the things that exist, and upon observing the order of the world about him and its adaptation to life, he might reach the conclusion that there is an intelligent cause, but the morality of that cause he could never know. He could never know it had compassion, mercy, love; that it enjoined the practice of these virtues and also those of chastity, sincerity, honesty, benevolence. Indeed, these emotions or thoughts touching the moral qualities of an original cause, or

of man's social and religious duties, could not be conceived through his reason alone. On the other hand, he may search out a knowledge of the physical laws. So it may be a correct answer to say that God impresses the mind and heart of man with the requirements of his moral law and does not with those of his physical law, because a revelation in the one case is necessary and in the other it is not.

Again, physical law exists alone in a world of matter, and through the operation of its unchangeable rules, results follow wholly independent of man's volition. He may, by a trespass committed on another's land, interrupt the course of one physical law, as the growth of a tree, and set in motion another physical law—that of decay. He may escape punishment for the trespass, but he can not avert its consequences. The tree will die. With a sharp instrument a human artery may be laid open, so that the blood will not be returned to the heart. The interruption of the physical law will at once put in motion others—death and decomposition. The wrong-doer may never be punished for the homicide, but the inevitable consequences of violated physical law exist nevertheless. The victim will die.

The death of the body as the necessary consequence of violence is one thing, the act of violence producing the death is another. The former is a physical consequence, the other is a moral sin. The relation of the moral wrong and the physical result is neither compensatory nor punitive, even though they unite in one and the same person and are self-imposed. The physical death of the suicide is neither compensation nor punishment for the act which produced it. Physical results flowing from violated physical laws can

in no sense be deemed punishment, for they apply themselves to conditions irrespective of the agencies producing the conditions, and fall alike in every case upon sentient and non-sentient matter. And as the moral and emotional nature of man can neither aggravate nor mitigate the consequences of violated physical law, so neither can repentance restore its unity when once it is broken. This may be a satisfactory answer to the question, and an acceptable explanation of the reason why repentance may save us from the penalties of the moral law of God, but not from those of his physical laws.

But, returning again to man's knowledge of physical laws, if it be true that man can not plead his ignorance in extenuation of the direful results of their infraction, nor escape them through the gateway of repentance, does it not seem that every consideration of prudence, self-interest, and common weal admonishes us to acquaint ourselves with their intricate and delicate processes. The fact that the perpetuity and happiness of the human family, the overshadowing end of life here, depend upon the observance of these laws addresses itself to the human intelligence as the highest incentive to earnest investigation into their hidden truths. God has endowed us with reason above the beasts, and given us the earth to subdue; hence, a knowledge of the physical laws by which he controls it is as necessary for the happiness and full development of man in this life as is a knowledge of spiritual law for the next.

Physics, in its most extended meaning, and as distinguished from metaphysics, comprehends the study and knowledge of the material world, of the relations and properties and uses of every thing that can be

seen and felt, as well as the laws of its creation and government. What an infinitude of labor presented itself to man as he came from the hand of God, and how intensely interesting should be his researches when he remembers that God pronounced every thing good that was made, and over all established the dominion of man. Physical science, in the broad sense in which I use the term, covers almost the entire field of useful knowledge in this life. It directs the investigations and labors of men into fields that yield the greatest blessings to the race. It discloses the infinite wisdom and mercy of God. It would be exceedingly interesting to pursue with some detail this last thought, and show, what has often been shown by others, how true it is that one's faith in the existence and in the infinite wisdom and goodness of God is increased by a knowledge of the physical sciences. But I have neither the time nor the accuracy of learning necessary for such a labor. Applied mathematics which is casting its angles beyond the stars, and in the eternity of distance measuring height and depth, length and breadth, has built a stairway to the throne of God, from whom all order proceeds.

Geology and botany have laid bare the frame-work of this old world, and in the chaos of preadamic ages have evolved the grim outline of foundation-stones laid in the eternity of the past, and in the awful silence under the mountains have found the supporting columns marked with the leaf and vine of a verdure that is dead.

Chemistry, physiology, and materia medica, hand in hand, are averting the dangers that swarm along the pathway of life, and are fast finding out the secret places of the seeds of death. Pain is assuaged, fever

abated, the blind are made to see, the halt to walk, the maimed and broken are mended and spliced and braced, and we have seen the drawn curtain loosed, the shut blind opened, and sunshine let into the darkened home where the dying have been brought back to life. I believe an investigation into these hidden truths is laid upon man as a duty. I so believe because each new revelation of scientific truth contributes in one way or another to the physical, or intellectual, or moral elevation of the race. Study of the Scriptures is a conceded Christian duty. But God has written his law everywhere—in the depths of the sea, upon the hill, the rock, the tree. We see it in the lightning flash, we hear it in the thunder, we see it in the flower and blade of grass at our feet, we know it is in the silent spaces above our heads. It is in the strength of these limbs, I feel it in the throb of my heart, I see it in the eyes of my children. It is written everywhere, upon every thing, upon all life and all death.

It can not be true that God has made any thing unwisely or without a purpose, and it must be true that the acquisition of knowledge concerning those things which he has made for man, by the right use of our faculties and opportunities, is a duty laid at the door of every reasonable creature. The development of my body, mind, and heart in the study of those things which God has made for me and for my happiness is itself an act of reverence and praise, and, to the extent of capability and opportunity, is as much a Christian duty as any other. Ignorance of these things, resulting from abuse or neglect of the talent which God has given us, is therefore not only inexcusable, but is sinful. But without dwelling longer

upon this subject, though the solemn duties and responsibilities which attach to it would justify the use of all my time in its discussion, I pass to the consideration of the last sub-division of my address.

MUNICIPAL LAW.

Civil society and the laws which control it, which I have designated municipal law, are the offspring of vice. Simple or primary society, as in the case of the early patriarchs who dwelt in tents and traveled from place to place without any political union whatever, may be said to be the natural state of man, and certainly was coeval with his existence; and if men had always yielded to the influences of divine law as it is impressed upon their hearts, if they had always practiced virtue and justice toward their fellows, and properly apprehended the duty of personal sacrifice for the general good, there is no reason why this primitive condition of society should not have been continued to the present time. The work of benevolence might have been as well performed, the marriage tie and parental relations could have been as sacredly observed, learning could have been acquired, fields tilled, and all the pursuits of life as happily and successfully prosecuted without the restraints of municipal regulation as with them. But the simple and unrestrained pursuit of happiness did not last long, and very early in the history of the race much of human liberty was sacrificed to the juggernaut of municipal law. Men would not practice virtue. Might became right. Avarice disregarded the voice of justice, and mercy pleaded in vain with revenge. I do not insist that these were the sole causes that brought men together in political union. A variety of causes united

to produce civil society—relationship, social propensities, the advantages which the reason of man would enable him to see would flow from union in labor—but beyond all these and lying at the very base of political society is the sense of fear which induced men to seek security in political combinations against the rapacity, licentiousness, and wrong acts of the individual.

But perhaps it is unnecessary to discuss the origin of civil society. A great variety of opinions have been expressed upon the subject, and it is the prolific source of endless speculation and profound philosophical research. No matter what cause or combination of causes may have called it into being, it is now established throughout the earth, and it will be more profitable to consider the objects of its creation and the obligations and duties which it imposes upon the citizen.

Its object is to maintain rights and advance a common good, or, as defined by another, it is an association of men for the production and preservation of good order—a good order which is to be purchased by yielding up in some degree the liberty of self-control, but which yields in return the advantages of secured liberty and property, and of the tranquil discharge of all acts and purposes essential or convenient to human happiness. The very idea of government involves the existence and enforcement of laws. Indeed, it is for the purpose of obtaining the benefits of wise and beneficent legislation in the protection and enforcement of rights that society is organized. The individual who becomes a member of it binds himself to take the will of the community as the guide of his own, and acquiring thus the advantage of having on

his side a combined force for the assertion of his civil rights, he is held obliged to renounce all resort to his own. To understand the laws of the society to which one attaches himself as a citizen, at least to the extent of having a fair comprehension of his obligations to the state, his duties and rights in relation to his fellows, it seems to me, is the first duty of good citizenship. And when we remember the fact that the maxim, Ignorance of the law excuses no one, applies with nearly its full force to municipal law, it would seem also that every dictate of common prudence would demand familiarity with its requirements.

The law of God, with its divine sanctions, is fixed by no territorial limits, measured by no periods of time, rests upon every creature, and as the Creator is above the creature, so infinitely above the devices of men is his divine law. It has searched the hearts of men from the foundation of the world and prohibited every thing that is evil, and threatens the violator with the condemnation of eternal death. Yet the wisdom of the world is sufficient to discern that the fearful judgments of God to be visited upon the offender in the world to come are not sufficient to restrain the evil-doer in this. It is indeed a sad commentary upon humanity that men fear God less than man, and that, while they openly defy the wrath of the Omnipotent Judge, they tremble in the presence of human tribunals, and as men will not heed the voice of God, nor take counsel of virtue, justice, and mercy, laws for the control of society, with penalties enforceable in this life, become a necessity. These laws mainly rest upon the law of nature written in the hearts of men, which fact explains the similarity of laws which we find in all systems for the control of human so-

ciety. And as the likeness of human laws to those of nature depends upon the enlightenment of the minds and consciences of men, we find more uniformity and greater excellence in the laws of Christian communities than among those that are without the illumination of the Scriptures.

But it must not be thought that human laws have come up to the measure of divine laws in the restraint of evil. On the contrary, they fall infinitely below the moral standards of the higher law of God.

Human laws are not made in vindication of the honor and attributes of God, but only for the punishment and prevention of offenses against the good order of society, and in an infinite variety of cases, grave violations of the law of God are not condemned by municipal law, nor triable in human tribunals. The law of God holds man accountable for the *unexpressed* purposes and thoughts of his mind and heart; human law holds him to answer only for the *expression* of those thoughts and purposes in overt acts that injure or tend to the injury of society.

The law of God, in so far as it regulates our moral conduct toward our fellows, acknowledge but one principle, and that is the duty of doing to others what we would that others should do to us. This is a perfect standard, and although the unremitting efforts of the world's best men have enabled them to approach it, the testimony of all is that none have attained, or can attain it. Its excellence and perfection exclude all fraud, all oppression, all overreaching, all crime.

If human laws were molded after the fashion of this one, all men would be criminal, and if the law were enforced, all would be under sentence of condemnation. But municipal law is not so fashioned. Outside of

and untouched by it are vast fields of human action governed alone by the sanctions of the higher law of God. It is constructed as all other human institutions, for time and not eternity, and in the application of its principles there has been left a wide margin for human imperfections. If every thing was lawful, as some philosophers, and some who are not philosophers, have insisted, except what human law by positive enactment condemns, the imperfections of civil codes would be a matter of more serious moment. But none but the fool hath said in his heart there is no God. We know that God is, and that whatever may be the judgment of human courts, his will be just in truth, eternal in duration.

Notwithstanding the prime importance which attaches to the existence of the human family in the world hereafter, God has so made us intellectual and emotional beings, capable of entertaining desires and prosecuting plans for our temporal happiness, of apprehending and appreciating the relations of family and friends, and of expressing in numberless ways our tastes, love, envy, hate, that it is impossible for any man to look with indifference upon the things of this life, and particularly to so regard the laws which control his actions in the pursuit of happiness or the redress of wrongs.

I wish to emphasize by repetition this statement: The first duty of good citizenship is that one acquaint himself with the obligations that are imposed upon him and the rights secured to him under municipal regulation; and I now add he will thereby be admonished of the danger that awaits the transgressor in this life, enabled to discharge with intelligence the duties of his allegiance, to arrest the wrongs that lie in wait

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in the words of Christ, in the parable of the
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to reckon, one was brought unto him which owed
ten thousand talents. But forasmuch as he had
to pay, his lord commanded him to be sold, and
wife and children and all that he had, and payment
be made. The servant therefore fell down and wor
shiped him, saying: Lord, have patience with me and
I will pay thee all. Then the lord of that servant was
moved with compassion and loosed him and forgave him
the debt. But the same servant went out and found
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the law, he suffers the penalty all the same.

But the case grows still more serious where the law prohibits the doing of a thing not in itself of evil nature, and which is only *malum prohibitum*. Here the violator has no internal promptings to guide him aright, and it is impossible for him to have any sense of duty touching the thing commanded or forbidden, unless he have a positive knowledge of the law. There

are but few laws of this character in the field of crimes. I mean to say the law declares but few acts criminal which have in them no element of evil, so that ignorance of the criminal regulations of society does not exist so fully and so generally as it does in relation to civil rights and duties. There is an astonishing aptitude of men to understand the criminal codes, which may be explained by the fact already stated, that it relates chiefly to those acts which are enjoined or forbidden by the law of nature, a few minor police regulations constituting the chief exception to the rule.

But the citizen should not feel himself free from danger of punishment because he has conformed his actions to the criminal law. Numberless dangers beset him upon every hand, involving many times the most sacred rights, and lying so near the path of daily practical life, that it is impossible for all even of the most wary to escape, and whereby thousands of the unwary and ignorant do in fact fall into ruin.

It must be remembered that the State is not a schoolmaster who has assumed the duty and responsibility of enlightening the citizen in a knowledge of the law. On the contrary, that duty and responsibility is fixed upon the citizen himself. The State presumes that he knows the law, and however the fact may be, this presumption prevails. The extent to which this presumption has been carried and applied, even in cases where there was a moral impossibility of knowing the law, may be a matter of astonishment to some, but it affords the clearest evidence of the existence of the rule itself, and of the unmixed truth that is in the maxim, *ignorantia legis neminem excusat.* Until within comparatively recent time all acts of the English Parliament took effect by relation from the first day of the

session at which the act was passed, and which might have been weeks or months before it was in fact enacted, and while it still slumbered in the brain of the lord or commoner who brought it forward. This rule, which because of its great and manifest injustice was repealed, was not less unjust than was the odious conduct of Caligula, who is said to have written his laws in such small characters, and fixed them on such high places that it was impossible to read them. Yet under the English rule, while it existed, men were convicted of the violation of laws occurring before the laws themselves were enacted, thus presenting the strongest possible case of unavoidable yet inexcusable ignorance of law.

And under a still more recent rule, and which prevails at present in this country, laws may be made to take effect from their passage, and before they are promulgated, and in the absence of any period being fixed in the act, the State constitutions generally provide that it shall take effect within twenty to forty days after the adjournment of the legislature. This latter constitutional provision is a marked improvement upon former rules, but it is manifestly improbable if not impossible that laws should be so quickly known throughout this vast country, and yet it is still true that the responsibility of knowing the law is with the citizen, and he is liable any day to suffer the penalty of a law of which he has no knowledge. And if this be so of current legislation there certainly is no escape through ignorance from the penalties of those general principles of municipal law which are monumental of the ages.

And yet with these startling propositions staring us in the face, the ignorance of law that prevails among

the masses of the people is as dense as the darkness of Egypt. Of all the vast litigation that is now crowding the dockets of our civil courts, one half proceeds from ignorance mixed with meanness, and the other half from ignorance unmixed with any thing. It is impossible for us to escape the law, or to ignore it. It surrounds us upon every hand. It is with us in our pleasures and our toils, in domestic, social, and political relations. Almost every word and action of our lives have a legal significance and effect. At home and abroad, waking and sleeping, it is our shield to protect, our executioner to redress.

Mr. Parsons, in speaking alone of the law of contracts, says "it is the basis of human society; all social life presumes it, and rests upon it. Even those duties or acts of kindness and affection which may seem most remote from contract, are nevertheless within the scope of its obligation. The parental love which provides for the infant when in the beginning of its life it can do nothing for itself, would seem to be so pure an offering of affection that the idea of contract could in no way belong to it. But even here, although these duties are generally discharged from a feeling which borrows no strength from a sense of obligation, there is still such an obligation." And thus, beginning in the cradle, rights are acquired and obligations assumed which follow us through life in a thousand different forms, and which many times live after we are in our graves, as wrongs unredressed and promises broken to harass those who take our shoes.

It can not, of course, be expected that all should be lawyers, or that all should acquire a knowledge of the science of law, or indeed explore any very great part of its vast fields of complicated learning; but it is de-

sirable, and should be expected, that every man should make the elementary principles in their application to the rights of person and property a part of his education. It is a kind of learning which better fits a man for the performance of duty in any calling or station, from the humblest blacksmith who wields the sledge to the President who may control the destiny of this great nation. It increases one's usefulness in church and state. It makes him a better citizen, and it opens the way to distinction and the highest honors. These are only a few of the temptations and allurements which it addresses to ambition, but on the other hand *it pays* in teaching one how to make a bargain, and how to secure his rights under one when made; how to acquire title and how to part with it; how to defend your person, how to protect your good name and property when you have earned them. What numberless calamities which wreck character, fortune, and life, and overtake the ignorant, I can not attempt to enumerate. The right to vindicate your character through the courts from the foul accusation of the slanderer is lost in six months. Six years of indulgence to your debtor, though it proceed from benevolent kindness, will rob you of the earnings of a lifetime. The failure to put in writing the contract for the purchase or sale of lands will make you the victim of villainy. Equitable liens and trusts, express, implied, constructive, and resulting, the children of fraud and fear, the nurslings of a court of conscience, will steal the home that shelters you and your children. And equitable estoppel will shut the mouth of even a married woman, the only thing on earth that can, but this can only do it by an application of the equitable fiction which says "whatever ought to be done is con-

sidered as done." And so on and on I might prolong the enumeration of pitfalls and snares laid for the ignorant. But I must desist, the bias of professional preference and the vast importance of this branch of my subject would lead me on to such elaboration as to provoke your criticism.

The man, young or old, who thinks but little of the life which he should live here, has an appreciation poor indeed of the life which awaits him hereafter. The earth, thronging with its millions, has no man in it without a destiny, a destiny to be molded with his own hands. However devious the ways of men, and inexplicable their turnings about, some pressing this way, some that, we are all surrounded by the walls of the same life, through which there are but two gateways, one opening into higher life, the other into ruined life. Through which gateway shall you and I pass? God has given you the power of election, and your destiny and mine will be the destiny of election. Love God and keep his commandments, is the whole duty of man, and to do this as God requires it should be done demands the highest development of which man's intellectual and moral nature is capable. Search out God in the laws of his moral government and obey his voice. Find him and adore him in the secret places of a world of matter. Praise him with human statutes and with an intelligent appreciation and observance of municipal laws. *The will of God, a world of matter*, and *mankind*, a knowledge of these three is the sum of human wisdom. Study these. This is my message of admonition.

LAUGHING AND CRYING.

BY J. I. D. HINDS,
Professor of Chemistry.

Although these two acts of man are apparently so different, they are still intimately associated with each other in various ways. Like the transition from the sublime to the ridiculous, there is but a step from one to the other. Psychologically they are the result of closely related emotions, and physiologically they differ from each other chiefly in the expression of the countenance during the act. We often see the child smiling through its tears, and with men and women the same circumstances may make one weep and another laugh.

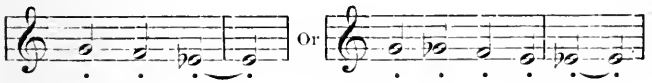
Of the two acts, laughing is peculiar to man, is more intellectual and refined, belongs to society, and is publicly manifested. Crying, on the other hand, is common to many animals, is more sensual in its nature, is rather a source of embarrassment, and is concealed when possible. It is generally regarded as an evidence of weakness, and hence is strongly resisted, particularly in man. There are circumstances, however, under which it is generally acknowledged to be manly to cry. Both acts are the results of the emotional nature, and hence, as a rule, those who laugh most easily cry most easily.

I. PHYSIOLOGICAL.

1. *The Act.*—The physiological action in laughing and crying is much the same. It consists of forcible

intermittent expirations, accompanied by peculiar sounds and characteristic facial expressions, followed by deep inspirations. In laughing the expirations are sudden, short, and explosive; in crying, the intervals are longer, and they are not explosive. The two acts shade into each other through repose. The number of muscles brought into action will depend upon the violence of the emotion. In the smile and the expression of sadness only the muscles of the face move, with perhaps a slight inclination of the head. In violent laughing and crying the body sways, the hands and feet move, and indeed almost every muscle of the body may be brought into action.

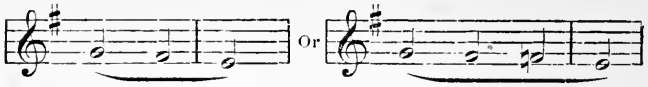
2. *The Sound.*—The sounds accompanying the laugh and the cry correspond to the physiological action. In laughing we have a series of short, explosive sounds, rapidly succeeding each other, and usually descending in the major scale. In crying, on the other hand, the sounds are prolonged, and the descent is in the minor scale. After an inspiration, if the emotion is increasing, the next series of sounds begins higher up in the scale; if the emotion is decreasing it begins lower down. An ordinary laugh may be represented by the descending major third, either with or without the chromatic intervals, as:



The character of the sound depends upon the interval between the first and last notes. Again, the sound may run through a still greater interval.

The cry is characterized by a legato movement, including the descending minor third, either with or

without the chromatic interval. The extreme notes again give the peculiar intonation, as:



As in the other case, the successive series of sounds may begin higher or lower, and run through larger intervals.

Either the laugh or the cry may be expressed in two notes. In this case the laugh will be a major second and the cry a chromatic interval. The laugh again may be expressed as a trill rising at the end.

That, when the emotion is increasing, each cry begins higher up in the scale is illustrated by the analogous case of one person's calling another. The following cases are given by Spencer in his essay on "The Origin and Function of Music:"

"If two men living in the same town, and frequently seeing one another, meet, say at a public assembly, any phrase with which one may be heard to accost the other, as, 'Hallo, are you here?' will have an ordinary intonation. But if one of them, after a long absence, has unexpectedly returned, the expression of surprise with which his friend may greet him—'Hallo! how came you here?'—will be uttered in much more strongly contrasted tones. The two syllables of the word 'Hallo' will be, the one much higher and the other much lower than before, and the rest of the sentence will similarly ascend and descend by longer steps.

"Again, if, supposing her to be in an adjoining room, the mistress of the house calls 'Mary,' the two syllables of the name will be spoken in an ascending

interval of a third. If Mary does not reply, the call will be repeated probably in a descending fifth, implying the slightest shade of annoyance at Mary's inattention. Should Mary still make no answer, the increasing annoyance will show itself by the use of a descending octave on the next repetition of the call. Supposing the silence to continue, the lady, if not of a very even temper, will show her increased irritation by calling in tones still more widely contrasted, the first syllable being higher and the last lower than before."

3. *Expression.*—The expressions accompanying the acts of laughing and crying are quite different. In moderate emotion they involve only the face. In excessive emotion the whole body participates more or less in the expression.

In laughing, the lines are turned downward toward the central portion of the face, forming gentle curves. The angles of the mouth, the cheeks, and the under eyelids are drawn upward and outward, and the mouth is slightly opened.

In crying, the lines of the face are turned downward toward the sides, and form acute angles on various parts of the face. The angles of the mouth are drawn downward and outward, the middle of the lower lip is thrust upward against the upper lip, and thus both are pressed outward, giving the expression of pouting. The cheeks and the outer angles of the eyes are drawn down. The inner ends of the eyebrows are drawn up, and vertical wrinkles appear in the forehead. The eyes are firmly closed and the mouth wide open. One can not cry with the eyes open. Thus it is that a child is hushed by attracting its attention and causing it to look at some object.

The closing of the eyes is to protect the delicate vessels of the eyeball, and to prevent their being bursted by the rush of blood into them.

As the acts become more violent other portions of the body are brought into action. These are in order about as follows: The head, the hands and arms, the trunk, the feet and legs. In immoderate laughter, the head is thrown forward and backward, with a tendency to remain back; in great grief, it is turned slowly from side to side, with a tendency forward. In laughing, the neck is extended and the shoulders depressed; in grief, the neck is shortened and the shoulders elevated; in both, the body sways back and forth, the difference being that in grief the forward movement predominates, while in joy the other does. Hence, grief bows a man; joy makes him erect. The movements of the hands and feet are peculiar. In pleasurable emotions, the hands are clapped together, raised to the mouth, or chin, or beard, placed upon the sides, or slapped upon the knees; in grief, they are clasped together, wrung, carried to the eyes or forehead, lifted above the head, or clasped in front of the knees. If the feet are brought into motion, in grief this motion will be spasmodic and irregular, often involving only one limb, as when one stamps the foot in vexation. If both are moved they will be moved together or in rapid succession, as when one jumps up and down in rage, or when the child stamps alternate feet when its mother dares to cross its will. In joy, on the contrary, the motion is alternate and generally rhythmic, as when one dances for joy or keeps step to music. The former movement is lifeless and dull; the latter, buoyant and vigorous.

4. *The Immediate Cause.*—Muscular contraction is

the immediate cause of all the expressions which accompany joy and grief. The motion of the body and limbs need no special attention, but we must consider the muscular movements in the facial expressions.

In order to understand facial expressions we must know something of the muscles of the face. Those particularly concerned in the expression of emotions are as follows:

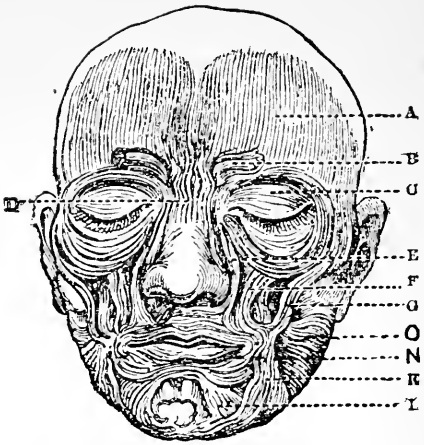
(1) *Occipito-frontalis*, or frontal muscle, covering the whole scalp from the superciliary ridge to the back of the head; raises the eyebrows and the skin over the root of the nose, and makes transverse wrinkles on the forehead; used in laughing.

(2) *Corrugator Supercilii*, or corrugator muscle of the eyebrows, extending from the inner portion of the superciliary ridge upward and outward and inserted on the under side of the *occipito-frontalis;* makes vertical wrinkles in the forehead, and draws the eyebrows downward and inward; used in crying.

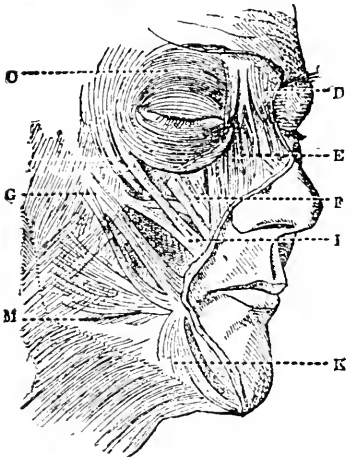
(3) *Orbicularis Palpebrarum*, or orbicular muscle of the eye; forms the eyelids and blends with the *occipito-frontalis* and *corrugator supercilii;* closes the eye; used in laughing and crying.

(4) *Pyramidalis Nasi*, extending from the *occipito-frontalis* to the *compressor nasi*—a pyramidal muscle on either side of the nose; draws down the inner angle of the eye and assists in dilating the nostrils; used in laughing and crying.

(5) *Levator Labii Superioris Alæque Nasi*, extending from the nasal process of the malar bone to the alae of the nose and the upper lip; raises the lip and nose and shows the teeth; may be used in laughing or crying. This is the principal muscle used in the expression of contempt.



Muscles of the face after Sir C. Bell.



Muscles of the face after Henle.

A. Occipito-frontalis, or frontal muscle.
B. Corrugator supercilii, or corrugator muscle.
C. Orbicularis palpebrarum, or orbicular muscles of the eyes.
D. Pyramidalis nasi, or pyramidal muscle of the nose.
E. Levator labii superioris alæque nasi.
F. Levator labii superioris.
G. Zygomatic.
I. Little zygomatic.
K. Depressor anguli oris.
L. Depressor labii inferioris.
M. Risorius, part of the Platysma myoides.
N. Orbicularis oris.
O. Masseter.

(6) *Levator Labii Superioris*, extending from the lip to the infra-orbital ridge; elevates the lip and draws it somewhat outward; used in laughing.

(7) *Zygomaticus Major*, extending from the malar bone to the angle of the mouth.

(8) *Zygomaticus Minor*, extending from the malar bone to the angle of the mouth, inside of the *zygomaticus major*. These two muscles raise the angle of the mouth and draw it out, and are used in laughing.

(9) *Levator Labii Inferioris*.—Raises the lower lip; used in pouting; when relaxed produces the dropping of the lip.

(10) *Depressor Anguli Oris*, from angle of the lip to the lower jaw; depresses the angle of the mouth; used in crying.

(11) *Depressor Labii Inferioris*, from chin to lower lip; depresses the lip; used in laughing.

(12) *Orbicularis Oris*, or sphincter muscle of the mouth; closes the mouth firmly; used in expressions of grief and sorrow when resisted; also used for the purpose of bringing the lips into the position proper for osculation.

(13) *Risorius*.—Rises in the fascia over the masseter muscle and is inserted in the angle of the mouth; draws the angle of the mouth backward; used in laughing.

(14) *Masseter*.—Closes the mouth.

(15) *Digastric*.—Opens the mouth.

It is by the action of these fifteen muscles chiefly that all facial expressions are produced. They are the medium of expression not only for joy and sorrow, but also for all the emotions which move the human soul.

The laughing muscles are: *Risorius*, *zygomatic*

major and *minor*, *levator labii superioris*, *orbicularis palpebrarum*, and *occipito-frontalis*.

The crying muscles are: *Corrugator supercilii*, *orbicularis palpebrarum*, *pyramidalis nasi*, *levator labii superioris alæque nasi*, *depressor anguli oris*, and *depressor labii inferioris*.

The change from the state of repose toward joy is in order about as follows: The *occipito-frontalis* contracts, raising the eyebrows and slightly furrowing the forehead horizontally. It carries with it also the *pyramidalis nasi*, dilating the nostrils and brightening the countenance. Next follows a slight contraction of the *orbicularis palpebrarum*, the effect of which is to raise the lower eyelid and the portion of the cheek just below it, partially closing the eye and giving it a peculiar twinkle. The face has now put on a cheerful look. The *risorious* now contracts, and immediately afterward the two *zygomatics*, carrying the angles of the mouth outward and upward. The muscles take on a quivering motion, and the face is no longer in repose, but is wreathed in smiles. We next observe the lips part, on account of the relaxation of the *masseter* muscle and the contraction of the *digastric*, the lower jaw being slightly depressed. This is the broad smile. Now follows a deep inspiration, and the laugh bursts forth. If the excitant is sufficiently powerful the bodily movements follow each other in succession as already described.

The change from repose to grief, on the other hand, is as follows: The movement begins, as before, at the forehead, but this time by the contraction of the *corrugator supercilii*, causing a vertical corrugation of the skin of the forehead between the eyebrows. The result is simply a frown. The *orbicularis* now contracts,

partially closing the eyes, and the central portion of the *occipito-frontalis* contracts, raising the inner ends of the eyebrows, giving them the peculiar oblique position sometimes seen in profound grief. This expression is not generally well marked. When it is it gives a peculiar corrugation to the brow, both horizontal and vertical, the horizontal wrinkles only effecting the central portion of the forehead and turning abruptly down to meet the vertical furrows at the sides. This is the peculiar expression of grief, and Darwin calls these the "grief muscles."

Next follows the contraction of the *depressor anguli oris*, carrying the corners of the mouth down, while at the same time the middle portion of the lower lip is closely pressed upward, giving the mouth the peculiar curved position seen so often in the child beginning to cry and in the chronic grumbler. The mouth now begins to open. The zygomatic muscles act against the depressors so that the open mouth takes a shape almost square. Thus Mrs. Gaskell says, in describing a baby crying while being fed: "It made its mouth like a square, and let the porridge run out at all the four corners."—*Mary Barton.*

Respiration now becomes irregular, the eyes close firmly, the mouth opens wider, and the cry bursts forth. Here again may follow the movements of the body and limbs as described above.

The order of expressions here outlined varies somewhat in different individuals and at different periods of life. This is due to the control which the will exerts over the muscles which enter into the expressions. Indeed, they may all be brought more or less under the control of the will. The last to be brought into action are the first to be subdued. Thus the

bodily motions are first controlled, then the audible sounds, then the expressions about the mouth, and then those about the eyes, and finally those on the forehead. The hypocrite and the deceiver cultivate this power until the movements of their muscles of emotion are almost entirely subject to the will. The only thing that renders transparent their disguise is the fact that thoughts long indulged form fixed expressions upon the face, and these can not be controlled. Hence, we hear of the "deceitful countenance," the "hypocritical face." We unconsciously distinguish the expression which is natural from that which is assumed. As transitory emotions and thoughts find temporary expression on the face, so habitual feelings will make a permanent one. It is thus that character is read in the face. In children the expression has not become fixed, and only reveals temporary emotion, giving no indication of character. In later life our very hearts are written upon our faces, so that he that runs may read.

A word may be said in this connection about tears. They are the usual accompaniment of crying or grief not expressed by the audible sound. They are also shed in violent laughter. Babes do not shed tears when they cry. The age at which they begin to do so is various, ranging from three to seven months. In middle life tears are rare; in childhood and old age they are easily shed.

II. PSYCHOLOGICAL.

1. *Cause of the Action.*—The ultimate cause of all of the physiological actions which have been described is emotion. The action, however, is not always in proportion to the emotion. The minimum of emotion

is found when the action is caused by simple physical contact, as when one's foot is tickled, or when one receives a slight bodily hurt. The maximum of emotion is no doubt when it is strongly subjective, as grief at the loss of dear ones, or joy at the accomplishment of long-cherished purposes. It is thus seen that the maximum of emotion does not always accompany the maximum of action.

If the emotion is pleasurable, it gives rise to the laugh in some of its degrees; if it is unpleasant, the result is the cry.

The cause of the emotion may be objective or subjective. It may come from the external world through the senses—that is, it may be a sight, a sound, a smell, a taste, or a touch. On the other hand, it may have its origin within the mind. It may be the pure result of intellectual action, or it may be aroused by the remembrance of past events or the anticipation of future joy or sorrow. In children, in uncultivated races, and in animals the emotion comes largely through sense perception. Since the senses are so intimately connected with the motor nerves, the external expression of the emotion is strongly marked. In adults and among cultured people emotions of intellectual origin predominate. In these the emotion may be much deeper and more profound, with but little external expression. This is partly due to habit and partly because of the remote connection of the cerebral with the reflex centers of the nervous system.

2. *The Cause of the Emotion.*—The emotion being the cause of the physiological act, we must next look to find the cause of the emotion. Crying may come from physical pain, sorrow, grief, or sympathy. One may even cry for joy, but this is rather exceptional.

With laughing, however, the causes are more various, and it is uncertain whether they can be reduced to a single principle. Various attempts have been made to find a single cause for laughter under all circumstances, but without complete success. The best theory is, perhaps, that of Bain. He makes laughter the result of release from a state of nervous constraint.

I will make a provisional threefold division of the causes of laughter as follows:

(*a*) Physical Stimulation. (*b*) Advantage. (*c*) Incongruity.

(*a*) *Physical Stimulation.*—We laugh or smile when we are tickled, when we feel well physically, when we perceive pleasant odors, when we hear harmonious sounds, when we see unusual sights that give us pleasure, as in fireworks, exhibitions, etc. We may include under this head any pleasure which we receive through the senses. This is, perhaps, the most universal cause of laughter and operates upon people of all ages and all nations. Laughter of this sort is not at all intellectual, but may become so when the object of sense appeals to the intellect, as when we look at a picture or listen to music. If, however, the intellectual element predominates, the sensation no longer produces laughter.

(*b*) *Advantage.*—The second cause of laughter may take the form of (1) advantage over an opponent; (2) triumph over an adversary; or (3) consciousness of power.

In the case of advantage there may be actual contest, or the superior may impose on the inferior. This is illustrated in ridicule, practical jokes, etc., by which one gets the advantage of another and puts him to confusion. This also explains the charm of the horse-

race, the card-table, chess, and games of all sorts. Amusement of this character is innocent as long as it is accompanied by good-will and looks simply to temporary annoyance.

Whenever it is of such a nature as to do real injury then it assumes the character of triumph over an enemy. At the same time the fun becomes inhuman and barbarous. This is the shout of victory, the laugh of triumph over the fallen foe, the glee of the savage as he applies his instruments of torture. The desire of man for such entertainment is seen in the gladiatorial combat, the tournament, the bull-fight, the cock-fight, etc. This source of pleasure belongs to barbarism, and yet it is, even in our day, too prevalent. As evidence of this we may but mention base-ball, fist-fighting, and walking-matches. It is also this relic of barbarism in the boy and the young man which gives rise to the practical jokes so common in small towns—such as breaking windows, painting fences, abusing stock, defacing walls, etc. The same vagabondage is seen among college students in the pranks they play upon each other and upon the professors. That people find pleasure in such things is simply an evidence that they belong rather to the age of savagery than to the nineteenth century.

In the third cause of emotion in this class, on the other hand, there is nothing barbarous. This is the pleasure we feel in consequence of a sense of power. We enjoy labor and delight in overcoming the ordinary obstacles in the way of our advancement. The accomplishment of a desired end, in spite of great difficulties, is a source of exquisite enjoyment. There is no higher worldly pleasure than that which we feel when we honestly win success in business or profes-

sion This pleasure, too, is heightened when our success tends to the good, rather than to the injury, of others.

(*c*) *Incongruity.*—The third cause of laughter is incongruity. This principle, no doubt, extends its operations to the cases included under the last head, but is not sufficient to explain them all. There is certain incongruity in the position of the victor and the conquered foe, but this is not the real source of the exultation of the one, nor of the debasement of the other.

Under incongruity may be classed all sorts of humor, jokes, puns, repartee, etc. This is the most common source of laughter, is largely intellectual, is innocent and exhilarating; is not accompanied by any special injury or debasement of the one who gets the worst of it, and is also that which has the most salutary hygienic effect. Hence, efforts to entertain, whether in society, on the platform, or on the stage, usually appeal to our sense of the incongruous.

As examples of incongruity we give the following: A dog in church, a high hat on a little man, a woman's bonnet on a little girl, bravado of a weak individual in the presence of a strong one, the barking of a little dog at a train. If both objects are presented at once, it is an example of simple incongruity. If one is presented after the other, the occasion of the laughter is the insignificance of the result compared with the expectation. This is the secret of most humor. It is the sudden release of nervous tension, an unexpected turn of thought.

The incongruous becomes ludicrous when there is the degradation of some character of dignity. It is comic when there is a reaction from the serious, or

when much is made of a little thing. It is ridiculous when the action is unbecoming, and more so when the actor thinks he is doing the proper thing.

An incident in church will cause laughter when it would attract no attention elsewhere. The dignity of the occasion and place are profaned. A dog entering a school-room will set the whole school to laughing. For a person of great dignity, particularly if he is well dressed, to fall down in the mud is quite ludicrous, while if the cart driver, already muddy, were to do so it would occasion no laughter. A child seriously mimicking its elders is comical, and a boy carrying a cane and smoking a cigarette is ridiculous.

Let us look at some illustrations of the effects of advantage and incongruity. First take some examples of simple incongruity:

A minister one day said in his pulpit: "We pursue a shadow—the bubble bursts and leaves ashes in our hands."

The incongruity here lies in the mixing of rhetorical figures.

An Irishman apologized for running away from a fight in these words: "Bedad, I'd rather be a coward for fifteen minutes than a corpse for the rest of my life."

Here the incongruity is so mixed that its full force is not seen at once. As the mind dwells upon it, it becomes more and more amusing. This quality adds richness to humor.

A Cape Cod fisherman calls his boat "The Kiss," because it is nothing but a smack.

A Western boy ran for Congress when he was only fourteen years old. He was page in the House.

A hawk may get the rooster after breakfast, but before breakfast the rooster always takes a crow.

In these three examples the humor consists in a simple play upon words. This is, indeed, the poorest of humor. There is no release of tension and not sufficient incongruity to produce much emotion. The following is better, because more complex:

Harry (horrified at seeing Kate puffing at a cigarette): "Mercy! Do you smoke, Kate?" Kate: "Not because I enjoy it, Harry. I want to fill the room with smoke, so that, should a burglar break in, he 'll think there's a man in the house." Harry: "Well, you're only losing your time and soiling your lips. A man never smokes cigarettes—leastwise no man that a burglar need be afraid of."—*Boston Transcript.*

We may mention the conundrum as the next example of humor. It is a little better than the pun, because it brings in the element of expectation, or search for the answer, and when the answer is given there is a feeling of surprise or release of tension. A simple example is the following:

Why would a barber rather shave three Irishmen than one German? Because he would get forty-five cents from the three Irishmen, and only fifteen cents from the German.

The following is not so good, because it is only a play upon words:

What kind of a field is older than you? One that is pasturage.

Here is one that is particularly rich, because of the mixed elements which enter it. It is at once a conundrum and a pun, and gives surprise and release of tension. Furthermore, it has the peculiar excellence of not letting its full force be seen at once. It is this:

"What is the difference between the fate of the barber and that of the sculptor?" "One curls up and dyes and the other makes faces and busts."

We may take some examples in which advantage is the chief element of humor:

"I move—" began a member of Congress, when a voice in the gallery called, "Not until you pay your rent."—*Harper's Bazar.*

Here are combined the double meaning of the word "move" and the exposure of the Congressman.

"I never saw my hands so dirty as yours," said a mother to a little girl. "I guess grandma has," was the quick reply.—*Boston Journal.*

This is an example of simple advantage, and its excellence consists in the disparity between the mother and the child.

The following are examples of mixed advantage and incongruity:

"Gentlemen of the jury," said counsel in an agricultural case, "there were thirty-six hogs in that lot—thirty-six. I want you to remember that number—thirty-six hogs—just three times the number that there are in the jury-box."—*Albany Law Journal.*

Daughter, aged thirty-three (facetiously): "Papa, I found a dozen gray hairs in my head this morning and pulled them out. Don't you give me away, though." Father (sighing heavily): "Give you away, Emily? I've abandoned all hope of it."—*Chicago Tribune.*

"Lulu, dear," said the lovely Widow Hoskins, "at last I have settled my last summer's ice bill. It was an outrageous amount, but I had to meet the emergency." "How did you ever settle it?" inquired Lulu. "I have married the ice man."—*New York Dispatch.*

"Hold on, sis!" exclaimed one of the little Rambo boys, as he paused at the door; "don't go into the house. The minister is making a call." "How do you know?" inquired his little sister. "Can't you hear ma talking? She's got her Sunday voice on."—*Chicago Tribune.*

Corroboration.—Said Paddleford to his wife, on the way back from the museum: "I am firmly convinced that women have an innate, natural, constitutional love of the horrible." "Good thing for you," she retorted, "or you might have been a bachelor to your dying day."—*Life.*

Ex-Secretary Evarts tells a good story at his own expense about a small donkey which he sent up to his country-seat some years ago for the use of his children, of whom some were then quite young. One of his little daughters, going out with her nurse to admire the animal in its paddock, was sorely distressed when the donkey lifted up its voice and brayed dolefully. "Poor thing! Poor thing!" exclaimed the sympathetic child; but, suddenly brightening up, she turned to her nurse and said, "O I am so glad! Papa will be here on Saturday, and then it won't feel so lonesome."

The foregoing examples are sufficient to illustrate these sources of laughter. If such things are continuously brought before the mind, it soon tires of them. This is because they fail to raise the nervous tension, and no longer create surprise, just as one can not be frightened when one is expecting a scare. They are rather the spice of life. A lecture or a book wholly composed of them would be like a dinner of pepper, salt, and vinegar.

III. PSYCHO-PHYSIOLOGICAL.

We have seen that the immediate cause of laughter is muscular action, and that the cause of the muscular action is emotion. We have also briefly considered the sources of emotion. We are next met with the questions: How does emotion produce muscular action? Why does it affect one muscle rather than another? Why are the muscles of the face the muscles, by pre-eminence, of emotional expressions? Why do certain muscles act in laughing and others in crying?

Why do the same muscles act for the same expression in all men and in all nations?

The full answer to these questions would lead me far beyond the limits of this paper. I can only make a few suggestions, and refer you for further information on the subject to Bain's Emotions and the Will, Bain's Senses and the Intellect, Sir Charles Bell's Anatomy of Expressions, Spencer's Physiology of Laughter, Darwin's Emotional Expressions in Man and Animals.

To the question, "How does emotion produce muscular action?" we have as yet no satisfactory answer. It must remain unanswered until the mystery of the connection of the mind and body is explained.

In regard to the second question, "Why does emotion move one muscle to action rather than another?" I submit the following general explanation:

Emotion means an accumulation in the nerve centers of nerve force which has a tendency to flow outward through the motor tracks to all parts of the body. The law of the flow of the nerve stimulus is that it takes the direction of least resistance, and if its flow in one direction is impeded, it takes another. If the emotion is slight, the motor effect is small, and the excess of energy is readily dissipated along those tracks through which it finds easiest flow. If, however, the emotion is powerful and the charge of energy very great, the stimulus may flow to all parts of the body, and not only bring all the muscles into action, but, through inhibition and stimulation, affect the organic and vital processes of the body. Thus the heart's action, respiration, digestion, and assimilation may be interfered with. The vital processes may even be suspended, producing death itself.

If the emotion is restrained, and the nervous flow in any channel is impeded, there will be a tendency to escape in some other direction, It is thus that prolonged grief affects the vital processes of the body and the health of the individual more when restrained and concealed than when allowed to produce its normal effect, weeping. If the restraint to the nervous flow is general the tension increases until there is an outburst. This is illustrated in the outbursts of laughing and crying in children when under restraint.

In reference to the next question, "Why should emotional expressions be primarily in the face?" the following is a possible explanation: The nerves which supply the face have their origin in the medulla oblongata. This is the nearest motor center to the brain, and the nerves which leave it reach their destination in the shortest distance. The direction of least resistance would then naturally be toward the muscles of the face. The course of the nerve stimulus once started in this direction would finally become fixed by habit and use.

Darwin, consistently with his theory, explains all expressions of emotion by three principles, as follows:

1. The principle of serviceable associated habits.

2. The principle of antithesis. When an act has been found serviceable in a certain state of the mind, there is a tendency to an opposite act when the opposite state of the mind ensues.

3. The principle of actions due to the constitution of the nervous system, independently from the first of the will, and independently to a certain extent of habit.

This last is the same in essence as the one I have given, and no doubt is the correct proximate answer to the question.

As to the other questions, "Why do certain muscles act in laughing and others in crying?" and, "Why do the same muscles act for the same expression in all men and in all nations?" I think they find sufficient explanation in habit and heredity. This explanation is the more probably true, since we find, in fact, that there is a degree of variety in the expressions of different individuals and in people of different nations. For example, the shrug of the shoulders so common in Europe is seldom seen in America. Again, the degree of emotion which would cause merry laughter in an American would scarcely call forth a smile in a German. Thus, while the structure of the muscular and nervous systems locates expression in the face, individual variety and national differences depend upon habit and heredity.

IV. EFFECTS.

We next come to consider the reflex effects of laughing and crying upon mankind. They are (1) individual, (2) social, and (3) national.

The individual effects are of the greatest importance. They are hygienic, and deserve the closest attention. There is profound physiological wisdom in the old adage, "Laugh and grow fat." There is no fact better established than that cheerfulness is conducive to health. It is not only so in a general way, but it has a special direct influence on the vital functions, and the effect is immediately felt. A cheerful conversation in genial society is better than any digestive preparation that can be devised. So there is no better preparation for a sound sleep than a hearty laugh.

On the other hand, grief interferes with digestion

and assimilation, and depresses the vital energies, and causes loss both of flesh and activity. The jolly man is the fat man, and the grumbler is the lean man. This is a general rule to which we must of course admit exceptions. Here it is pertinent to ask the question whether it is the fat that makes the man jolly, or the jollity that makes the man fat; and again, whether it is the leanness that makes one cross, or the crossness that makes one lean. In answer I say, "In both cases it is both." Cheerfulness and good health go together, and each assists the other. There is a point, however, in the injunction to be cheerful, for this is to a certain extent under the control of the will. We can yield to our annoyances and griefs and make ourselves continuously miserable. On the other hand, we can resist this disposition and preserve a cheerful mind even under very trying circumstances. Unfortunately, too, many of our ills are imaginary, and we are continually distressing ourselves without cause, to the injury of our health and the discomfort of those with whom we are associated. Ill-health brings sad and gloomy feelings, and these are often the only signs we have of the waning health. So you see grief, sadness, and crying are sometimes the legitimate subjects of medical treatment.

Now, it is not the laughing nor the crying which produces these hygienic effects. It is rather the emotions or states of mind of which these acts are the expression. Grief leaves the system prostrated, while joy buoys it up and has a tonic effect.

From the social point of view, crying need not be considered, since it is not usually publicly exhibited. Laughing, or rather the cheerfulness of which it is the index, is, however, a most potent factor in all

society. Society without laughter would be dull and stupid. Here the object is to please, and one must seem pleased whether one is or not. One laughs to please and the other laughs to appear pleased. Hence, there is a great deal of artificial laughter mixed up with the genuine article.

Looked at from a national point of view, we see at once that there is a great difference in the amount of laughing and crying done in different countries. The Americans are pre-eminently the laughing, smiling people of the world. They are, on the whole, more cheerful than any other people that I have met. The French are more talkative and polite, the English more bent on enjoyment, and the Germans more given to self-gratification, but nowhere are found so many pleasing, smiling, laughing faces as in this happy land of ours. This is because our people are better fed, better clothed, make a living more easily, and have more freedom of life than is the case in other countries. Another, and perhaps a better, reason is because the American people, as a whole, have more culture, have a higher standard of morality and Christian life, have a better knowledge of the Bible, and look more closely to the moral training of the children than do the people of any other nation. Righteousness not only exalts a nation, but also fills the mouths of its people with laughter and song.

V. MEANS USED FOR THE PRODUCTION OF LAUGHING AND CRYING.

Since it is through our emotional nature that we receive or experience chiefly our joys and our sorrows, it is not surprising that we find various devices systematically arranged for arousing these emotions, or,

in other words, for causing laughing and crying. Among the means so used I may mention (1) literature, (2) conversation, and (3) the stage. The joke, pun, etc., are special means which may be used in literature or conversation.

1. *Literature.*—Fiction is the literature that is chiefly used for entertainment. To this we may add true stories, historical incidents, purely humorous writings, comic songs, etc. The primary object of fiction is to arouse the emotions. Useful information is also imparted in the lines of history, science, morals, philosophy, etc., but these are usually a secondary consideration. A novel which will cause one neither to laugh nor shed a tear would generally be a failure. It would have to have very peculiar excellences of other kinds to make it attain popularity.

2. *Conversation.*—It is a fact too well established that the object of conversation is generally simply to entertain. In society this may be said to be almost its sole object. Among the older people it loses this character to a certain extent. But this continues always to be one of the ends in view in all conversation. Even the soberest colloquies are often spiced with repartee which brings the smile or burst of laughter.

3. *The Stage.*—Under this head is included the theater, the opera, the circus, the minstrel show, private theatricals, the lecture, etc. These grade from the purely instructive in the didactic lecture and sermon through the humorous, in the popular lecture, the comedy and the comic opera, and the pathetic in the drama and opera proper to the highly pathetic and tragic in the modern society play and the tragedy. To this may be also added the music concert and recital.

VI. HISTORY.

The study of the history of the development of laughing and crying in the human race would be an interesting one, but I have space here to make only a few suggestions.

In earlier man and in the uncultivated races crying was almost wholly an index of physical pain, and laughing was rather the manifestation of delight at the overcoming of an adversary than the result of pure humor.

At the present day these acts are more intellectual and refined. The delight of the savage in the torment of his captive has given place to the exhilaration of seeing one's adversary smart under the lash of ridicule.

These brutal and savage enjoyments have, however, not all disappeared. The life of an individual is but the life of the human race in miniature. The practical joke is a relic of ancient barbarism. It is mostly indulged in by the young and uncultured—those who have not yet passed out of the period of savagery. When the young man allows himself to be led into such acts as defacing public property, lifting gates, turning bridges, shooting at windows, etc., he is but doing in a milder way what the savage did when he put his prisoner to torture, and his pranks are no more amusing to the sober people of the community than are the writhings of the Indian's victim.

Let us hope and pray for the time when sorrow and mourning shall be known no more; when the laugh of the bacchanal, the glee of the victor, and the sneer of the scorner shall give place to the smile of affection, and when the whole earth shall be filled with pleasure and innocent joy.

SUPERSTITION.

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This is a most interesting theme to the student of history. The study of the history of man is, to a large extent, the study of his religion and his religious condition.

It is said that "man is a religious being or animal." This is true, and if we take the Bible for our guide in reference to his beginning, we find that he came from the hands of his Creator endowed with a knowledge of his duty in paying homage to the Deity. We have an account of God walking in the garden and talking to the first man. Thus the impression was made upon him very early that there was a higher power, before which he should bow down and worship. There this principle was instilled into him, and his mind went out after and up to the unseen, and this disposition has been a part of his nature ever since—in the darkest and deepest ignorance, as well as in the light of civilization. As Adam was taught to commune with God, so his posterity, in almost every condition in which they have been found, seek the invisible and bow down to the supernatural.

My theme, however, is superstition, and not religion; but let us see how nearly they are the same. Webster gives a long definition of superstition, thus: "False religion, or excessive exactness or rigor in religious opinions or practices, extreme and unnecessary

scruples in the observance of religious rites not commanded."

Taking this definition, we have a subject of wonderful interest and scope, and which can not be more than touched in a lecture of ordinary length.

For some years past there has been increasing interest in the study of archæological subjects. Numerous recent discoveries concerning the early condition and history of the human race have directed much attention to these subjects. Traditional history, crystallized in myths, superstitious beliefs, rites, and ceremonies, omens and prognostications, throws much light into a past which written history has not penetrated. Mythology is becoming an important branch of anthropological science. In its broadest sense, mythology includes all pagan religious beliefs, generally called superstitions. It should not be confined, however, to collections of fables and traditions. In studying myths, should we not study the superstitions which have found expression in them? The myths, fables, and traditions are the folk-lore of peoples, pointing back to superstitions which, if thoroughly studied, might prove a common origin of all the tribes and races of men. There are those learned in archæology and mythology who are now studying the various forms of folk-lore as an important help in finding the true history of the race.

Professor George Rawlinson, one of the most reliable writers on the religions of the ancient nations, says:

"Our 'advanced thinkers' advance to the farthest limits of human knowledge, sometimes even beyond them, and bewitch us with speculations which are as beautiful and unsubstantial as the bubbles which a

child produces with a little soap and water and a tobacco pipe. Nor does even religion escape. The historical method of inquiry into the past facts of religion is in danger of being superseded by speculations concerning what is called its 'philosophy,' or its science. We are continually invited to accept the views of this or that theorist respecting the origin of all religions, which are attributed to a common, innate idea or instinct, or else to a common mode of reasoning upon the phenomena and experience of human life. While the facts of ancient religions are only just emerging from the profound obscurity that has hitherto rested upon them, fancy is busy constructing schemes and systems which have about as much reality as the imaginations of a novelist."

The patient toiler, the true scholar, the real scientist, are not seeking the "short and easy method" of jumping at conclusions and laying down as certainties what are "mere guesses at the truth," but proceed in the more prosaic way of collecting material in facts which are found pointing to great truths. There is no branch of history which is more instructive and entertaining than that which deals with religious beliefs and practices. Religion is the most important element in the thought of a nation; and it is by studying their religions that we obtain the best clew to the inner life and character of the various peoples who have played an important part in the drama of human affairs.

So far as we can learn, nearly all the religions of the ancient world were polytheistic, but in them all the careful student may find the evidence of a monotheism in their origin. It is believed that there never was a polytheism that was not monotheistic in its

origin, and that a monotheism can be traced in all the polytheistic systems of which we have any knowledge; and the similarity of these systems is used as evidence of the unity of the races.

The most ancient religion of which we have any history is one of the most prominently polytheistic, yet the best scholars and those most reliable upon this subject claim that it is really monotheistic.

Emanuel Rouge, who is high authority upon this subject, says:

"No one has called in question the fundamental meaning of the principal passages by the help of which we are able to establish what ancient Egypt has taught concerning God, the world, and man. I said 'God, *not the gods*.' The first characteristic of the religion is the unity (of God) most energetically expressed: 'God, One, Sole, and Only; no others with him. He is the only Being—living in truth. Thou art One, and millions of beings proceed from thee. He has made every thing, and he alone has not been made.' The clearest, the simplest, the most precise conception.

"But how reconcile the unity of God with Egyptian polytheism? History and geography will perhaps elucidate the matter. The Egyptian religion comprehends a number of local worships. The Egypt which Menes brought together entire under his scepter was divided into nomes, each having a capital town. Each of these regions has its principal god, designated by a special name, but it is always the same doctrine which reappears under different names. One idea predominates—that of a single and primeval god. Everywhere and always it is one substance, self-existent, and an unapproachable God."

Our author then says "that from, or rather before, the beginning of the historic period, the pure monotheistic religion passed through the phase of Sabaism. The sun, instead of being considered as the symbol of life, was taken as the manifestation of God himself. In most of the hymns we find the idea of a double Being who engendereth himself—the soul in twins. A hymn in the Leyden Museum calls him 'the One of One.' Were these doctrines the result of centuries? Certainly not, for they were in existence more than two thousand years before the Christian era. On the other hand, polytheism developed itself and progressed without interruption until the times of the Ptolemies. It is therefore more than five thousand years since, in the valley of the Nile, the hymn began to the unity of God and the immortality of the soul, and we find that Egypt in the last ages had arrived at the most unbridled polytheism. The belief in the unity of the supreme God and in his attributes as Creator and Law-giver of man, whom he has endowed with an immortal soul—these are the primitive notions, enchased like indestructible diamonds in the midst of the mythyological superfetations accumulated in the centuries which have passed over that ancient civilization."

Even in their corrupt polytheism we see that in pre-historic times the Egyptians had the knowledge of the one only true and living God; but this knowledge had degenerated until, when history finds them, their religion has become nothing more than superstition.

The most striking characteristics of the Egyptian Pantheon were its multitudinousness and complexity. Wilkinson, who does not pretend to exhaust the sub-

ject, mentions seventy-three divinities and gives their several names and forms. Birch has a list of sixty-three principal deities, and says there were many others. It is not too much to say, perhaps, that the Egyptian Pantheon contained some hundreds of gods and goddesses. They had a god over almost every single thing. The early Christians were charged by the Romans of atheism, because they believed in only one true and living God, and consequently denied their gods many.

This superstition had, at the dawn of the historic period, taken such a hold upon the world that God called and set apart one man and his descendants after him, and made them his peculiar people, that he might teach them the knowledge of the one true God, and that they might become a light to the world to lead it away from polytheism, and consequent idolatry, to this true knowledge and original worship. Idolatry was considered the greatest sin, as it led to the basest superstitions, as well as to the denial of the existence of only one God.

It might be interesting to mention some of the strange notions and practices of the ancient Egyptians and other peoples who held to a plurality of gods, but time does not permit. Many of the false notions and superstitious rites and ceremonies of the Roman Catholic and Greek churches have descended from these corrupt systems of religion and philosophy and these ancient heathen forms of worship. A devout Roman Catholic, according to our estimate, is apt to be very superstitious. The doctrine of purgatory, of absolution by the priest, the wicked folly of indulgences, exorcism, the belief in the actual presence of the body and blood of Christ in the eucharist,

the sacred candles and holy water, monasticism, the celibacy of the clergy, and the sign of the cross and counting the rosary in times of danger, are nearly all relics of old heathen superstitions.

As an illustration of the depth of the superstition of the ancient Egyptians I mention some of their divinities. Many scholars have attempted to educe order out of the multitudinous confusion which, to the modern mind, attends the whole system of Egyptian polytheism. Some have tried to classify the deities and divide them into certain ranks or orders, each comprising a certain definite number. Herodotus speaks of a first, a second, and a third order, and assigns to the first order eight gods, to the second twelve, and to the third an indeterminate number. Each one of these was only a leading or principal god, and under each were many inferior divinities.

According to the earliest traditions, the names of the eight in the first class were: "Pthah, Ra, Shu (or Kneph), Seb, Osiris, Isis, Set, and Horus." According to recent discoveries, there were at Memphis Pthah, Shu, Tefun, Seb, Nu (or Nut), Osiris, Isis, and Athor, while at Thebes were Ammon, Mentur, Tum (or Atum), Shu, Seb, Osiris, Set, and Horus. There are so many different opinions upon the subject that it is difficult to determine the names certainly and especially at different places.

Ammon, for instance, is said to have meant etymologically "*the concealed god*," and the idea of Ammon was that of a recondite, incomprehensible divinity, remote from man, hidden, mysterious, the proper object of the profoundest reverence. Practically this idea was too abstract, too "high-flown," says Rawlinson, "and too metaphysical for ordinary minds to

conceive of it; and so Ammon at an early day was conjoined with Ra, the *sun*, and worshiped as Ammon Ra, a very intelligible god, neither more nor less than the physical sun, the source of light and life—'the lord of existences and support of all things.'

"Khem was the generative principle, the power of life and growth in nature. He was rudely and coarsely represented as a mummied figure, with phallus in front and forms unsightly objects in the sculptures. He presided primarily over the vegetable world, and was the giver of fertility and increase, the lord of the harvest and the patron of agriculture. Man and all kinds of animals were also under his charge, and from him received life. He is called the 'king of gods,' 'the lifter of the hand,' 'the lord of the crown,' 'the powerful.'"

A low and degrading superstition among the ancient Egyptians was their worship of animals. At first it seems that in the minds of the worshipers certain animals bore a fancied analogy to certain gods, and they used them as emblems; but in course of time the animals themselves became sacred. Specimens of these were attached to their temples and kept in shrines and carefully fed and nurtured during life, and at death embalmed and laid away in sacred repositories, and sometimes the whole species was held as sacred. It was unlawful to kill such animals, and when they died there was general mourning. Of these the cow was the most prominent as a sacred animal. The worship of the cow was not so degrading, however, as that of the cat, the bat, and other animals of low order, which they held in high estimation.

By studying the religions of the Assyrians and Babylonians, of the Iranians, and ancient people of India,

the Phœnicians and Carthaginians, the Etruscans and the ancient Greeks and Romans, we find all the systems, or all the religious principles, represented in the different systems of the ancient world While devotees of these different religions—these different and widely separated peoples—knew little or nothing about one another, there were similarities in their systems and in the inner thought and primary ideas concerning the subject of religion and the supernatural and spiritual, which indicate a common origin.

I think the careful student will find that with certain ancient peoples the tendency in religion and consequent civilization was backward or downward, while with others the progression was upward, at least in science if not in religion. . Much of the ancient science, however, was mere superstition.

The superstitions of the Assyrians and Babylonians were numerous and strange. They believed in charms of various kinds, in omens, in astrology, in spells, and in a miraculous power inherent in an object which they called the "mamit." What the "mamit" was is uncertain. According to a sacred legend it descended from heaven, and was a "treasure," a "priceless jewel," infinitely more valuable than any thing else on earth. It was ordinarily kept in a temple, but was sometimes brought to the bedside of a sick person to drive out the evil spirit that caused the disease.

Among the sacred legends the following were remarkable: They believed that at a remote date before the creation of the world there had been a war in heaven. Seven spirits, created by the god Anu to be his messengers, took counsel together and resolved upon a revolt. They unexpectedly made an attack

"against high heaven." The sun, the moon, and Vul, the god of the atmosphere, withstood them, and after a fearful fight beat them off. They had several fights, when at last the leader of these wicked angels was slain by means of a thunder-bolt thrown into his open mouth, and his followers took to flight and were driven into the abode of wicked demons, where they are confined, and man was made in their stead.

The ancient Iranians held the religion of Zoroaster, but just what that was it is difficult to say. They anciently held a dualism, a belief in the eternal existence of a good and an evil principle, which were represented by spirit and matter. Here also we find a system of fire-worship and all kinds of magic. It is interesting to study the peculiar superstitions of the Hindoos, the Phœnicians, and Carthaginians, and others of their times; but we must come nearer home.

In the Christian church there have been many ridiculous superstitious beliefs and practices. It is strange how people could be led to embrace such follies. In the primitive church there was but little less superstition than in the middle ages. Saint worship, pilgrimages, veneration for sacred relics, belief in blessings from the intercessions of martyrs, and in the virtue of poverty and monkery—all are but ignorant superstitions.

Who now could be led away by the teachings of the *Pillar Saints* of the fifth century, yet they had a large following in their day. One Simeon, of Sisan, called Simeon Stylites, a Syrian mystic monk, after doing many foolish things, for which he was expelled from the monastery, betook himself to a high mountain near Antioch, and there erected a pillar, first nine feet, then eighteen, then thirty-three, then fifty-four,

and at last sixty feet high, upon the top of which he lived for thirty-seven years in the most uncomfortable manner, fasting, praying, and exhorting the people. It is said he did this that he might get nearer to heaven and suffer for Christ's sake. He became very popular, and great crowds flocked to him for lessons of wisdom and truth and to receive his blessings. This habit became the rage with many, and the Pillar Saints were held in great veneration.

As great a man as Augustine believed there was virtue in the bones of the martyrs in healing the sick and in driving away evil spirits. Who was more superstitious in his day than the great reformer, Martin Luther? He had many a hand-to-hand combat with the devil, and in the little room where he wrote and prayed in the castle at Wartburg, the traveler is shown the splotch on the wall where he threw his inkstand at the devil. He was studying and praying and trying to prepare himself and Germany for the great conflict with error and its mother, papal Rome, when the devil kept making his appearance, grinning at him and making ugly faces. He told him to go away and let him alone, but the fiend kept grinning and making faces at him; so he threw his inkstand with all his might. I do not know whether Luther broke Satan's head or not; if he did it has been mended—the wound got well. Would it not be well for people in this day to believe as firmly as Luther did in the personality of the devil, whether they throw their inkstands at him or not? It is said he goes about like a roaring lion, seeking whom he may devour. Sometimes we hear his mighty roaring, and we are sure he devours as he goes.

It is said Mr. Wesley, the father of Methodism, was

exceedingly superstitious, and who of us are not, at least upon some subjects and at some times? Joseph was not the last dreamer, nor the last one to believe his dream. Joseph lost his pretty coat by telling his dream, and we ought to learn a lesson by this. To the young men especially I would say, If you have a dream that you will be a great man some day, do not, like Joseph, tell it to every one you meet. Keep it to yourself, and act as though you had received no intimation of future greatness, otherwise you may get "sold," or even get into an Egyptian jail.

The ancients filled the world with spirits, and their belief in spirit life manifests and unfolds itself in all their varied superstitions. The places of the living were haunted with the spirits of the dead. The process of tracing all superstitions to a common origin, and discovering the sources of error and ignorance of the truth, will always prove an interesting labor to the anthropologist.

The oriental doctrine of transmigration of souls, the animal worship of the Egpytians, the Sabaism of the Persians, are but stages of progress in a religious evolution. The ancient religions never remained the same during a long period. They were moving their adherents either upward or downward. The pagoda of the Orient, the pyramids of Egypt, the temples of Greece are but the representations in art of a superstition that finds its first expression in a more primitive form.

Among the primitive peoples the cure of diseases was given over to sorcerers, who were supposed to have some power over the evil-disposed spirits. Sorcery, under higher culture, developed into the priestcraft. Exorcism of evil spirits still survives as one

of the offices of the priests. In our own day those peculiar diseases which have defied medical skill, such as insanity, hysteria, and epilepsy, are relegated in many countries to the priesthood for cure.

In tracing the origin of superstitions among savage peoples, we will see the error of any writer who has affirmed that this or that people has no religion or religious feeling. Many such writers have contradicted themselves, unwittingly, by giving a list of the superstitions of the peoples whom they say are without a religion. Perhaps they mean to say that these savage races know nothing of true religion.

The American Indian tribes furnish fine illustrations of religious superstitions. With them the world was full of spirits, which they imagined they often saw sitting upon the limbs of trees, or skipping about in the moonlight. They had a great fear of the spirits of the dead. Their superstition about names originated in their fear of the spirits of the departed. So, when any one died every one who had the name of the deceased person would at once change it, for fear this spirit would hear the name called and come and try to take possession of him. They believed that two spirits often inhabited the same body, and had terrible contests for possession of supremacy. Many of them would pull down or burn the house in which any one died, and move away as far as possible. Sometimes they would change the appearance of the house so the spirit would not recognize it. They sometimes made holes in the coffin for the spirit to pass out, supposing, perhaps, it had not left the body.

"The Algic tribes believe that sleep is produced by fairies, the prince of whom is Weeng. Weeng

scarcely ever operates directly, but he exercises his power through gnome-like beings, who are everywhere present." These diminutive beings are invisible. Each one is armed with a tiny club, which he always carries. When he observes a person sitting or reclining in a position favorable to sleep, he nimbly climbs upon his forehead and inflicts a blow with his club. The first blow only creates drowsiness, the second makes him close his eyes or nod, and the third puts him to sleep. It is the duty of these little emissaries to put every one to sleep they possibly can—men, women, and children. They hide themselves everywhere, and fly out and begin their work whenever a favorable opportunity offers, but they, like some other spirits, love darkness rather than light, and in the night they do most of their work.

With us this drowsy deity goes to church, and there finds a good opportunity to do his work. To keep from disturbing public worship, he creeps upon his victim carefully and noiselessly, and strikes his blows so quietly that sleep is produced insensibly, and very often the one who sleeps does not realize the presence or operations of the little worker, and denies that he was asleep at all. Weeng is not only the producer of sleep, but he is also the author of dullness. If an orator fails, he is said to have been struck by Weeng, or if a warrior lingers, or is not successful, he has been influenced by the sleepy god. If children begin to nod or yawn, the Indian mother looks up smilingly and says they have been struck by Weeng, and puts them to bed. Sometimes the mother is uneasy for fear the sleepy god will strike the little infant too hard a blow, and either cause it to sleep too much, or make it intellectually dull. Is it not pos-

sible that Weeng has struck a great many white men, as well as Indians, too hard a blow?

The fear of spirits has characterized all people in every age of the world. The more intelligent the race or nation the less superstitious it is, and consequently the less the fear of spirits and the supernatural.

The fear of being left in the dark is a superstitious feeling of the same kind. "The Western Indians supposed that evil spirits loved the dark, and that the good and great spirits love the light. Therefore they believe that when the moon is full evil spirits begin nibbling at it to put out its light, eating a portion of it every night until it is all gone. Then a great spirit, who will not permit the evil spirits to take advantage of the darkness and go about the earth, doing mischief like burglars and assassins, makes a new moon, working on it every night until it is finished, when he leaves it and goes to sleep. No sooner is he gone than the bad spirits return and eat it up again."

The American Indians are particularly superstitious in reference to the dead, and consequently avoid graveyards and places where their people have died. I would believe we had inherited this superstitious fear from them if I did not know that our English forefathers were as superstitious in this respect as the wild aboriginal tribes of the West. I have seen reference made to Addison's statement concerning the grave-yard superstitions and ghost stories of old England. The intimation is made that these things have all disappeared; that all such false terrors have been dispelled by the light of science and letters; but if we go into the inner life of the people we will find that these superstitions have not all disappeared. Their

corpses are still here, if we do not find them in living existence.

What old castle in England, Wales, Scotland, or Ireland, what old house in this country, has not its ghost? What terrible tales are told of "haunted houses?" We read of them or hear of them in almost every part of the country. A few years ago St. Louis and Memphis had what seemed rival houses of this kind, to which crowds gathered for a few nights to hear the mysterious sounds. These visitors became so frightened that after a few evenings the bravest of them could hardly be induced to go near these buildings. Many families are said to have moved away from the haunted neighborhoods on account of the disturbances made by these ghosts or demons. We generally only hear of these supernatural visitors. It is usually some body else who saw them.

Modern spiritualism is nothing more than superstition or legerdemain. I attended a seance once when I was a boy which admirably illustrates the true character of spiritualism. The medium was a school-mistress, and the public was invited to her school-house out in the country one night to see her performance. The spirits refused to respond until a certain skeptical young man would leave the house; then every thing worked charmingly. Many spirits of departed friends came, and some of them made wonderful revelations. After a while the unbelieving young man became tired of waiting out-doors alone, so he crept under the floor and stopped immediately under the table where the spirits were rapping. An eccentric old woman had died a short time before in the neighborhood, and she was called for. The school-mistress medium very

gravely and with a solemn tone called her up. She said: "If you are present, manifest it by three distinct knocks." All waited in breathless silence to hear. The medium waited a moment, to make it impressive, when the young man under the house gave three distinct raps upon the floor with his knife. All heard it distinctly. The school-teacher looked around and began to turn pale. With a trembling voice she said: "If the spirit of Aunt Polly is certainly here, will she please give four distinct raps." After a moment's silence *one, two, three, four* raps came, and then all was as still as death. The school-teacher, now pale and trembling, turned to those nearest her, and, with a voice quivering, said: "*What* is that?" Some one answered: "It is the spirit of old Aunt Polly, I suppose." She answered: "I believe it is, sure enough, for I tell you I did n't do it." "Well," they asked, "have you been making the raps heretofore?" She said: "Yes, but I did n't do that." After a good deal of persuasion she was induced to ask the spirit another question, and when the answer came with the required number of raps she hurriedly left the room without ceremony, and hastened home without making another appointment. She came very near fainting and falling down as did the witch of Endor when Samuel's ghost appeared, to her great astonishment, when she called him for Saul.

Some spiritualists in Nashville a few years ago insisted that the late Dr. A. J. Baird should attend one of their seances and give the matter a fair trial. After much persuading he agreed to go. He took a faithful and reliable friend with him and went. It was promised that a tangible or materialized spirit would appear, and that Dr. Baird should at least hear it

breathe and feel its breath. When they got the company arranged in a circle and every thing ready the lights were turned off and every thing left in darkness and silence. Hands were joined all around and the spirit made its appearance. At the first appearance Dr. Baird said: "Yes, it passed round just behind me. I heard it breathe and felt the warm breath upon my cheek, and I also smelt its breath, and found that the spirit had been drinking whisky." The next time when it came around and he heard and smelt it, he quickly disengaged his hands, and suddenly threw up his right hand and caught the spirit by the beard and held him until the lights could be turned on, and they found the supposed supernatural visitor to be the *medium*, as the performer was called.

The world is full of error in regard to spirit existence and spirit life, and so long as this is the case superstition will exist. We all believe in the existence of spirits, but I doubt whether any one of us has a very clearly defined idea or system of belief upon the subject.

You all remember the history of the prophet Elisha and the young man, when they were surrounded at Dothan by the Syrian army which had come to capture the prophet. When the young man saw the hosts of the enemy encompassing them he was alarmed and cried out: "Alas! master, how shall we do?" But Elisha said: "Fear not, for they that be with us are more than they that be with them." The young man could not understand that, until the prophet prayed the Lord to open his eyes that he might see the invisible army with which God had encompassed the mountains. When his eyes were opened he saw that the "mountain was full of horses

and chariots of fire, round about Elisha." This invisible army was made visible to the young man that he might know the power God had for the protection of his servant. If our eyes were opened to see all that is passing around us, as this young man's were on that occasion, is it not possible that we would behold things as wonderful as he saw?

It is this universal belief in spiritual existence, joined to such meager and limited knowledge on the subject, that causes so much superstition. Man's dual nature—spiritual and material—makes him believe in spirit existence, and therefore makes him a religious animal. The higher and purer his religion or religious belief, the less superstitious he becomes; but the more ignorant he is the nearer his religion approximates to mere superstition.

We find an illustration of this proposition here in our own country and among our own people. The more ignorant the community, family, or individual the greater is the superstition. But in some things most people are superstitious. Who has not at some time consulted the faith doctor, and witnessed how gravely and carefully this wonderful magic practitioner will pass his hands over the diseased part a certain number of times, mentally repeating some formula. Perhaps he will rub the affected part with a stick and tell you to go and bury the stick in some secret spot, and as you come away from the place of deposit not to look back, and, above all, not to tell any one where you buried it. You are told that if you will follow these directions carefully in a given time the warts, or sty, or whatever it is that troubles you, will disappear. Have you not tried it? And has it not always effected a cure?

Have you not seen sick horses cured by faith? How solemnly the doctor walks around the animal a given number of times, stroking him in a particular manner, and a cure is effected at once.

What neighborhood has not one or more water-witches, as they are called? With mien as solemn and important as a judge sitting on a case of life and death, he walks around with a switch in hand, and when he passes a stream deep underground the switch will bow, nod, or twist, according to the character of the stream. Who would be so foolish as to attempt to dig a well without first consulting the water-witch? But you say this is not superstition, it is science. Well, perhaps it is, and so I suppose planting potatoes, and many other things, in the dark of the moon, or when the moon is full, is science also. But who wishes to start on a journey, or begin a new enterprise, on Friday? If you see a rabbit or squirrel run across the road in front of you, going to the left-hand side, will you not make a cross in the road and spit on it, or turn round and go back? If the little animal ran to the right-hand side, you are safe in going on, as you will be sure to have good luck. In almost every family there are signs for good luck and bad luck, and while all declare there is nothing in these signs, all are more or less governed by them. If a chicken crows near the front door, a stranger will come before night; if you sneeze at the table during a meal, somebody is coming. There are many such signs, the occurrence of some of them indicating the coming of a visitor, or the marriage or death of some one in the family or neighborhood. So there are signs of various kinds for good or ill-luck. Sailors are not the only people who believe

the horse-shoe is a protection and an assurance of good luck. Has any lady in this audience ever consulted a fortune-teller, or looked into a well or coffee cup to see her future husband? Perhaps there is more than one present who have by some such method essayed to read the future.

The African is peculiarly superstitious, whether you find him in his native lands or in other countries. It seems to be a part of his nature and of his religion, and no amount of education entirely eradicates it. It is said that climate has much to do in making a people more or less superstitious, and that in tropical countries more superstition is found than anywhere else. This may be true in the East, but I doubt if it is a rule that will always hold good. What tribe of men is more superstitious than the Esquimaux? With the negroes here in our own country superstition has much to do in controlling them, not only in their religion but in nearly every thing they do. As a rule, they believe in ghosts, witches, and hobgoblins. They often imagine they are bewitched, and when one concludes he is under such a spell it affects him as seriously as if it were true. Many a poor, deluded negro has suffered for months under the *spell* of an imaginary witch, and pined away and died. If one of their number is supposed to be a witch, all fear and avoid that one as they would Satan himself. Many of them carry charms of some kind about their persons, to keep off the witch, or avoid the spell.

But how many intelligent white people do the same thing? A man will tell you that he carries a charm for good luck. Well, that is the object the ignorant negro is seeking in the same way. He wants to keep

off disease and secure health—to bring to himself good luck. There may be those here to-night who have some charm or talisman in their pockets or about their persons.

The negroes mix their superstition into their religion, until with some of them it constitutes the major part. This is forcibly illustrated by the story of an old negro's prayer. He was in his cabin alone late at night. He was in the habit of praying very loud just before going to bed. In these prayers he often told the Lord how he had to suffer, and how badly he was treated by his master. In pouring out his grievances he would beg to be taken away at once from earth, declaring that he would like to go immediately up to heaven. On one of these occasions, when he had waxed warm in his complaints, and had come to his usual petition: "O Lord, come take dis pore ole nigger up to heben right now; he's tired libbin in dis worle ob sin an' 'pression. He wants to go right now up to heben whar he can get some res' an' some'en fit to eat. O Lord, do please come an' take dis ole Ned right dis minnit." Some young men had been listening, just outside of the cabin, to Uncle Ned's prayer. As he made this petition they knocked violently upon the door. The old man stopped his prayer suddenly, and said: "Who dat knockin' at dat doo'?" The answer came very solemnly, and from a deep, guttural voice: "It is the Lord." "What de Lord want?" said Uncle Ned. "He has heard the prayer of old Uncle Ned, and has come to take him away from this sinful world." Uncle Ned blew out his candle as quickly as he could, and said: "Ole Ned not heah; he's done gone off to see some de folks; he's not heah. He's jokin' 'bout wantin' de Lord to

take him 'way anyhow; he done tole me to tell you so. No, he doan wan' ter go; he'd heap ruther stay heah." Is Ned the only one who ever prayed such a hypocritical prayer, or sung a song amounting to the same thing.

The three or four centuries immediately before Christ saw the greatest confusion in religion that the world has ever produced. It was a struggle between the philosophers and the priests. The old religions had lost their hold upon the mind and heart of the better classes in every country. The wide dissemination of Greek learning had changed the current of thought everywhere. The schools of the philosophers became popular and were crowded by the youth of every land. The effort of these masters was to bring order out of the confusion into which the mind of man had drifted. This was a hard task. The darkness which had settled over the world was so great that scarcely a ray of light penetrated it.

The only source of light that might have illuminated the benighted races of men was itself eclipsed and obscured, despised by the other nations of the earth. The Jew had become the blind leader of the blind, and all had fallen into the ditch together. In this condition it is not surprising that the thought of the world was turned to Greek philosophy. Greece allowed other people to control the commerce of the world, but gave herself to the cultivation of the mind. Her achievements in intellectual development and culture surpassed even those of the Phœnicians in commerce. They are to-day the wonder of the world. Socrates gathered around him the best intellect of that wonderful age, and if he did no more he unfolded to those ambitious youths the fields for intellectual feats

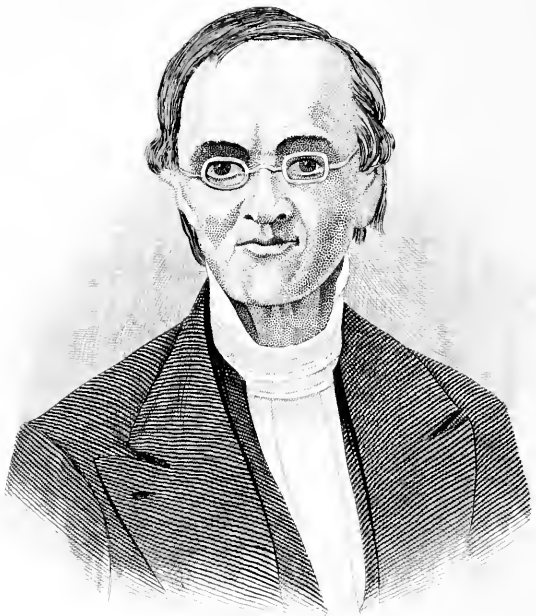
and the possibilities of mind in its sway over matter. Lifting the curtain and giving a view of the mind and what it might do, he set the brain on fire to secure its accomplishment.

Plato surpassed his master and all others in bringing order out of confusion and giving to the world a system of belief. But he fastened upon the world errors that will last, perhaps, as long as time itself. Upon the old doctrine of the dual nature of the universe, and of the eternity of mind and matter, he built his system. It was not a new doctrine, but old beliefs molded into shape. It taught that there is a struggle between the visible and the invisible, and that the only hope of success and happiness is in the mastery of spirit over matter. This imaginary war between the two created a real war, and it resulted only in error and superstition in regard to the nature of spirit and the relation between it and matter.

Platonism, as all the different forms of belief were called that emphasized the powers of mind over matter, became the popular, and, in some way, the almost universal belief of the people. It entered into the teaching in science, in religion, in politics, and into the very life of the people. Platonism has perhaps been the parent of more error in religious beliefs and in religious life than all other systems combined. It had greater influence upon the thought and life of the people in the early part of the Christian era than any other system, and it was its introduction into Christianity under its various forms that did more than any thing else to corrupt the faith and the life of the church. Platonism did much in shaping the thought of the church, leading to all kinds of wild notions and mystical theories. It was Platonic beliefs that led

the church into anarchy and superstition until it was enveloped in a cloud so thick and dark that there seemed no hope. Then the Reformation broke the cloud and let the light in.

This heathen philosophy has produced more error and superstition in the church and in Christian lands than any other system of thought. Like a corrupt fountain, it has poisoned every thing with which it has come in contact. Teaching the doctrine that matter is inherently corrupt, and that the only way to subdue the passions of the body is to weaken and abuse the body and thereby give strength and power to the spirit, it led to sins and follies unnumbered, and to superstitions which yet control the opinions and lives of multitudes in the church even in our own country. Mystic theology and philosophy have not lost their influence, and perhaps never will until we all see through other eyes than those of the body, and understand what is meant by spirit, spirit life, and spirit influence.



REV. R. BEARD, D. D.

OUR ENGLISH ANCESTORS.

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The three great historic divisions of men are: The Semites, or Shemites, the Hamites, and the Aryans, or Japhethites. To the Aryans belong the Europeans and their descendants. Let us briefly trace the origin of these, beginning at a distant period when they tilled their lands and fed their flocks in their primitive home, located somewhere, no man can say just where.

Many reasons have inclined the majority of recent writers to accept the Baltic or Scandinavian region as the primeval Aryan home. Perhaps the least objectionable theory, in the light of recent investigations, would locate the cradle of this race in southern Russia around the Caspian Sea.

From this old home two branches of this race proceeded, one toward the Indian peninsula, where was laid the foundation of the peculiar civilization, language, and literature of the Hindoos; the other toward the north and west, and from the latter came the various nations that peopled Europe. For our present purpose we have need to notice only this second branch. It is generally agreed that the nations spread over Europe in successive waves. With respect to the chronological order of these waves; however, there is less of agreement. The opinion which seems most prevalent

is that first came the restless Celts in quest of new fortunes. Just here the question may be asked, Was the country inhabited before the coming of the Celts? To this I shall attempt no certain answer. Momsen, in his History of Rome, states that the results of German antiquarian research lead to the conclusion that in England, France, the north of Germany, and Scandinavia, before the settlement of the Indo-Europeans in those lands, there must have dwelt, or rather roamed, a people perhaps of Mongolian race, gaining their subsistence by hunting and fishing, making their implements of stone, clay, or bones, adorning themselves with the teeth of animals and with amber, but unacquainted with agriculture and the use of metals. Be this as it may, the conclusion is warranted that the Celts were driven westward by a succeeding wave.

The Greeks and Romans followed the Celts, driving them from the wide territory which they occupied to remote districts. These two races took possession of the southern portions of Europe, and were an important element in the formation of the nations which now occupy Greece, Italy, France, Spain, and Portugal. Next to the Greeks and Romans came that aggressive people from whom are descended the Servians, the Bulgarians, the Bohemians, and the Russians.

Last, but to us most important, came the Teutons. The principal branches of these are: The Scandinavians, embracing the Swedes, the Danes, the Norwegians, and the Icelanders; the High Germans in south Germany; and the Low Germans in the lowlands of north Germany. To the Low Germans belong the Angles, the Saxons, and the Jutes. These are the tribes of our English ancestors. They occupied the low-lying country immediately north of the Elbe.

Angleland, Saxland, and Juteland were the countries now known as Friesland, Holstein, and Jutland.

On the wild waste of heather, and amid the sand-flats and marshes of their sea-girt home, let us leave these our ancient ancestors and turn our attention for a time to Great Britain. From this the latest home of our ancestors came our language and many of our institutions. It will be interesting if not profitable to notice some of the legendary stories respecting this island. We are told that the Britons are sprung from Trojan ancestry—that they took their name from Brutus, who, an exile and troubled wanderer, was directed by the oracle of Diana to come to Albion. This island, not yet called Britain, was ruled over by a giant, the son of Neptune, who called it Albion from his own name. It is said that Brutus, standing before the altar of Diana with a vessel of wine and the blood of a white hart, repeated nine times:

"Goddess of woods, tremendous in the chase
To mountain boars and all the savage race,
Wide o'er the ethereal walks extend thy sway,
And o'er the infernal regions void of day;
Look upon us on earth, unfold our fate,
And say what region is our destined seat.
Where shall we next thy lasting temple raise,
And choirs of angels celebrate thy praise?"

He was answered in a vision of the night:

"Brutus, there lies beyond the Gallic bounds
An island which the western sea surrounds;
By giants once possessed, now few remain
To bar thy entrance or obstruct thy reign;
To reach that happy shore thy sails employ—
There fate decrees to raise a second Troy,
And found an empire in thy royal line
Which time shall ne'er destroy nor bounds confine."

Early historians tell us that one British king flourished in the time of Saul; that another lived contemporary with Solomon. King Lear had grown old in government when Romulus and Remus were suckled.

Leaving to historical science the task of bringing to light whatever of truth may be contained in these stories of the prehistoric Britons, let us pass to a period of more authentic history, beginning about fifty-five years before Christ, when Julius Cæsar led his brass-mailed legions into Britain from Gaul. Ancient authority gives to the Britons a Celtic origin. They perhaps had migrated to this western land before the Teutons left the common parent home in the East. Although Cæsar conquered the Britons, it was not until about the year 85 A.D. that the central and southern portions of the island were reduced to a Roman province. This province remained under Roman rule nearly four hundred years.

When the Roman empire began falling in pieces the legions which had protected the Britons from the incursions of the Picts, the Silures, and the Scots were withdrawn for the defense of Italy. In this helpless condition the Britons applied to the Germanic tribes for aid. Then sad relief came from the bleak coast of the German ocean. The strong, yellow-haired and blue-eyed Saxon came and drove back the enemies of the Britons; but, falling in love with the beautiful country, they determined to become its possessors by conquering the inhabitants. So the weak Celts, under their semi-fabulous hero, were driven, like the Indians of North America, to the remotest corners of a kingdom which they had occupied with undisputed sway. If to-day you would see the once warlike race

of King Arthur, go to the wildest parts of Ireland and the Highlands of Scotland, to Wales and Cornwall, Brittany and the Isle of Man. The Anglo-Saxons have taken possession of a land which they still hold. The Danes overran the country in the ninth century. In the year 1017 they succeeded in taking the throne. After a brief dynasty of three Danish kings, the Anglo-Saxons regained the government.

In the year 1066 William, Duke of Normandy, led his soldiers into England, and at the noted battle of Hastings completed the subjugation of the Anglo-Saxons. These disturbances by the Danes and Normans produced no radical change in the race, language, or institutions of England.

It will be interesting here to speak of the spirit and genius of the people whose origin we have thus traced. I should like to follow this great people from the cradle of their infancy and speak, not of the tramp of armies, nor scenes of bloodshed and slaughter, which only disgust, but of the more interesting and instructive events which would give us a view of their manners and customs, their language and literature, their beliefs and home life.

History fails to give any facts respecting the primitive life of the Aryans. The sciences of philology and ethnology afford some relief to this great want. According to these the Aryans had not only the near and dear relations of father, mother, son, and daughter, but even the more conventional affinities of sister-in-law, father-in-law, and mother-in-law. In addition to the family they had a state organization. They also possessed abundant flocks and herds, which were pastured upon their grassy commons. The cow was their most valued domestic animal. They

had the pig, the sheep, the goat, and the horse. It is probable that the horse was not ridden. The dog seems to have been known only in its wild state. Their chief ordinary drink was the milk of the cow, sheep, and goat. The daughters of the primeval home were the milkmaids. Dawn was the mustering time of the cows, and evening was the time of bringing home the herds. The earth was broken with a rude plow drawn by the ox, or possibly the horse. They cut their hay and grain with the sickle. At least two kinds of grains were cultivated; just what grains is not known. Wheeled vehicles brought the harvest from the field. Pottery was in common use. Vessels of wood and leather were also probably employed. Music on stringed instruments softened their hours of rest and leisure. Quails and ducks were eaten and salt was used. They had our trio of domestic pests—the fly, the flea, and the mouse. Hunting was regarded a noble pursuit, and they delighted in the combat with the savage bear and wolf.

The ax appears to have been the chief weapon of warfare, but they fought also with the club and the sword. They wore the helmet and buckler for defensive armor. They counted by fives and tens, with their fingers and toes as guides. The year was divided into lunar months, the moon being their measurer of time.

Much that has been drawn from philology concerning the primitive lives of the Aryans is open to doubt. That the whole story is much richer than can be learned from our scanty stock of words is highly probable. Fancy would lead us to suppose that often, when night had come on, the good man spoke of his growing crops, while the good wife's shuttle went

merrily flashing through the loom. In this familiar circle was the uncle, rich in lore of fields and brooks, and the dear old aunt, delighting in her girlhood memories. The young members of the family were near, and, gathered in a circle, they all sped the night away with stories old.

We may suppose that on the banks of their native rivers, when breezes were soft and skies were fair, they stole an hour from their busy cares. There, too, was the honest country lad, with toil-rounded shoulders, and the innocent lassie, his companion in the harvest field. In the evening when the toilers return from their work he loiters behind with her, and with a joy he can not explain he sits by her side and picks from her little hands the cruel nettle stings and thistles. But fancy must be checked. I shall not speak further of our ancestors while on the continent. If history had recorded all that we could desire, still space would forbid our entering so delightful a field.

Let us notice some of the peculiarities of the Celts, Romans, Anglo-Saxons, and other races which enter into the composition of the English people. With good reason we may conclude that the civilization of these races on the Island of Great Britain was in the main that which belonged to them on the Continent. The blue-eyed Briton inhabited a mist-enveloped land. His house was a circular hut of timber and reeds, surrounded by a conical roof, which served at once to admit daylight and to allow smoke to escape through a hole in the top. Into these huts the horseman rode, conversed with the inmates, then made his exit without having alighted. At meals they sat in circle, each with his block of wood and piece of meat. Around the central fire the whole family lay down to

savage dreams, while the wolf's long howl broke the silence of forest depth, or wild fowls screamed across the wilderness of shallow waters. Their property consisted of arms and cattle. Their weapons were bronze swords, spears, axes, and chariots with projecting scythes. Each tribe had a chief. The summons to war was made with the crantara—a stick burnt at the end and dipped in blood, carried by a dumb messenger from hamlet to hamlet.

There is an old Celtic story which says that they mixed the brains of their slain enemies with lime and played with the hard balls they made of them. Such a brain-stone is said to have passed through the skull of an Irish chief, who lived afterward seven years with two brains in his head, always sitting very still lest in shaking himself he should die. In the mounds of these old Britons are found vases containing their bones and ashes, together with swords and hatchets, arrow-heads of flint and bronze, and beads of glass and amber. They believed that things useful and pleasing here would be needful in the shadowy realms.

The Druids, with consecrated beads and linen tiaras, were the priests of their religion. The authority of the Druids was great. Controversies among states, as well as individuals, were decided by them. The sentence of excommunication was pronounced against persons refusing submission to their decrees. Even death afforded a relief to the severe penalties inflicted upon those thus doomed. The Druids would not worship their gods under roof. At noon and night, within a circular area marked by enormous stones and of vast circumference, they made their appeals with sacrifices, the victims being captives and criminals, or the innocent and fair.

Besides religious topics, the Druids also discussed many things concerning the stars and their revolutions, the magnitude of the globe and its various dimensions, the nature of the universe, the energy and power of the immortal gods. It was the aim of the Druids to keep their doctrines enveloped in the deepest mystery; consequently they strictly forbade the committing of them to writing, lest at any time they should be read by the uninitiated.

The Romans made many improvements in the civilization of the Britons. The rude hut was changed into a more stately and commodious house. Better forms of government and worship were established. Agriculture and commerce were greatly improved. Traces of Roman thought have been transmitted through the Britons to us. They may be seen in the names of our months, in our marriage ceremonies, and funeral customs. The Romans had the veil, the ring, and the wedding gifts, the groomsmen, the brides-maids, and the bride-cake. With them cypress was an emblem of death. They strewed flowers upon the graves of their friends, and wore black for mourning. The girl who, when her ears tingle says, a distant one is talking of her recalls the Roman belief in some influence of a mesmeric nature which produces this effect. Many a Roman has been intensely excited by the screech-owl at midnight. The tenderness and sweet melancholy of the Britons are exhibited in the words of their bards, setting forth the feelings of the father who has seen his son fall in battle.

The Danes were a sea-faring people. We are told, in story, of their sea-kings who had never slept under the smoky rafter of a roof, who had never drained the ale-horn by an inhabited hearth. The waves were their

territory, the two-sailed ships their dwelling. They laughed at the storm, and sang, "The blast of the tempest aids our oars; the bellowing of the heavens, the howling of the thunder hurts us not; the hurricane is our servant, and drives us whither we wist to go." The Danish code of honor was that a brave man should attack two, stand firm against three, give ground a little to four, and only retreat from five. They fondly looked to an immortality in Valhalla, where they expected continually to drink ale from large hollowed skulls, and forever to hew each other in bloodless conflict.

Among the Anglo-Saxons the orders of society were two—the bond and the free. Serfs or slaves were either the captives of war or those who had outraged law. Freemen were divided into two classes—earls and churls. The Anglo-Saxons have always been a nation of farmers. To be without land was to have no hope for distinction. Ten men grouped by kinship formed a tithing, also known as "ten men's tale." Ten tithings constituted a hundred, and several hundred a shire.

Every crime was held to have been committed by all who were related to the doer of it, and against all who were related to the sufferer. A number of his kinsfolk are the sole judges of the accused. By their oath of his innocence or guilt he stands or falls. In this we have the germ of the jury system.

The duel and ordeal were other modes of appeal. They believed that fire and water were deities. The gods are just; therefore, plunge the accused into water, and if innocent he will escape; or drive him over red-hot plowshares, and if guilty his burns will furnish an infallible sign of it.

The Anglo-Saxons lived in villages—knots of farms—surrounded by a common ground, across which none must go except he blow his horn, else, being considered a foe, he may be lawfully slain. Their court-houses and legislative halls were moot hills or sacred trees. Here the farm was transferred to the purchaser by the delivery of a turf cut from its soil. Justice was administered in accordance with the unwritten code, "Eye for eye, life for life, or for each fair damages." Capital punishment was inflicted for treason, desertion, and poison. Sentence was pronounced by the priest. The king and the witan, or wise man, who limited the jurisdiction of the king, convened under some tree to settle questions of peace and war, or transact other important business. The parliament of a great nation has its origin in this uncouth assembly. The king had a chosen confidant, the knower of secrets. This one is now called prime minister.

If we would know the fountain whence flow the outward actions of a people we must study their religion. Being asked the origin of the universe and man the Anglo-Saxon theologian would explain as follows:

In the beginning there were two worlds—Niflheim, the frozen, and Muspel, the burning. From the falling snowflakes, quickened by the Unknown who sent the heated blast, was born Ymer, the giant.

When Ymer lived
Was sand nor sea,
Nor cooling wave;
No earth was found,
Nor heaven above;
One chaos all,
And nowhere grass.

Fallen asleep, from his arm-pits spring the frost giants. A cow, born also of melting snow, feeds him with four milk rivers. While licking the perspiration from the rocks there came at evening out of the stones a man's hair, the second day a man's head, and the third the whole man was there. His name was Buri. His grandsons—Odin, Vili, and Ve—killed the giant, Ymer, and, dragging his body to the abyss of space, formed of it the visible universe; from his flesh, the land; from his bones, the mountains; from his hair, the forests; from his teeth and jaws, the stones and pebbles; from his blood, the ocean; from his skull, the vaulted sky, raised and supported by a dwarf under each corner—Austere, Wester, Nordre, and Sudre; from his brains, scattered in the air, the melancholy clouds. The flying sparks and red-hot flakes cast out of Muspel they placed in the heavens and said, "Let there be light." As the sons of Bor, powerful and fair, were walking along the sea-beach they found two trees, stately and graceful, and from them created the first human pair—man and woman—Ask and Embla.

The Anglo-Saxons had two heavens. Valhal was the most glorious. Thither the valiant soldiers who fall in battle shall be transported. Valhal is the airy home of Odin, upheld by spears, roofed with shields, and adorned with coats of mail. In this supernal abode these savage ancestors of our English race expected to have daily combats in the listed field. After the day's slaughter victor and vanquished shall meet unscathed around the festive board to partake of the ample banquet and quaff full horns of beer. The dying hero, with eyes fixed upon Valhal's wide-flung door, says:

Cease, my strain; I hear a voice
From realms where martial souls rejoice;
I hear the maids of slaughter call,
Who bid me hence to Odin's hall.
High seated in their blest abodes,
I soon shall quaff the drink of gods.
The hours of life have glided by—
I fall! but laughing will I die.
The hours of life have glided by—
I fall! but laughing will I die.

He who fell not in battle entered a more peaceful but less glorious elysium. The vicious are punished in the cave of the giantess, Hell. This cave, built of serpents wattled together, with heads turned inward, is situated far from the sun, ever downward and northward. But all the horrors you can not know that Hell's condemned endure.

The Saxons, though true, valorous and liberty-loving, were bloody-minded. They sacrificed sometimes those taken in battle. Their disputes generally ended in blood. They were great eaters. Six meals a day were barely sufficient for them. Before King Ethelbert's time murder was expiated in three ways—by blows, from five to ten thousand, by a fine of gold, or by a gift of a female to the offended party. In the sixth century King Ethelbert established the first code of written laws that exists in any modern tongue. The following are some of his laws:

If in the king's town any one a man slay, fifty shillings must be paid.

If any one in an earl's town a man kill, twelve shillings shall be paid.

If an ear be cut off, twelve shillings shall be paid.

If an eye be gouged out, fifty shillings shall be paid.

If a rib be broken, three shillings shall be paid.

Woman was respected among the Anglo-Saxons. She was allowed to associate with the men at their feasts. The law accorded to her protection. She inherited property and bequeathed it. The men were contented with one wife. Woman's devotion was strong. The maid died on the grave of her lover.

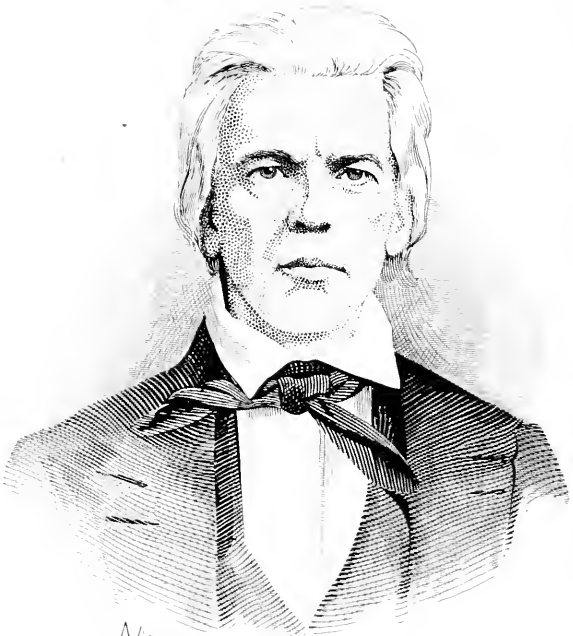
The Normans were superior to the Saxons in refinement of manners, in taste, and intellectual culture. The men were studious and desirous to gain the applause of the ladies. Woman's vastly becoming smile and perfumed breath impressed them. Nature was pretty rather than grand to the Norman. He was polite, elegant, graceful, talkative, dainty, superficial.

I have given but a few facts respecting our English ancestors. In many things the English people are the greatest under the sun. They have acquired territory in every quarter of the globe. The world from one end to the other has felt the tread of their military forces. In commerce there are none greater. In politics their statesmen rank first. "In literature," says Shaw, "their novelists paint the finest portraits of human character, their historians know the secret of entrancing and philosophic narrative, their critics have the keenest acumen, their philosophers probe far into the philosophy of mind, their poets sing the sweetest songs."

While crossing the sea to their island home they were an unimportant tribe; now they fill many lands. Receiving additions from the Celts, the Romans, the Danes, and the Normans, they formed a composite nation, but they did not lose their liberty-loving spirit. As a nation they have always upheld with increasing strength the principle that power is derived from the governed for the general good. In literature and life

they have furnished the moral pioneers and teachers of the world.

From the elements which enter into the composition of the English people we may expect the bold imagination of the Celts, the tacit rage and adventurous maritime spirit of the Danes, the drawing-room polish of the Norman, and the energetic sense of truth, the assertion of the right of individual liberty, the resolute habit of looking to the end, the deep power of love and grand power of will which are peculiar to the Saxon.



NATHAN GREEN, L.L.D.

THE OLD GUARD.

By N. GREEN, LL.D.,
Chancellor and Professor of Law.

"And There Were Giants in Those Days."

It has been thought well to preserve in this place, by brief mention, some facts and dates in reference to some of the men who began and carried on for a time the institution from which this work emanates. It is impossible, of course, to name all to whom credit is due. Want of space confines the compiler to a few names, and he has chosen to select the more prominent of those who were actually connected with the University as teachers, and those only who have passed away.

It is proper to say that many of the facts and much of the identical language used in the following sketches are taken from "Cumberland Presbyterian History," by J. Berrien Lindsley, M.D., D.D.

Those who desire a more elaborate history of Cumberland University and the men connected with it are referred to the October number, 1876, of the *Theological Medium*, Rev. M. B. DeWitt, D.D., editor.

ROBERT LOONEY CARUTHERS.

Beyond all question to Judge Caruthers more than to any other man is due the credit of establishing and perpetuating Cumberland University. His large means and his larger heart and his wise head made

him a leader in every enterprise in which he engaged. He was eminently an unselfish man. His heart was set upon the good of the community, of the town in which he lived, of the church to which he belonged. He was a man among men. It was he whose magnetism and persuasive influence gathered around him and Cumberland University such men as F. R. Cossitt, Nathan Green, one of the Judges of the Supreme Court of Tennessee, Thomas C. Anderson, Abraham Caruthers, Richard Beard, N. Lawrence Lindsley, Bromfield L. Ridley, B. W. McDonnold, and others. With this accumulation of intellectual and moral power to propel it, how could the enterprise fail?

Judge Caruthers was born in Smith county, Tennessee, July 31, 1800. After attending the old-fashioned country schools of the time he studied for a while at Columbia, and also at Washington College, East Tennessee. He read law under the direction of Judge Samuel Powell, in Greenville, and practiced his profession first in Carthage, in the county of Smith, and afterward in Lebanon, Tennessee. He was elected clerk of the House of Representatives in this State in 1823.

In September, 1827, he was elected Attorney-General of his district, and in 1834 was made Brigadier-General of Militia. He served in the legislature as a member from Wilson county in 1835, was in the United States Congress in 1841, and in the Confederate States Congress in 1861. He was elector for the State at large on the ticket of his party in 1844. In 1849 he was made Grand Master of the Masons for the State of Tennessee. He was appointed Supreme Judge of Tennessee by Governor Campbell in 1852, to fill the vacancy occasioned by the resignation of the Hon.

Nathan Green; was re-elected by the legislature in 1853, and the following year, on a change of the constitution, was again re-elected by the suffrages of the people of his native State.

In the spring of 1861, when the peace congress was held in the city of Washington, over which ex-President Tyler presided, Judge Caruthers was appointed by the authorities of Tennessee one of the delegates to that important body. But the country was in no condition to listen to propositions of peace. The war was inevitable, and he sided with his State and his people.

Judge Caruthers was always the friend of temperance reform and of all movements looking to the elevation of the people to a higher point of moral and intellectual progress. It is not surprising, therefore, that he should have been elected by the Grand Division of the Sons of Temperance, in 1849, Grand Worthy Patriarch of the State.

Judge Caruthers was the first president of the Board of Trustees of Cumberland University, having been elected upon its organization. He continued to fill this position until his death. In 1868 he was induced to abandon a lucrative practice and acceept a position as Professor of Law in the University, where he did much effective and vigorous service, softened and directed by the wisdom and grace of a very green and happy old age.

He was a ruling elder and a devoted member of the Lebanon congregation of the Cumberland Presbyterian church. He was often a delegate to the church courts, and seemed as much at home among the ecclesiastics in the General Assembly as he was among the judges upon the Supreme Bench. His influence for

good in State, in church, and in society was widespread, deep, and permanent. He was, no doubt, raised up in the providence of God for a great and noble work, which he grandly performed. He died at the advanced age of fourscore and two, in the month of October, 1882.

This brief and imperfect sketch may afford food for thought, and, to the future biographer, be of value for reference. Of its subject there is no hesitation in writing that his is eminently *clarum et venerabile nomen.*

FRANCEWAY RANNA COSSITT, D.D.

Dr. Cossitt was the first president of Cumberland University. He entered upon his work in February, 1843. At that time there were but few students, and consequently there was but little for him to do. He assumed the office, however, and presided in the faculty when necessary, but held the position only one year, when he resigned to enter into another field of labor. While, therefore, his connection with Cumberland University was brief, and for the most part nominal, still he should be mentioned here as one of those great men who gave to the institution the weight of his influence, as well as his active support.

Dr. Cossitt's work as an educator was performed while he was president of Cumberland College, at Princeton, Ky. Indeed, he was a pioneer in the matter of education among Cumberland Presbyterians. He was born at Claremont, New Hampshire, April 24, 1790. He came South in his youth, and, falling among Cumberland Presbyterians, became enamored of their doctrines, and was soon established as a regular member and minister in that church.

It is well known that the people of the South and

West in that day had but little education. They were brave, hardy, honest, and uncultured. The few ministers of the Cumberland Presbyterian church were somewhat above the masses in these respects, but, after all, were very much like them. Dr. Cossitt, on the other hand, was refined, cultivated, and scholarly. He was not arrogant, however, but modest and meek, associating heartily and freely with his newly-made brethren. He made himself one of them, and they in turn admired, respected, and honored him, and at once placed him at the head of the educational interests of the church. In this position he labored many years earnestly and patiently. He might, indeed, be denominated a missionary as well as a pioneer. He was no doubt the only genuine scholar among his brethren at the time referred to, and was therefore the father of letters and literature in the Cumberland Presbyterian church.

After he had resigned the office of president of Cumberland University he established the *Banner of Peace* at the town of Lebanon, which he conducted vigorously and successfully for many subsequent years. Dr. Cossitt belonged to that old school of courtly gentlemen who are fast passing away. He had great dignity, and at the same time great gentleness. He was a fine disciplinarian and a chaste and vigorous writer. New England, among its hosts of emigrants to the West, has sent out no worthier son than the indefatigable, high-spirited, indomitable, scholarly, and yet unobstrusive Cossitt.

No one can go through the long records of his editorial and educational labors without forming the highest opinion of his intellectual and moral worth, nor without astonishment at his patience and heroism.

Cumberland University may well take an honest pride in the character of its first president. He died at Lebanon, February 3, 1863.

THOMAS C. ANDERSON, D.D.

Dr. Anderson was the second president of Cumberland University. He was born October 1, 1801, in Sumner county, Tennessee. His father was the Rev. Alexander Anderson, who was the first candidate for the ministry licensed by old Cumberland Presbytery under protest against the doctrine of eternal election and reprobation as taught in the Westminster Confession of Faith, and who, after a brief but brilliant career in the ministry, died when his son Thomas was only three years old. The boy's training, therefore, devolved entirely upon his mother, who was a devoted member of the Presbyterian church. In his twenty-fourth year he became a member of the Cumberland Presbyterian church.

The principal part of his education was received under Dr. King, a successful educator at Gallatin. In his youth ill-health prevented his constant attendance at school, and it was not until he was a mature man that he entered college. In 1829 he entered Cumberland College at Princeton, Kentucky, as tutor, but he applied himself closely to his own studies during the year and graduated at its close. He was then elected Professor of Languages, and returned in the fall of 1830 to assume his new position. In 1831 he was licensed to preach, and he left the professor's chair for the varied experiences and responsibilities of a "circuit rider." The General Assembly in the following May appointed him assistant editor of *The Cumberland Presbyterian*, edited and published by the

Rev. James Smith at Nashville. In 1833 he was ordained by the Nashville Presbytery.

He spent four years as editor, and then withdrew to take charge of the Male Academy at Lebanon. He was soon after called to the care of the church at Winchester, Tennessee, and in the fall of 1838 entered upon his first pastorate. In connection with his duties as pastor he was principal of the Female Academy. The double tax upon his energies was too much for his strength.

About the year 1841 he assisted Rev. Herschel S. Porter in a camp-meeting at Old Goshen, near Winchester. The two preached alternately. The result was a very great religious awakening. Dr. Anderson was remarkably successful in explaining the way of life to the penitent. One day Dr. Porter preached an eloquent sermon on the jailer's conversion as narrated in Acts xvi. It so happened that the jailer of the county, who was a very wicked man, and who was a neighbor of Dr. Anderson, was present and was much wrought upon, and rushed to the altar when the penitents were called and fell at Dr. Anderson's feet. His own overworked condition and the remarkable coincidence were too much for the Doctor. He raised his hands, exclaiming, "And here is the jailer!" and immediately fainted away. This was the beginning of a chronic heart failure, and prevented him ever afterward from preaching.

He accepted, however, in 1842, the chair of Languages in Cumberland University. In October, 1844, Dr. Cossitt having resigned the presidency of the University, Professor Anderson was elected to fill the vacancy, and entered at once upon his new duties. Under his able and judicious administration the insti-

tution had a most prosperous and fruitful career unti the outbreak of the Civil War.

Just preceding that contest the University was the pride and crown of its friends everywhere. Its last catalogue previous to the time of its suspension exhibited more than four hundred and eighty students. Its *alumni* by hundreds adorned all ranks, positions, and professions of society. President Anderson held his high position until 1866, when he resigned, and B. W. McDonnold, D.D., succeeded him. In his administration Dr. Anderson's course was distinguished by a magnanimous, liberal, and Christian view of his great responsibilities and duties. He was noted for his wisdom in dealing with all the interests of the University, common sense being one of his peculiar characteristics in all matters of counsel, whether public or private. The nobility of his nature kept him far above the narrowness of bigotry or the petty prejudices of party.

His domestic life was as beautiful in its simplicity and easy dignity, as real and firm in its purity of character, and as godly and consistent in its Christianity as his public career was honorable in its conduct and commanding in its influence.

He was a man of great courage. He never quailed before mortal, and yet he was remarkably easy of approach. He had no concealments. His great heart was always open and full of sympathy for those in need. He died February 3, 1882, in the eighty-second year of his age.

Tennessee never gave birth to a nobler son, Cumberland University never had a more faithful servant, nor the Cumberland Presbyterian church and the cause of Christ a truer friend than Thomas C. Anderson.

B. W. McDonnold

BENJAMIN W. McDONNOLD, D.D., LL.D.

Dr. McDonnold, the third president of Cumberland University, was born March 24, 1827, in Overton county, Tennessee. When six years old, under the guidance of a pious mother, he had memorized the catechism. He was received into the church in his tenth year, and at twelve began preparation for the ministry, and became a candidate for that holy office in his sixteenth year. Like Felix Grundy, he learned books at night by the light of the fire, and while at the plow-handle studied the classic grammars.

His father moved to West Tennessee, and there his industrious son learned more Latin and Greek under David Cochrane, a classic teacher of repute. When seventeen years of age he actually memorized the New Testament and could repeat it. In 1847 he went to Princeton, Kentucky, to college, and graduated in 1849. He was then elected Professor of Mathematics in Bethel Seminary and taught one year. He next went to Philadelphia as successor of the eloquent Dr. H. S. Porter, but, his health failing, he returned South an invalid. In 1852 he resumed the teaching of Mathematics in Bethel College. In 1860 he accepted the chair of Pastoral Theology in Cumberland University, and removed to Lebanon, Tennessee.

During the early part of the Civil War he became for a short time pastor of the church at Lebanon, after which he was a chaplain in the Confederate army, and so remained until the war closed. He was now a third time connected with Bethel College, but this time as president one year, when he resigned and became the pastor of the church at Lebanon. In 1866 he was elected president of Cumberland University.

Dr. McDonnold entered upon this very important work under the most trying circumstances. A desolating war had swept over the country. The survivors of that unhappy strife, upon their return, found their fencing gone, shade trees cut down, houses burnt, and the people impoverished. As to the University, it had but little left. The endowment, which consisted for the most part in notes and other securities, was almost entirely lost. Splendid buildings, the pride of the country, had been completed just before the strife began. These were all swept away by the flames. Dr. Richard Beard and President Anderson, under the direction of the trustees, had collected a few students and taught them in hired buildings, but the prospect was unpromising indeed.

Dr. McDonnold was a frail man physically all his life, but he possessed what was of more value to the public than health itself—a will to work. He at once brought to bear all his energy and all his learning upon the task before him. By his correspondence, which was immense, he revived an interest in the institution all over the church. He conceived and carried forward the plan of a "cash endowment," as he was pleased to term it, which simply consisted in taking up collections for the purpose of paying the current salaries of the professors.

Of course, such a scheme could not last long, but it tided the University over what had appeared insuperable difficulties. Perhaps no man ever connected with the University labored more for its prosperity. He toiled night and day for seven years. During his administration, due to his own efforts and the hearty support of the noble men who stood around him, there was quite a revival. Friends were awakened far and

near. Buildings were provided and all the departments of the University put in working order, so that in the collegiate year of 1870–71 there were three hundred and thirty-five students in attendance. No one claims for Dr. McDonnold alone the credit of all this. He used to say that the Board of Trustees was the best board in the world.

Dr. McDonnold was distinguished not only as a scholar and educator, but as a preacher and a writer. As a preacher he was remarkable for his clearness, not only in stating and establishing his propositions, but in the distinctness of his enunciation. He pronounced every word so that no one in the largest audience could fail to hear him. He seemed to comprehend that when a preacher preached he should take pains to be heard, if indeed he should say any thing worth hearing. After listening to one of Dr. McDonnold's sermons or addresses any intelligent hearer could almost repeat it, so clear was the impression.

As a writer he was remarkable. His History of the Cumberland Presbyterian Church, recently published, and numerous newspaper and magazine articles, bear testimony to his ability as a writer. A distinguished editor who published many of his articles said of him that there was an *unction* about his style which was found in that of few other men.

Dr. McDonnold's ill-health compelled him to resign the presidency of the University in 1873. Afterward he became an evangelist, earnest, devoted, and successful, laboring with gracious results not only in his native State, but in Texas, California, Pennsylvania, and elsewhere. Hundreds still living are ready to rise up and call him blessed. He died at his home on the 27th day of February, 1889.

NATHANIEL LAWRENCE LINDSLEY, LL.D.

Dr. Lindsley was elected Professor of Greek and Latin in Cumberland University in 1844. He was born at Princeton, New Jersey, September 11, 1816. In 1824 his father, Philip Lindsley, D.D., who had recently declined the presidency of the College of New Jersey, removed to Nashville, Tennessee, to accept that of Cumberland College, afterward the University of Nashville. President Jackson, his warm personal friend, nominated his son, Nathaniel Lawrence, to a cadetship at West Point in 1833. Two years of rigorous climate and the exposures then incident to cadet life impaired a robust constitution, inured to all manly sports, so that in 1835 young Lindsley resigned his appointment and entered the senior class at Nashville, and was graduated in 1836. He then served two years as tutor.

His college life was at the most brilliant period of his father's splendid career, and he became fully imbued with classic culture and a burning zeal in the work of education.

In 1841 he was married to Julia, daughter of Moses B. Stevens, eminent as a classical instructor and leading Mason. He was then a citizen of Wilson county, having opened a farm upon a tract of land donated to his grandfather, Nathaniel Lawrence, of New York, by the State of North Carolina for military service in the line of that State during the War of Independence.

His chief work in Cumberland University was as Professor of Greek and Latin from 1844 to 1849. To the duties of this station he brought all his energies, and against the protests of his friends worked too

hard, but made his impress indelibly upon the institution for good.

After resting a while he commenced, upon his beautiful farm, a school for young ladies, limited in number of pupils and characterized by his own peculiar and sound educational ideas. This became widely known as Greenwood Seminary, and under his accomplished widow, so long his skillful colleague, continued to do excellent work until her death. After the war, with characteristic energy, he refitted and greatly enlarged Greenwood Seminary, and was apparently about to reap the rich harvest merited by long years of patient preparation, when a short illness removed him to a higher school, October 10, 1868.

He was in a marked degree without guile, fearless, bold, and determined. For years he had been a devout, consistent member of the Cumberland Presbyterian church. He was very warmly attached to the eminent clerical and lay members of that church with whom he was so intimately associated at Lebanon, and they without exception regarded him as a counselor and a friend.

As an educator he possessed in an eminent degree the two great qualities so wonderfully adorning his distinguished father's life, to wit: thorough, exact, profound classic culture, and the faculty of inspiring an enthusiastic devotion toward himself in all his scholars. All the ten years previous to 1861 these qualities gave him influence and reputation with the hosts of youth assembled at Lebanon.

He was the friend and valued correspondent of Worcester, the lexicographer, and Everett, the most polished of American orators. In conversation he was gifted and interesting. With the pen he was

ready and convincing. His articles in the *Banner of Peace* and elsewhere always commanded notice. He ought to have written more; but his reason for not doing so was that for years before his decease he had expended much time and labor in collecting materials for a new and complete dictionary of the English language under the name, "Encyclo-Lexicon." The plan, though original, was very similar to that since carried out by Littre in his celebrated French dictionary.

This brief outline of Dr. Lindsley's career will show that he was eminently worthy of the mention made of him in that standard work, "The Resources of Tennessee," as a man "long recognized throughout the country as Tennessee's great educator and scholar."

ABRAHAM CARUTHERS.

Judge Abraham Caruthers was the first law professor in Cumberland University. The Hon. N. Green, of the Supreme Bench of Tennessee, was elected Professor of International Law and Political Economy in 1845, but declined the position.

Judge Caruthers, who was subsequently requested to establish a law school, entered upon that work in the month of October, 1847. He was born in Smith county, Tennessee, January 14, 1803. While he was yet a child his father died. By the help of friends and his own strong will he acquired a respectable education, studied law, and commenced the practice in 1824 in the town of Columbia, Tennessee. Remaining there but a short time, he removed to Carthage, and was appointed by Governor Carroll, in 1833, judge of the Circuit Court, to fill a vacancy occasioned by the death of Judge Williams. He was barely eligible on

ABRAHAM CARUTHERS. L.L.D.

account of age, and was at the time of his appointment the youngest judge in Tennessee. He rose rapidly to distinction, and soon won the admiration and confidence of the entire bar throughout his large circuit, and was chosen as judge for another term by the legislature without leaving his home to attend the election at Nashville.

At the expiration of his second term so great was his fame that he was re-elected without opposition. Few of his decisions were overruled, and many of them are incorporated into the opinions of the Supreme Court. As a judge he was a terror to evil-doers and a strong bulwark to the innocent. He resigned in 1847 to enter upon his new work.

The attempt to establish a law school was an experiment in this part of the country. After but little advertising a few young men were gathered at the feet of this Gamaliel. No room as yet had been prepared for the law class. In the law office of his brother, Hon. Robert L. Caruthers, the new professor was met by seven students, the number increasing during the term to thirteen. The first lesson recited was in "The History of a Law Suit," a little work of only forty pages which he had just published, and which he modestly denominated "The Primer."

The old system of lectures, which had been universally adopted in the professional schools in the United States, was utterly discarded. Judge Caruthers held that the science of law should be taught in the same way that mathematics, or chemistry, or any other science is taught; so that, instead of adopting a new method, he simply returned to the old paths. He assigned a given portion of the text every day, and upon this he rigidly examined every student. He also

adopted a system of moot courts, and his students were made practicing lawyers from the first. They had their sheriff, their jurors, their fictitious clients, and their professor as judge.

This plan soon became popular. The second year of its existence Judge Green, of the Supreme Court, and the Hon. B. L. Ridley, of the Chancery Court, were made additional professors. The latter, however, taught but little, and that only for a short time. The success of the school under the administration of these teachers was unparalleled. In 1861 one hundred and eighty students attended. On the 13th day of April, 1861, President Lincoln's proclamation to suppress the "insurrection" in the Southern States resulted in an immediate suspension of the exercises and the scattering of the students to their homes, and thence to the armies of the respective belligerents.

Judge Caruthers had been a pronounced friend of the Union and an opposer of secession. On several occasions, in addressing the students before the public, he uttered the most burning and eloquent sentiments in favor of an undivided country. When, however, the proclamation of the President came asking Tennesseans to volunteer to fight their brethren of the seceded States, and it became evident that every man must make his choice, he determined to go with his people, and did not hesitate to advise resistance. He reluctantly consented to represent the county of Wilson in the legislature in 1861, and served in the body that pronounced a separation of the State from the Union. This to him was no pleasing task. It was simply what he considered a choice of evils.

When the country became occupied by the soldiers

of the Union, apprehending an arrest, he left his home and went to the town of Marietta, Georgia, where, away from his family and friends, he died among strangers on the 5th day of May, 1862, in the sixtieth year of his age. Thus departed one of the purest men and one of the greatest lawyers ever produced in this country.

Hon. John M. Bright, a distinguished contemporary, said of him: "He was modest as he was meritorious, consistent as he was conscientious, useful as he was laborious, exalted in principle as he was liberal in spirit, profound as he was accurate, sound as a lawyer, able as a jurist, popular as a professor, successful as an author, irreproachable as a citizen, exemplary as a Christian, and the founder of the law department of the Cumberland University."

Such was Abraham Caruthers.

RICHARD BEARD, D.D.

As early as 1849 the establishment of a Theological Department of the University was discussed in the General Assembly, but no definite action was taken till 1852, when Dr. Beard was elected Professor of Systematic Theology by the Board of Trustees and confirmed by the succeeding General Assembly, but did not immediately enter upon the duties of his chair.

Dr. Beard was born November 27, 1797, in Sumner county, Tennessee. His early education was not without care, yet limited. He was licensed and commenced preaching in 1820. He had many difficulties to overcome—a slender physique, a slender purse, but little learning, an embarrassing impediment in his speech, and no rich kinsfolk to help him.

It has been said of him by those who witnessed his

first efforts that he was the reverse of promising. His manner was ungainly and his delivery difficult. As he often said of others when intending to compliment them, he had the "root of the matter in him." That is to say, he felt that he was called of God, he had brains, and he had pluck. He taught school some and preached some and studied much. He finally entered Cumberland College, Princeton, Kentucky, and after two years and a half was graduated.

He was immediately appointed Professor of Languages in that institution. He afterward spent five years at Sharon, Mississippi, in connection with a college there, but was recalled to Cumberland College in 1843, this time as its president. There he remained ten and a half years and did an important work for the cause of learning.

In 1854 he began work as the first regular theological professor in Cumberland University. He was called especially to the chair of Systematic Theology, but, not having sufficient assistance, it became necessary for him to teach almost the whole course. He gathered around him and instructed a number of promising young men, some of whom have now become not only gray, but great. Dr. Beard's heart was greatly set upon this enterprise. He wrote, labored, and prayed unceasingly for its success.

Often he was deeply discouraged and almost in despair, fearing that the church would never take hold in earnest and build up a theological school. He certainly was one of those who "sowed in tears." It was a great comfort to him, therefore, that he lived to see a faculty of competent instructors and lecturers associated with him and a large increase in the attendance of pupils.

Dr. Beard gave to the church an able and standard work on systematic theology, which was regarded as the crystallization of Cumberland Presbyterian thought and faith. Besides, he published two volumes of exceedingly interesting biographical sketches of ministers, a small volume of popular divinity in answer to the question, "Why am I a Cumberland Presbyterian?" and a large volume of "Miscellaneous Sermons, Reviews, and Essays." His contributions to the general literature of the church were constant and valuable.

Dr. Beard deserves to be held up as a model. His great dignity, purity, and gentleness of character marked him as a representative man. He was a gentleman in every sense of the word. Those little acts and deeds, so often overlooked and yet so necessary to a perfect character, his courtesy upon the street and in the parlor, his punctilious attention to strangers, his cordial hospitality, were remarkable indeed. He was always considerate of the feelings of others, and full of sympathy for those in distress. Hundreds of heavy hearts have poured their sorrow into his listening ears. As for purity, it is safe to venture the assertion that in a long life of fourscore years no corrupt communication proceeded out of his mouth.

Dr. Beard's whole life was a demonstration of the superiority of mind and goodness over matter and sense. He enjoyed the pursuit of knowledge with the keenest zest, while he initiated hundreds of others into the same delights. He did not relax even in his old age. As an evidence of this is the fact that he actually wrote and published his elaborate system of theology when over sixty years of age. He thus ranks high in the list of "old men eloquent." As a theo-

logian he was eminently successful, and did a great work for sound evangelical doctrine.

As heretofore intimated, he labored till the last. He died the second day of December, 1880. He died at his post. He died as might have been expected of one who had lived such a life. When the power of speech was gone he was still conscious, still intelligent. When asked by his weeping wife, "What shall I now do? To whom shall I now look?" unable to speak, he raised his finger and pointed upward. That hand has perished, but the good deeds, the noble life, the pure example, the spotless reputation of that great and good man, are pointing upward still.

NATHAN GREEN.

Judge Green was born in Amelia county, Virginia, on the 16th of May, 1792, and died at his home in Lebanon, Tennessee, March 30, 1866. He studied law and began the practice in his native State, but shortly after removed and settled in the beautiful mountain town of Winchester, Tennessee, where he engaged in a vigorous and lucrative practice.

At that time there was a low state of morals in the profession. Gambling for money was a common vice. He was enticed by professed friends to engage in a game of cards for amusement, then to risk a small sum, and finally a great one, so that in a few years he lost quite a fortune. His severe reverses, added to the faithful, loving patience and prayers of his wife, brought about a sincere repentance. He abandoned forever the habit of gambling, became a devoted Christian, and then an elder in the Cumberland Presbyterian church.

From this time forward his influence at the bar and upon the bench was distinctly and powerfully upon the side of virtue. Tall and imposing in person, with a deep-toned and impressive voice and a most earnest and dignified manner, from the first he commanded that respect and attracted that attention which usually follow the later developments of ability.

As early as 1826 he was made a member of the State Senate. There he had no superior. He was soon elected one of the Chancellors of the State, when there were but two who occupied that honorable position. In 1831 he was made a judge of the Supreme Court, and for more than twenty years, by election and re-election, until his voluntary retirement, he remained upon the bench without stain or reproach. There he was associated with such men as Catron, Reese, Turley, and McKinney. During that score of years it is not too much to say that he did his full share in building up the judicial system of Tennessee. Some of his admirers have called him the Hardwick of Tennessee. Others have said of him that he was the father of equity in his own State. Certain it is that no man has made a greater impression upon our laws or left a more lasting record. He was a great judge, indeed, taking rank with Gaston, Shaw, and Kent.

In 1852 he retired from the bench to enter fully upon his work as Professor of Law in Cumberland University. He had become well known to the profession in Tennessee and to the country in general, and was in the fullness of his intellectual manhood. Associated in this work with Judge Abraham Caruthers, the two could not have failed to attract the youth of the country. They flocked around them until the

breaking out of the war in 1861 as the youth of Athens used to gather around their great philosophers. During the time of hostilities Judge Green remained quietly at home. He had all his life deplored secession and disunion. He loved the Union, and in his youth had given proof of his devotion by enlisting and serving as a soldier in the war of 1812–15.

In all his speeches and lectures before the students he had argued and spoken for the integrity of the Union of our fathers. He denied, however, with great vehemence the right of the people of the North to interfere with the domestic matters of the people of the South. When, therefore, the issue came he took distinct and unequivocal ground in favor of resistance. Though his opinions were well known and freely expressed he was not molested either in person or property by the United States troops.

Judge Green paid much attention to the study of the Bible, and was pronounced by those who knew no mean theologian. He was often a delegate to the various church councils. It was his habit, whenever called upon by his pastor, to conduct the religious exercises at the ordinary prayer-meeting or the more public service, or even at the great camp-meetings which were common in his day. On these occasions he spoke with great fluency and earnestness. His heavy voice, somewhat elevated, with his exceedingly rapid enunciation, reminded one of a mighty torrent. He had no anecdote, no fancy, but his reasoning was irresistibly eloquent.

Whatever he did he did with all his might. In the spring of 1866 Judge Green undertook to work in the law school, which had just been revived. Although feeble, he thought he could do something. It was a

saying with him that he could not bear the idea of "rusting out." That is, he desired to be bright and actively at work till the last. But alas! the labor that he had attempted was too much for his strength. He taught a few weeks only. He went to his bed, and after a confinement of seven days passed away in the seventy-fourth year of his age. His last words were, "I trust in Jesus; all is well."