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V. P. JOURNAL

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NOTES.

"And we beseech thee,
That truth no more be gagged, nor conscience dungeoned,
Nor science be impeached of godlessness,
Nor faith be circumscribed, which as to thee,
And the soul's self affairs, is infinite;
But that all men may have due liberty
To speak an honest mind, in every land,
Encouragement to study, leave to act
As conscience orders."

THE Science Association of Victoria University, under whose auspices this Journal has been established, feel grateful at the reception which the Journal has received, and would tender thanks to all who have so generously assisted in promoting its welfare.

THE total wealth of the 400 American colleges and universities was, in 1880, about 40,000,000 dollars in buildings, 43,000,000 dollars in prospective funds. Are there many other investments in this land showing greater results? The interest is compounding itself. The figures seem large, but, compared with the amounts sunk in liquor, political trickery, and other vices, they dwindle into insignificance.

THE BRITISH EMPIRE.—The area of this Empire, at home and abroad, is nearly eight millions of square miles; the total population amounts to 315 millions of souls. This population, too, is increasing at the rate of 2½ millions annually; in other

words, by 25 millions every decade, or 50 millions in every 20 years. The total revenue amounts to 165 millions sterling yearly, and the external commerce of the United Kingdom, with all its colonies or dependencies together, to nearly 1,000 millions sterling in annual value. These facts show the Empire to be the greatest and richest that the world has ever seen. It may also prove to be nearly the most numerously-peopled Empire as well; at all events, the number of its people is enormous. Out of that population, about 35 millions, equal to one-tenth, are in the United Kingdom quarter of the globe.

> God bless you, gentlemen! learn to give
> Money to colleges while you live.
> Don't be silly and think you'll try
> To bother the colleges when you die,
> With codicil this and codicil that,
> That knowledge may starve while law grows fat,
> For there never was pitcher that wouldn't spill,
> And there's always a flaw in a donkey's will.
>
> HOLMES.

THE Toronto *Globe* recently invited correspondence from leading educationalists of Canada and the United States as to the question of co-education of the sexes. The result was decidedly in favor of the question, and the unanimity was stronger than expected. Wherever tried it has been a success. We have seen no valid arguments against co-education. If up to the time of collegiate training and after its completion, the two sexes are allowed to mingle together freely, why should this restriction be placed upon them during their collegiate careers? Surely there is nothing degrading in a college course; the state of morals therein found is not worse than elsewhere; the acquirement of knowledge and the cultivation of the intellect do not lower one's estimation of one's character. If the mingling of young people of both sexes in college halls be productive of immorality, and if the lessons there expounded be not of a higher moral tone, of a more ennobling influence, than the lessons of the promenade, the frivolous talk of the ball-room, the questionable attractions of the theatre, something

must be wrong with the institutions; the moral tone is too low; education, not to speak of co-education, is a failure, and the institutions should be closed by law. If the subjects taught, and the mode of teaching are not suitable to both sexes, the fault lies with the teacher: he should step down and out, and make way for a man whose moral character, love of humanity, and sound common-sense fit him for one of the most sacred positions in the world. The morality, the teaching, the sacredness of college halls should stand second to only one place—the church. Let the professors be men, or women, who hold their office as sacred as that of the Christian minister, and we have no fear. If such persons are not at present filling these positions, a reform is needed, and that at once.

MT. ALISON.—The new "Memorial Hall" of this Eastern institution is approaching completion. A cut in the Halifax *Mail* presents to us a handsome, three-storey building, of red sandstone, surmounted by a tower. This building, when completed, will cost about $25,000, and will be a lasting monument, marking an era in the advance of the education of the East, as well as that of Mount Alison University. The first graduating class numbered two, in the year 1863. Since then eighty-nine degrees have been conferred in arts—one on a lady. Seven honorary degrees have been donated. The funds of the College have lately been increased by a donation of $10,000 from a friend of the institution.

MANITOBA.—A new Medical College has been established in the City of Winnipeg, which will be in affiliation with the Provincial University. Lectures commenced on November 15th. The course is to continue four years, under the guidance of Drs. Jones, Ferguson, Blanchard, Codd, and other professional men. The phenomenal city is bound to keep up its reputation. The minds of its inhabitants seem to be returning to a proper level: all interest is no longer centered in corner lots and the fortunes of the present moment: the future welfare is being looked to, and the enlightenment of the rising generation. The Methodists of Manitoba intend to establish

a college in the near future, to be called Wesley College, for which a Charter has already been obtained. They have the beginning of an endowment in the shape of $20,000 worth of property, left by the late Edward Morrow, M.A., a graduate of Victoria University. It is thought that the scheme will become a fact in less than two years.

TORONTO UNIVERSITY.—The recent remarks of Dr. Grant, in reference to the granting of money to Toronto University, seem to be causing a great deal of stir in certain circles. And well they may, for they are the opinions of a large class of persons. The educational institutions of this land, State and Denominational, are crippled enough on all hands, but the answer is, use what you have economically and properly before you ask for more. We have no doubt that the Province will, in time, increase the grant, and we hope it will be done, for the work of our universities, we think, is under-estimated by the majority of our population. But, at the present time, Toronto University is spending needlessly, without any return, thousands of dollars in various ways, as in the granting of scholarships and fellowships. The scholarship system, as it exists generally, is wrong from beginning to end, and should be abolished. Let Toronto take the initiative and the other universities and colleges will quickly follow the example. Let the first year's work be relegated to its proper place, the High Schools and Institutes, and inexperienced Fellows be no longer given the work of older men. Let the economy, necessary in other poorer Institutions, be more manifest and we are sure that grants will be given freely, opposition will be silenced, and the power and position of Canadian Universities be raised to correspond with the power and position of English, French and German Universities.

CANADA AND HER STATESMEN.—In the foreground, at a single glance, are seen the several leaders of the parties, Provincial and Dominion. It is an appalling fact that there are many of these leaders doing their utmost to carry out their

private plans at the country's loss. The politics of Canada will soon be despised by men who prize personal honor and true individual independence. The language of politicians, from the leaders down to the ballot-box stuffers, their high-handed and *low-handed* actions, the reproachful language of the political press, and the barbarous epithets used by both parties indicate that morality among legislators and their tools is at a low ebb. Truth-loving men are not too numerous in our legislative halls.—*Crescent.*

MORMONISM.—Vain delusion! "Mormonism will die a natural death." Nonsense! This social scab is growing more hideous daily. The streams of filth, originating in the foul fountain of Salt Lake City, are increasing in number. Their unhealthy vapors are being carried on the ever varying winds to the homes of the pure and noble, as well as to the hovels of the wretched. The true fountain of this life-devouring disease is low, brutal sensuality. The American Union is tainted and polluted with many weaknesses, and this is one of the worst. Will Congress dare to touch this question? No. We say, emphatically, *no* It is powerful and feels its power. The cringing politicians of the United States will fold the slimy monster to their bosoms for the sake of a *seat.* They will fondle, nurse and *nourish* this stygian-dyed nursling of human corruption. "But the end is not yet."

QUITE an excitement is being created in the educational circles of Ontario over the proposed change from a Minister to Chief-Superintendent of Education. This discussion was inaugurated at the late meeting of the Ontario Teachers' Association by Mr. Bryant, of Galt Collegiate Institute, who presented a very valuable paper advocating such a change. Various County Associations have since taken up the question, but appear to be pretty equally divided in their views. The difference is not very great, and the discussion is more political than any thing else, there being probably very few taking an active part in it who do not see, in some way, from a party

stand-point. The school book embroglio is the chief cause of dissatisfaction, and certainly reflects no great credit upon the management of the Department. The mistake or weakness of a man, however, can scarcely be construed into the fault of a system. The chief danger of the present arrangement seems to be too intricate connections with the politics of the day, and the possibility of undue favor being granted to partisan friends and supporters. Taken altogether, it is very doubtful if the proposed change would be an improvement, and that it would be advantageous to change, for a comparatively irresponsible Superintendent, our Minister of Education, who, through the government with which he is connected, has to answer to the people at every popular election.

THE USE OF NARCOTICS.—People of all ages and of all climes have been more or less addicted to the use of narcotics in some form or other. The ancient Babylonians, Greeks and Romans drowned their cares in the intoxicating cup, a habit followed by most, if not all, of the civilized nations of to-day, while the latter, apparently not content with this one form, aggravate the consequent evils by their use of tobacco. The Chinaman has won for himself an unenviable reputation by his persistent use of that dangerous drug, opium. The inhabitants of cold Kamtchatka and the adjoining Provinces of Siberia comfort themselves with a species of fungus. The almost universal favorite among the African nations is the Indian hemp, which is also used in the form of *hasheesh* by the dwellers in Syria and Arabia. The natives of Peru and Bolivia were found, by Pizarro, chewing the dried leaves of the cocoa-tree, and they have not abandoned the habit to this day. The question naturally arises, "Why should these things be?" Is the proverb "*Vox populi vox Dei*" true in this case? What are the best means to prevent and cure such a degrading habit? These are questions which should be considered, not merely by the temperance workers, politicians and scientists of our day, but, also, by every one who has at heart the welfare of his fellow man.

METEORITES.—Astronomers have computed that the number of meteorites that daily fall upon the earth amounts to over seven millions. This number may be doubled for those invisible. The weight of this combined mass of matter will not, however, amount to over fifty tons daily, or, counting the unseen as well as the seen, we may say that about forty thousand tons of matter is added to the weight of the earth every year. Some scientists have contended that the formation of the earth is due to this constant raining of meteorites upon its surface, but at the present rate of growth it would require over twenty-five millions of millions of years. On a clear November evening we have often watched for these homeless wanderers of the sky. From the depths of unknown darkness would suddenly flash forth a mysterious body, sweeping for an instant across a portion of the heavens; in a moment it would be gone, and its bright train of fire would quickly fade away. We have often wondered what they are, and whence they come. To the imaginative and superstitious mind of the Indian they are the wandering souls of homeless spirits, while the fixed stars are the immortal spirits who, after much wandering, have found a final resting place. But the creations of the imagination, poetical and beautiful though they may sometimes be, are often far from the truth. Science steps in and reveals to us a world of truth and beauty, generally far surpassing our grandest fictions. Meteorites, falling stars, or areolites are masses of matter revolving around the sun in regular orbits. At certain periods of their revolution they are brought into close proximity to the earth, are drawn towards it by its superior attraction, and finally are brought into the upper regions of the atmosphere, through which they fly at a tremendous rate of speed. By friction with the air they are heated, set on fire, and, it may be, consumed, leaving behind the products of combustion in the atmosphere, or falling to the ground in fine meteoric dust. Sometimes the heat generated is not sufficient to burn up the body and it is hurled into the earth, an irregular mass of meteoric iron.

THE NORTH-WEST.—Our friends in the North-West are simply wonderful for their enterprising pluck and self-confidence. Things move so rapidly out there that, with all our puffing and straining, we Easterners, can never hope to keep up. Nevertheless, perhaps we may venture to point out a direction in which our progressive brethren might profitably extend their knowledge. Some further acquaintance with geology would not injure them, for instance. A North-Western correspondent of one of the Toronto dailies thinks it "not improbable that if we were to dig deep enough we would find that the whole prairie is an immense coal field, especially since it is an acknowledged fact that the prairies were covered with water during the glacial period, which fact is confirmed every day by the discovery of petrified oysters, palm leaves, and different kinds of fish." Coal is, no doubt, widely extended beneath the prairies, but in what way the "glacial period" is connected with it is hard to say, since the formation of coal demands luxuriant vegetation, something not consistent with glacial cold. How the "fact is confirmed by the discovery of petrified oysters" is as hard to understand as the last point. So far the North-Western coal has been of Cretaceous or Tertiary origin, and far more ancient than the glacial epoch. Again, a Winnipeg daily publishes an interview, in which we are told that the coal from a Calgary mine is not bituminous, but a fine, compact *anthracite*, with a bright lustre. Now, nothing could be more important than finding anthracite in that region, and our rejoicing is accordingly great. The very next sentence, however, demolishes our hopes, and shows how untrustworthy amateur impressions of coal mines are. "Mr. Coste, of the Selwin exploration party, accompanied me to the mine, and pronounced the specimens first-class *lignite*." The gentleman interviewed is evidently not aware that lignite, instead of being a kind of anthracite, stands below ordinary bituminous coal in value. Lignite is by no means to be despised, however. In Germany and Bohemia it is mined in large amounts, and used for manufacturing purposes.

WHAT causes the water which is forced through the nozzle of the fire hose to spray? It is a fact the water comes out in a compact stream, and that it falls to the ground in spray when playing at a great distance. Why is this?

WHY do people who suffer with rheumatism feel acute and increased pains shortly before a rainstorm? Having observed this to be a fact, we are anxious to know why. For over a quarter of a century our mind has been turned toward this subject carefully, and we are now forced, by the huge array of positive testimony, to accept the truth. We only want to know the reason.

Is the ordinary life time of a world any portion of eternity? If so, what fraction?

Is a protective tariff a blessing to a country? If so, what should be the standard rate? If a 25% protection be a blessing, would it not be much more a blessing if made 35%? Would it not be an improvement to draw legislative walls of protection around the several provinces of our country? Would not the plan be perfected if the counties and townships proceed to act on the same line? In this case, Thompson could get his own price for his wheat, since Jackson would be forced to pay 35 cents per bushel, say, for the privilege of driving his wheat to his neighbor's township for sale. With such a plan Widow Murphy could exact three prices for her ducks, butter and eggs, as Mrs. McPhee could not compete with her in her own township. Some power aid us! We get mixed in trying to buy at a cheap market and sell at a dear one.

"After all, it is the imponderables that move the world—heat, electricity, love."—*O. W. Holmes.*

"There is not the smallest orb which thou behold'st, but in his motion like an angel sings."—*Shakespeare.*

IGNORANCE OR DISHONESTY?

"IF by an act of authority the new version (of the New Testament) could be made to supersede the old, and the old to go out of use, a blow would be struck at religion in this country far more dangerous to it than the hinderances with which it has to contend now—beer-shops, Dissent, Ritualism, the Salvation Army, and the rest of the long sad list."

Without any hesitation we would attack this mighty conclusion of Mr. Arnold. It, as a statement, is either *true* or *false*. The Christian world, which has been the author of the *new version*, says, by its whole action, that the statement is *false*. And most certainly it is far removed from the truth.

If false, then the statement is made as the result of *ignorance* or *dishonesty*, or partly of both. Does the author mean that the new version is different in *substance* and *teaching* from the old Scriptures? He cannot mean this, as all who read and compare, know well that there is no material difference. If he would dare to assert that there is any real difference in the *many thousands* of versions which have appeared since the time of Christ's death, we would kindly suggest that he consult Dr. Tischendorf, the greatest Scripture manuscript authority among the many writers of this century.

Again, the fact of accepting the new version in place of the old only indicates, as a matter of fact, that the Christian world desired to have the most accurate *translation* of the New Testament Scriptures possible.

Mr. Arnold knows this as thoroughly as most of the writers of the day. And he knows that thousands of manuscript versions preceded the now "old" version which all Christians love and venerate. These numberless manuscripts were originally copied from *one* into different languages, and these have many *word differences* without important *matter differences*. Then why does the simple acceptation of the new version appear to this prophetic giant as a curse great than the beer-shop, etc.? What foolishness! The new version a dangerous thing! The acceptance of it a blow at Christianity! Should

the "*new* supersede the *old*" then religion is struck! Pshaw! Mr. Arnold does not mean this. He is only talking "words."

Pollonius—What do you read, my lord?
Hamlet—Words, words, words.

Probably Mr. Arnold is "making for righteousness" in this way. Some great modern Hercules has informed the world that "all things work for righteousness." If so, then this fulmination, as quoted above.

To throw away the old and new versions, and to accept the nineteenth century versions manufactured by these bold and wild speculators, would be the very salvation of the world! Oh yes! "*So* it was in the beginning, and ever shall be." Popular writers and thinkers from time to time, must talk nonsense so as to keep up a hearing. But they know well that most men see through their tricks, and at times they themselves feel thoroughly disgusted with their bald and reckless statements.

Shouts of applause are always sure to greet such assertions. But it is well known that one ignorant fool will make more noise than ten thousand sensible people. So in the world of thought and literature.

MINISTERIAL EDUCATION.

TO all right-thinking men the education of our ministry is a very important question, and one well worthy of their most careful consideration. The age is rapidly advancing in general intelligence, and clergymen, to do credit to their sacred calling, should make a corresponding progress. Zealous he may be, but unless the minister is thoroughly conversant with the developments of the age, he can scarcely look for the proper amount of respect and consideration from the more thoughtful of his hearers.

Intelligent merchants, successful lawyers and physicians will not be likely to attach very great importance to the thoughts and sayings of men whom they know to be intel-

lectually their inferiors. The cause of religion is very apt to suffer as well, for men—perhaps unjustly so—will always gauge a system or doctrine by the calibre of its teachers.

Theology is so intimately connected with nearly all branches of literature and science that a knowledge of them in our day is almost indispensable to the successful minister. Infidels are ever on the alert, looking for some flaw or inaccuracy. If they advance reasonable arguments, they very justly expect them to be met in a rational and appreciative manner, and religion often suffers materially from lack of intelligent support from its would-be advocates. This is an age of reason and independent thought, and the truth of a statement will not be accepted on the *ipse dixit* of any one.

The time was when ecclesiastics monopolized all learning, and consequently were looked upon with the greatest amount of respect and reverence, amounting almost to awe! That time, however, is past, and both the minister and his sermon are made the subject of the severest criticism. Clerical authority, or authority of any kind, will not be accepted by the spirit of free inquiry now abroad, unless supported by superior intelligence and ability.

The Atheistical evolutionist expects to find his opponent thoroughly conversant with all the systems and principles involved in that theory, and, failing to do so, with a mind already prejudiced, will look with disrespect on the system of Christianity along with its advocate. Literature and philosophy should, of course, be included in the list of his acquirements, and a knowledge of many branches of physical science is almost indispensable to the successful divine of the present. Without a knowledge of geology, for instance, an intelligent opinion cannot be expressed on many subjects of vital importance closely connected with theology.

When Christianity is assailed by many of the most acute thinkers and subtle reasoners of the age, she must have defenders, not only zealous and bold, but strong and intelligent; that Christianity to which is due the best part of our present civilization is certainly worthy of every effort put

forth in its defence, and the choicest spirits of every land should be consecrated to that chosen calling and classed among her special defenders.

How is this most desirable result to be effected? Simply by giving to our young ministers the very best training available and the greatest amount of it possible.

This is being realized more and more every day, but we are sorry to see a retrograde step taken by what is now the strongest church in the Dominion. It was not very long since enacted that all probationers for the ministry of the Methodist Church should have at least undergraduate standing in some recognised university; this, we are informed, was at the late General Conference repealed, leaving the standard of admission very equivocal and unsatisfactory. This action is very much to be regretted; the former standard was certainly low enough, and progress, rather than retrogression, should have been the tendency in order to keep abreast of the requirements of our country and our times. There seems to be no lack of ministers to supply all present demands, and apparently there is no very good reason for such a step, which can scarcely fail to be detrimental in its results.

It may be doubted, too, whether the very advocates of the change thought it was for the best interests of their church. All legislation for the sake of private individuals and otherwise defunct educational institutions will not, in our humble judgment, prove beneficial to a church or the cause for which it works, and too heavy censure cannot be passed on all intrigue, wire-pulling and partyism in connection with interests lying at the very foundation of all morality and the well-being of humanity.

A DOCTOR is a *piller* of society. His enemies say that he can kill with *powder* without shot, and that his *drops* are almost as dangerous as the hangman's.—*Grip.*

OTHER WORLDS.

IT is presumption on the part of man to consider this world alone inhabited and himself the only favored creature in existence. Let us state our position in the universe. The earth is the third planet in order from the sun, two being nearer and five more remote On account of this close proximity to the sun it can be visible from no more than five of the larger heavenly bodies, viz., Mercury, Venus, the Moon, Mars, and, possibly, Jupiter. To the rest it is always hidden by the brightness of the sun. The earth has thus no claim to be considered the planet most eminently fitted for the habitation of man. What would we not give to be able to stand on the planet Jupiter and watch its four moons following one another across the heavens, or to view from Saturn the circles of millions of moons stretching through the zenith? What would be the view from a distant star of Orion, the early dawn ushered in by a glaring sun of scarlet, followed ere long by the rich hues of a blazing red, which gives place to a third, mingling its blue with the already highly-colored landscape? Need we add an emerald, an orange, or a variable attendant, constantly changing in its color? Would you still be unsatisfied if a golden sun were eclipsed by a blue? If this would not suffice, we might go to the Pleiades, and from Alcyone, the centre of the known universe, view the whole creation circling around us. No, the earth is not a favored creation. If the beauties of other worlds so far surpass those of this little speck, why have they been so far removed from human observation?

We are able to see with unassisted vision about six thousand stars; with the telescope our range is increased to over forty millions. There are countless star clusters beyond our own Milky Way: there are myriads of bodies in our universe still unobserved: all space is teeming with matter. Out of these millions of millions of bodies we cannot but conclude that some are similar to this earth in conditions, while many

more offer conditions, it may be, vastly superior. If there are other worlds capable of maintaining life, we conclude that life probably exists there.

How varied are the conditions of life upon this earth; yet here nature knows no waste: life is universal, adapting itself to its surroundings and circumstances. By analogy we may conclude that there are worlds peopled with beings similar to ourselves; that in some distant star but lower forms of life exist; while some more favored spheres may be the home of beings vastly superior to us in mind as well as body.

Why should we expect to find life confined to this planet? If we can give no answer to this question, we have a strong conviction that life exists elsewhere, and we may amuse ourselves in speculating and theorizing as to the nature of life in distant worlds.

Of the essence of life we can say nothing: we are acquainted only with its outward forms. Visible life, to us, means either animal or vegetable; but there may be other forms equally as important. What is death to one form of life is vitality to the other; yet the animal ultimately lives upon the plant. So, in other worlds, the forms of food are doubtless different, influencing thereby the form and nature of life. The form, nature and senses of an animal are in harmony with the element in which it lives. Thus, the fins, tail and eyes of a fish are adapted to living in the water; the wings of a bird are for the air; the legs of a man are held in place by the air and swung by the force of gravity. In other worlds the element in which life is found will have forms and means of locomotion adapted to it. The form and nature of an animal is influenced by its weight. A giant ten times our height would, with his ponderous mass, crush to pieces bones similar to ours. Weight depends upon two factors—the speed of rotation of the planet, and its mass. If the rotation of the earth were to be increased eighteen times a man would weigh nothing at the equator. The greater the mass of the planet the greater will be the weight of all bodies upon it.

We will conclude these speculations by quoting the words of a noted French astronomer, who, from the known world, has glanced into the infinitude of the unknown, and has endeavored to gain some idea of the Creator's omnipotence.

"Ah! if our sight were piercing enough to discover, where we see only brilliant points on the black back-ground of the sky, resplendent suns which revolve in the expanse, and the inhabited worlds which follow them in their path; if it were given us to embrace in a general *coup d'oeil* these myriads of fire-based systems; and if, advancing with the velocity of light, we could traverse, from century to century, this unlimited number of suns and spheres without ever meeting any limit to this prodigious immensity where God brings forth worlds and beings, looking behind, but no longer knowing in what part of the infinite to find this grain of dust called the Earth, we should stop, fascinated and confounded by such a spectacle, and uniting our voice to the concert of universal nature, we would say from the depths of our soul: Almighty God! how senseless we are to believe that there was nothing beyond the Earth, and that our abode alone possessed the privilege of reflecting Thy greatness and power!"

A NEW SCHEME.

A REMARKABLE document has reached us addressed by Francesco Mastrodomenico, of Italy:—

"TO THE INHABITANTS OF THE EARTH!"

It is printed in French, English, German and Spanish. The English portion is of the quaintest description imaginable, and the German, too, quite as amusing. The author of the document proposes to save the world 200,000,000,000 *francs* ($40,000,000,000) a year by abolishing shops, of which he thinks there are 90 per cent. more than are needed. His plan is to establish colonies in every district, self-governed and with a common fund. All money is to be abolished, except a paper

currency, to circulate in each colony for itself. General trade is to become barter. Standing armies will, for the most part, be unnecessary under the new regime, since all will be contented and happy. He concludes by asking that all "Governments, presidents, mayors, trade societies and administrators in general will, at length, seriously turn their attention to the importance of my project and lend a helping hand to its actuation, so that this world, which is now a prey to misery and desolation, may soon become an Eartaly (earthly ?) Paradise, and posterity may bless and revere our memory."

The scheme is, in fact, nothing more nor less than a form of communism and is certainly Utopian enough, and yet it is not simply to be laughed at. It is but one of many signs of the times. The gulf between rich and poor is being terribly widened, as a result of our advance in material civilization. The net product of a nation's labor is certainly far greater now than formerly, but it is even less fairly distributed than before. A few grow immensly rich, but grim poverty and gaunt-eyed hunger glare into more households in the great cities of the world than ever before. The more general diffusion of education and intelligence simply opens the eyes of the so-called "lower classes" to the vastness of the difference between their misery and others' luxury. Discontent, too, often eats the heart out of the workman, especially when he sees men whom he considers by no means his superiors, intellectually or morally, suddenly rise to wealth by some fortunate turn of the market, or, perhaps, by some political villainy. The poor man's poverty may result mainly from his own laziness and want of push, but that makes it none the easier for him to bear. He feels that the higher the top stone of the pyramid rises the deeper the neglected foundation is crushed into the earth. The outcome of it all is discontent, Socialism, Nihilism and Satanism, to a less extent in free America, to a greater extent in the more oppressed Old World. A sullen feeling that property is robbery, works like a slow ferment among the laboring, suffering masses in more countries than one. What will it all end in? Are we on the eve of that catas-

trophe, a war between capital and labor, to be followed by Communism and stagnation; or will the opposite electricities neutralize one another in some less violent way? Let us hope the latter.

We give verbatim the document which has reached us. It shows that English is difficult to spell and speak not only to natives, but also to foreigners.

TO THE RULERS OF NATIONS, EXPLORERS OF THE EARTH, AND INHABITANS OF THE GLOBE.

I announce to you that i have discovered the secret of navigating the air in a balloon agains the wind.

I have not yet put in practice my great discovery because the means are still wanting; but long study and repeated experiments have assured me of a successful result and thas in a short time men will be able to navigate round the woold in a balloon.

Now this being in many respects a delicate subject as the peace and tranquillity of the woold might be endangered by the areonaut carrying arms and bombs aeross the confines of even the most powerful states and so exciting general uneasinep, it may be readily imagined that, desirons as I am that my invention be beneficial to the would and not hurtful, I cannot divulge my segret till I learn the views and intentions of the different governements and so avoid all un necessary susceptibility and the possible effusion of blood and treasure to the alter destruction of all peace and security.

If then my invention he trought worthy of your approbation, I await a reply before publishing my secret.

FRANCESCO MASTRODOMENICO

Castelnuovo di Conza, Provincia di Salerno (Italy)

This world was once a fluid haze of light,
'Till towards the centre set the starry tides,
And eddied into suns, that whirling cast
The planets: then the monster: then the man.

—TENNYSON.

I HAD escaped from the terrible catastrophe in some miraculous manner; everything was misty and mysterious to me as I hurried away from the scene, wandering, I know not whither. I tried to remember what had occurred, but nothing returned to me except a faint idea that a terrible railroad accident had taken place, hundreds of lives lost, buildings shattered, and even the earth upheaved for some distance around. So great seemed the catastrophe that I hurried away with all possible haste from the locality, passing into a scene of wild hilarity. Crowds were gathering in the hotels, drinking and quarreling, some dressed as if for some special festive occasion. I was about to turn the corner of a handsome brick building when a sign, "Board and Lodging," caught my eye. I was not hungry, having had my supper, but I entered to enquire the price of board. The moment that I closed the door behind me the scene was changed: the handsome exterior gave place to a dirty, dark and dismal interior, but poorly furnished. I was met by a woman dressed in black, so tall and unattractive as to send a chill of fear through me. To her dress clung two children, quite in harmony with the surroundings, dirty, ugly and wretched. Through an open door, I saw the young lady of the house, endeavoring to make a supper from a scanty meal. I was soon decided, of course, that this was not my choice; but, as an excuse for my entrance, I enquired the price of board. The woman informed me and at once left the room. I turned to go, but, to my surprise, saw that the door was firmly secured and I was entrapped. Turning again towards the open door, my astonishment was increased to behold standing before me a man, short in stature, dressed in dark. The malicious smile on his hard-featured face, the long neck, and his active, wiry-looking figure told me that he was a man whose friendship was preferable to his hatred. I was at his mercy: resistance was in vain. My appeals were met with laughter and my seriousness with joking. To raise my spirits, I suppose, he proposed to favor me with a song.

The next instant I was in a smaller room adjoining the street, lit up by a large window, near which I placed myself, determined, if possible, to make a strike for freedom. He informed me that his son was a much better singer than himself. Turning, I observed close beside me, the son, a young man, handsome in appearance, neatly dressed, a refined robber to all appearance. My determination to escape redoubled, as the man commenced to sing. I seized a long stick, struck him full on the throat, made a dash for the window, and . . . found myself standing outside of the building along with the man, his son, and a friend of mine, who was also a victim. Footsteps were heard, and the man gave a signal to retreat. At this instant, with a yell to my friend to escape, I bolted. How I ran! As I turned a corner I saw that my friend was recaptured and I was pursued. From all sides I could hear the sounds of pursuers. I felt that my speed was slackening, that I would be captured, although my feet seemed possessed of wings. Never in my life before did I rouse my strength and concentrate, in one superhuman effort, the aid of every muscle and the assistance of my whole body. It was effectual, I gave a leap forward and landed—in my bed, where I lay, breathless and violently disturbed.

As I lay awake, unable to compose myself to sleep, I endeavored to trace the dream back to its origin, and did so as follows: It was the evening of August 30th, 1883. I was spending the evening with some friends, the last half-hour *engaged in singing. Just before I left I was informed of* a young man who had attracted attention by his wonderful power of song, his courteous manner, and a few peculiarities. As I was leaving, I casually remarked that I would have to secure a new boarding in a few days. On my way home I indulged in a couple of pears, passed several hotels filled with noisy crowds, entered the house, sat down and read the account of the great Java earthquake. Soon after I retired and fell asleep, dreaming, as is my usual custom. The dream was impressed on my memory as distinctly as the actions of my waking moments. Every event in the dream

seems to bear a distinct connection with the events last presented to my consciousness before retiring, the vividness, no doubt being increased by the digestion of the fruit.

This dream, recorded August 31st, has suggested to me several questions. Cannot the actions of dreams be altogether traced to the actions and motives of the day? What is the scientific explanation of waking? How is it that something ridiculous or impossible is generally mingled with the possible and probable? What is the explanation of the apparent instantaneous shifting of scene? What effect has digestion upon dreaming? Does dreaming portray any peculiar quality of mind? Could we not educate ourselves into dreaming? Are not dreams as real as the actions of waking moments? The subject of dreams, when fully understood, will doubtless throw much light upon the study of the mysteries of the mind. Those who dream should investigate the origin, influence and nature of their dreams. K.

IMPORTANCE OF ELEVATED MORAL CHARACTER.

OUR subject is the most important that can be placed before the human mind. Though few give it the consideration it merits, and fewer still endeavor, with suitable earnestness, to live it, yet all will agree that the building of a strong moral character, or the living a true life, constitutes our one great work in the world. Every heart which has a spark of goodness left in it will recognize that, as being at once the most useful, noble and elevating study in which the great Roman poet Horace was engaged when he gave utterance to the heart-thrilling statements, "What is true and becoming I care and enquire, and in this I am all absorbed." I, in this connection, deliberately make the statement that, within the range of possible studies, there is none so beneficial as the study of how we should live, what we should morally be; and within the range of possible effort, there is none of such paramount importance as the effort to bring our inner

and outer life into harmony with reason. It is a fact, to the truthfulness of which the experience of the ages bears testimony, that the moral state of the human mind, or the character of the individual, has a powerful influence on everything concerning which we are actively engaged. As vessels impart a measure of their nature to the liquids which they, for any length of time, contain; so the human mind writes its moral state on that with which it has to do. No more certainly does the land through which a stream wends its way give taste and color to the waters, than does the human mind give tone to what passes through it. Nothing can be so pure and heroic, but that it becomes foul and ignoble by transfusion through foul and ignoble minds. And, I think, we may venture to add that nothing can be so base and degraded but that, by the touch of goodness, it may be in a measure transformed Not, merely, on the things which pass through it, does the mind write its moral state, but upon the active principles of the mind itself. Ambition, which in noble minds is more than half a virtue, disjoined from elevated and philanthropic sentiment, becomes a selfish cupidity, scarcely less ignoble than avarice. And, as it is with one active principle of the mind, so is it with all; they lose their brightness and become blurred, lose their worth and become hurtful, lose their grandeur and become ignoble, when the moral character of the individual is itself depraved. Indeed, every pure act and right thought set the seal of their beauty on person, intellect, and heart, and every wrong act and impure thought the seal of their distortion; and, there is yet no ascertained limit to the nobility of person, intellect, and heart to which man may rise, by constant unswerving faithfulness to his most advanced convictions of duty; and, on the other hand, alas! there is no ascertained limit to the depth of degradation to which humanity may sink, through the practice of that which is at once vicious and vitiating.

It is, then, sublimely grand, when in the midst of such strong and general desires for popularity, fame, and lucre, a man so lives that he is characterized, not by desire for, or

leaning toward the sordid, but by earnest endeavor after the pure in heart and the honorable in life. Again, moral character is important, because it, by transmission, wields a powerful influence on the generations about to be. Men may dispise, may disbelieve, or may neglect the fact, but they cannot alter it. No more certainly are physical and mental excellences and defects transmitted to posterity than are moral ones; with this all-important addition, that as moral character determines, in no small degree, the physical and mental life of the present generation, it in all possible ways, influences those about to people our world. Yes, whether men choose to give it consideration or not, moral character, whether good or bad, will, in a great degree, perpetuate itself. It will go on influencing, moulding, working out results, almost with the precision of law. Furthermore, elevated moral character, or the being true to our highest conviction of duty, is just the thing which the world has ever needed, and for which it stretches out imploring hands to-day.

Weaken the moral character of the peoples who form a State or Empire and you undermine that restful confidence without which they cannot be really bound together; and, further, you undermine the confidence which other States may repose in them; and, by so doing, you greatly injure that State or Empire. Totally remove their rectitude and you destroy them. I think I risk nothing in stating that, whenever nations have crumbled to the dust, or been buried in their own ashes, it has been chiefly because they have forsaken that golden mean in thought and action, which Solomon, Aristotle, Horace and Paul combine to call virtue. As I see it, the great need of the world (and by the world, I mean humanity) is not a race of genteel swindlers, who deem it shrewd to take advantage of their less accomplished brethren; nor a race of cunning wire-pullers in Church and State, who, by careful manipulation of small men, wire themselves to the front, sordid and sickening at their own success: nor a race of sarcastic cynics, content with the negative pleasure of snarling at the faults of men, instead of earnestly endeavoring to help their infirmities;

nor a race of super-pious creatures, who, amid the realities of the present, ever dream of the future, and parade that dream *ad nauseam*; nor a race of curious registrars of morbid states of mind, which may be of interest to the inquisitive, but which result in no strong helpful action; nor yet a race characterized by utter indifference; but a race of brave, manly souls, who will not be controlled by a feverish desire for position, who will not sacrifice their usefulness for an evanescent popularity, but who will themselves dare to do right, and will endeavor, tenderly, lovingly, yet strongly, to lift others to the practice of that virtue they have learned to love. For such men the world has ever expressed its earnest longing, and never more truthfully than in the language of Tennyson:

"Ah, God! for a man with heart, head, hands
Like some of the simple great ones gone
For ever and ever by,
One still strong man in a noisy land,
Whatever they call him, what care I,
Aristocrat, democrat, autocrat—one
Who can rule and who dare not lie.
And, ah! for a man to arise in me,
The man I am may cease to be."

What the world needs to-day, above everything, is men who have the courage of their convictions, the courage which will enable them, at the risk of losing esteem and attracting to themselves positive dislike to act and advocate what they know to be right. Would men but act thus, their names and nature too, would shine with a more than earthly glory when the name of every petty time-server would become a subject of reproach, or go out in darkness and in oblivion be permitted to rot. How true the language of the poet:—

"Thus, when a good man dies,
For years beyond our ken,
The light he leaves behind him, lies
Upon the paths of men."

And this, because of the grand old truth, that:—

"A good deed, through the ages,
Shining on historic pages,
Brighter grown and gleams immortal,
Unconsumed by moth or rust."

If these statements are really correct; if moral character has such a powerful influence on everything our hands or hearts find to do; if it has an influence, far-reaching beyond our conception, on our minds themselves, and on the hearts and lives of coming ages; if it is that for which the oft-deceived, and, therefore, perplexed and weary heart of the great world throbs; then, elevated moral character exceeds in importance our efforts to describe it, much more than the varied beauty of the rainbow transcends the efforts of the painter's brush.

JAMES ELLIOTT.

A GERMAN GRADUATION.

GRADUATION is, in any country, a serious crisis in a young man's existence. He must quit the little world of college and go out into the great world of life. The merry days of studentship must end, and the value of the acquirements gained must be put to the stern test of actual work in a world not over theoretical. All the ceremonies connected with it tend to make the change more felt. In many colleges in this country a special sermon and address to the class add the solemnities of religion to the passage from one stage to the other of life. It is not strange that a youth, when the ceremonies of graduation are ended and the hood has been thrown over his head by the President before assembled hundreds, has a sense of added manhood and responsibility on thus going forth into the world. And much rests on these young men: they should be a haven for good throughout the country.

The ceremonies of *promotion*, as graduation is called in German universities, are in accordance with the rank and venerable character of those institutions, still more imposing than ours, especially since each man graduates alone. The cost of a *promotion* is something quite serious—little short of one hundred dollars in fees, exclusive of printing the requisite dissertation, which comes to, at least, fifty more. Many poor students are obliged to postpone graduation for years on account of the expense.

When the dissertation has passed through the hands of the members of the faculty in which the degree is desired, has been accepted, and the dreaded examination is over, the candidate is asked when his work will be printed, so that a day may be appointed for graduation.

It may be that a month or more has passed and the dissertation is through the press and bound. A day or two before the event, the nervous candidate calls, in full dress, on the professors with whom he has had most connection, to leave them a copy of the work bound in scarlet. A brief autobiography and a few theses have been inserted at the end of the dissertation. The theses he must defend against all comers. That this may not prove a mere form, two or three friends are chosen, as opponents, to attack the theses and criticise the work itself.

At the appointed hour, these opponents and the candidate meet in the Registrar's office. Certain fees are paid. The Dean of the Faculty signs the diploma, whose Latin inscription is to the effect that, under the authority of the Emperor and of the Royal University itself, the Dean of the Faculty has conferred the degree of *Doctor Philosophiæ*, with all its honors, rights and privileges, on the candidate, who has successfully passed a rigorous examination and publicly defended his dissertation.

The diploma is nearly two feet in length, is printed on the finest parchment and sealed with the University Seal, encased in wood, and decorated with ribbons of the University colors. It, with a number of other copies printed on ordinary paper, is enclosed in a long scarlet case.

A procession is formed, headed by the Dean, in his magnificent gown and cap, followed by the candidate, his opponents and one or more officials in scarlet robes, and the noble *aula* or Convocation hall is entered. The seat and desk of the Dean are draped in crimson. The candidate and his opponents sit opposite one another on a platform a step lower. The registrar sits at a desk still lower; while the *corona*, as the audience is called, is seated some little distance away.

The Dean opens the ceremony with a Latin speech, asks a question or two of the candidate in the same language and calls on anyone who objects to the thesis or dissertation to oppose them. The opponents, in turn, raise objections to them, while the candidate each time replies. The opponents then admit that, in the main, his positions are correct. It has happened, however, that some clever, but malicious, member of the corona has overthrown the candidate in argument, with the result that the unfortunate man could not graduate without months of disheartening labor in preparing a new dissertation on a different subject. This occurs, of course, very rarely.

After the defence a most impressive oath of allegiance to the University is taken by the candidate, who repeats the Latin words as read by the secretary. The oath is long, and includes a promise never to dishonor his *Alma Mater* by taking the same honors at any other university.

The Dean now asks a few solomn questions of the candidate, exhorts him in Latin as to his duties to the University and the world, now that he is raised to the degree of doctor, and inviting him up to the platform on which he stands, welcomes him by a grasp of the hand into the ranks of the learned.

The newly-promoted doctor, in a short speech, thanks his opponents for their courtesy and the *corona* for their presence; and then, following the Dean, passes out to receive the congratulations of his friends and former fellow-students.

The graduation just described may appear to Canadians somewhat overburdened with solemnity and ceremony; but not so to the graduate or to Germans in general.

They well know that the degree cannot be obtained without years of hard study and, at least, some original work that shall enrich the world's store of knowledge. The ceremony bears with it the solemn blessing and injunctions of an ancient institution of learning upon her son now going forth to impart what he has gained; and the graduate cannot but feel, with a strange thrill, the dignity and responsibility attached to one thus lifted out of the common ranks as a *doctor* or teacher of men.

VARIETIES OF MEN.

THOSE who believe that all mankind are the progeny of a single pair are responsible for an explanation of the fact that there is so great diversity in the human family. In color the Negro stands at one end of the scale in vindication of genuine black, while at the other end the Caucasian proudly flaunts his banner of transparent white; and every intermediate shade is traced in the copper-color of the North American Indian, the tawny Mongolian, the Yellow Bushman, or other tribes of Australasia and Africa.

If the diversity of structure is not as great as in color, it is at least sufficient to afford a field of extensive and interesting enquiry. The low and narrow forehead of the Negro is not an accident peculiar to an individual, as when it is found in a European; but is a distinguishing family mark; so, also are the thick, lower jaw, the enormous, protruding lips, the curved legs and projecting head, and the woolly covering of the head. Though the same may scarcely be claimed of the plump, rotund and portly form of the Englishman; it is undoubtedly correct of the slight build, but, at the same time, powerful, muscular form of many savage tribes, as, for example, the Veddahs—the aboriginal tribes of Ceylon; though it is a question whether good food and the comfortable habits of civilized life would not, in the case of these latter mentioned tribes, develop a fuller form, and render the muscles more soft. It is more than probable that in course of several successive generations such an effect would be produced.

The natives of China and Japan exhibit in their structure yet another distinct family variety. Their stature, color, almond eyes and peculiar habits unite as distinguishing marks of their family; and it is just as clear that the Esquimaux claims, in his broad face and high cheek bones, which almost entirely hide the nose, a family separation from the rest of the race.

Now, if we set out with the understanding that these differences indicate only varieties, and not species—that the

race is one—how are we to explain such wide diversity, not only in appearance. but also in form ?

We have first to take into our account all that is known of the effect of climate, food and every other incident of each place of residence. There are already sufficient facts, well authenticated, to show, beyond a doubt, that the place of habitation does produce an effect upon family characteristics, after several generations. We begin with one fact, that most of us may confirm or reject on our own observation. Knox, a distinguished English anatomist, in his work on "Races of Men," says :—

"Already the United States man differs in appearance from the European: the ladies early lose their teeth; in both sexes the adipose cellular cushion, interposed between the skin and the aponeuroses and muscles, disappears, or at least loses its adipose portions; the muscles become stringy and show themselves, the tendons appear on the surface; symptoms of premature decay manifest themselves."

No doubt our ladies will indignantly resent the insinuation that dentistry is an invention for their special benefit; and the lankest of lean libels on Providential mercies will most vehemently declaim against the assertion that he is not well rounded out; but our calm observation will, notwithstanding, produce a multitude of facts in support of the learned anatomist's opinion.

But the argument does not depend upon uncertain statements. The negroes, long residents in America, furnish some convincing facts bearing upon this point. A considerable number of years ago, Dr. Buchanan related that in South Carolina there were some hundreds of negroes who retained on their bodies the tatoo received in Africa; from which it appeared evident that they were once of the same African tribes as the ancestors of the American slaves. They exhibited all the characteristic differences in structure, as well as in appearance. All around these people were negroes, born in America of pure black parents, but removed to a distance of two or three generations; and they exhibited a marked

difference in these very structural peculiarities from these tribal relatives of their ancestors.

No family of men has had such an opportunity of proving its adaptation to varied climates and conditions as the negro; and the result is that all over the world these people gradually approach other races in form and feature.

Other peoples are no less susceptible to the influence of climatic conditions. The Arabs in India differ in a marked manner from the Medo-Persian people, their former neighbors. In complexion they are almost black, while the Persians are fair, with black hair and black eyes. We learn that the climate and habits of life in India have had a manifest effect also upon those Europeans who have had a long, continuous residence there. Wiseman, a reliable witness, testifies that "The Portuguese have, during a 300 years residence in India, become nearly as black as Caffres."

The whites there have been pre-eminent in business success: as a natural consequence of this the white skin is coveted—it is fashionable, popular, desirable; but, notwithstanding the strong disposition there is to retain it—affect it—cultivate it, in a few generations all the whites, without intermarriage, assume the deep olive tint, little less dark than the negro which seems natural to the climate. So declares the above-named reliable observer.

These facts rather indicate a line of scientific enquiry than furnish a basis for a complete course of connected scientific deductions: but if so much is actually known, nothing is risked in accepting the conclusion that family characteristics entire may arise out of the natural conditions of the habitation of a people for some centuries; and the more when, as is true with savage peoples, life is stationary, and thought and the genius of civilization introduce no altering factors; but a people living largely the life of the animal, offer for generations no resistance whatever to the conditions of their abode.

If, as we have already suggested, the aboriginal Singalese should come under the wholesome regimen of civilized life, and after a few generations should become round and full in

form, even if less strong in muscle, this change in their family characteristic would be as great as the difference which, in many cases, separates two tribes or families from each other; and it would be the creation, so to speak, of race peculiarities by the action of external conditions alone. The facts cited show that what we have supposed in this instance has actually taken place in some other cases.

And this argument is strengthened when we remember that all families of men prove to be, to a very remarkable degree, capable of enduring transplantation into foreign conditions, of thriving under these new conditions, and of taking on and transmitting as permanent traits, more and more with each generation, the natural results upon themselves of those new conditions in climate, food and other similar causes.

AN INAUGURAL ADDRESS.

SUBJECT—"WHAT IS TRUTH?"

PAPER I.

IT is commonly divided into truth *absolute* and truth *relative*. There are, on the one hand, those universal and necessary laws and principles which are true in the abstract, which lie at the very foundation of all acquired knowledge. These belong to the realm of absolute truth Relative truth, on the other hand, is not abstract. It is the truth about something. It is that which is discovered by man through the application of the fundamental laws and principles in the way of scientific investigation and research. We say scientific, for that only is really scientific which commends itself to us as true, or as leading to the discovery of some phase of truth.

Truth, abstractly considered, is *conformity to fact*. That is, at once, its most simple and its most comprehensive definition. It applies, in a sense, to all truth, both absolute and relative; to those principles upon which all knowledge is built and to all knowledge that is built upon them: all must

conform to fact. We have heard of philosophers of the olden time, who, by the most careful and elaborate processes of deductive reasoning, arrived at conclusions that were very startling indeed; and, when afterwards it was found that their conclusions did not coincide with actual facts, "So much the worse for the facts," they said. We are not very much surprised that they so exalted and magnified this little earth of ours as to force the sun to do it honor by sweeping around it once every twenty-four hours. But they were philosophers of the olden time. We live in a different age—a wonderful age—an age the most progressive the world has ever seen. In matters of science and philosophy—I shall not say in matters of every kind—but certainly in the developments of science and the conclusions of philosophy, the former days were by no means comparable to these The *Novum Organum* of Bacon, now no longer a new method, is, in these days, the method recognized and adopted by eminent investigators everywhere. And that student, pushing his enquiry into the secret and unexplored, will always be most successful and bring forth the richest treasure, who pays the highest respect to the inductive process, being always convinced that truth and fact, by God joined together, can never be put asunder.

Absolute truth, however, is not within the sphere of enquiry: it belongs to what the logicians call *a priori* knowledge; it is never sought after, because it is the innate possession of all intelligence. Take the law of identity—things that are equal to the same thing are equal to each other. Take any first principle of thought. It only needs to be stated, when it is immediately recognized as an intention constantly applied in the thinkings of everybody.

But the truth that is sought after and discovered by man, and by him formulated into some kind of a system or science, may or may not be true for all intelligence. It is relative: we only know it as true for ourselves. To us, snow is white. So far as we are concerned, whiteness is an essential property of snow. But to an intelligent being, constituted differently from us, neither snow nor anything else may ever present the phenomenon we.

call whiteness. It is relative also in another sense, in that it can never be apprehended or comprehended except under certain relations. Cause and effect, whole and part, attribute and subject—such relations as these are the inseparable conditions of all knowledge. The truth we seek is, therefore, in one respect, a systematic arrangement of facts as found in the books. But it has a much higher and nobler meaning. It really belongs to the mind. What, in short, is the ultimate goal of all human research, but this: *a just and adequate conception of things as they are*—in their relations to each other, to their first and final causes, and to the truth-seeking mind? The things about which the conception is formed may be either external or internal; they may belong to either objective or subjective existence.

"A just and adequate conception of things as they are." This does not mean to suggest, for a moment, that any question is raised affecting the reality of things. There is no such questioning. Nobody doubts the fact of existence. One of the very first revelations of my consciousness to me is that I am, that I actually exist. And in that very same revelation is necessarily implied the consciousness of an existence which is not me, entirely distinct from me. Nor is that all—there is common ground still. Not only are both the objective and subjective worlds thus consciously and distinctly recognized by everybody, but everybody also recognizes distinct entities in both. It is chiefly a matter of simple observation. Let it be supposed that our senses and intelligence are fairly matured, and now, for the first time, we look out upon the lightning flashing across the horizon. At once, on the principle that every effect must have its cause, we think of a something other than the lightning, of which the lightning is only a transitory appearance, and every subsequent appearance is so much like the first that it forces upon us the thought of that one and the same thing, as a distinct entity in the physical world. We know nothing yet about electricity as such. Or we look in upon ourselves. There, among other things, we observe, in all our active life, determinations to do and not to

do. And there, as before, and by the very same principle of casualty, we are bound to fix upon something deeper, underlying and manifested by these determinations; some distinct, internal entity that asserts itself, for the guidance and control of our life. We may never have heard of the human will. And so in general. There is a wonderful constancy and uniformity about all the manifestations of nature. Both the observed phenomena and the human faculties of observation are practically the same to all men. So that we cannot conceive of men, in the full possession and exercise of these faculties ever being very long at variance respecting the reality of things.

Thus far, then, there is no search for truth. There is a perfect agreement, and agreement precludes the necessity for investigation. "What everybody says is true." Not always of necessity. Yet is it not so, that where there is no dissenting voice, where the verdict is unanimous, we have all reasonable ground for belief, and may, and do believe, without hesitation?

But what are those numerous and wondrously diversified entities that are to be distinguished within us and everywhere all around us? What is their nature and character? How did they come into being? Under what circumstances do they continue? And for what purpose? Here we pass from the fact of existence to the facts about existence, from the reality to the relations of things. Here, by a single step, the less gratifying, though none the less important, field of simple observation is left behind, and we enter the broader, richer field of comparison and generalization. It proves to be at once a most inviting one, where thought delights to revel; a most fruitful one, where thought often stands to gaze in wonder at the greatness, the dignity and the beneficent products of its own efforts; and a boundless field, where thought soon rises to the limit of its power, loses itself, and falls under the weight of its own infirmity. Happy if, in doing so, it rises to an adoring contemplation of the Unlimited, and, in falling, falls only to worship humbly and reverently at His feet.

The sphere of enquiry belongs to this larger field. Here it properly begins, here it ends. Not that it has any definite or absolute end. The profoundest minds, whose discoveries have been the most penetrating and far-reaching, always hear —perhaps they, more than any others, never cease to hear— the loud voice of truth, calling from out the region of the unknown, and saying:—"It is not enough—come up higher;" and to them it is a voice full of enticement and inspiration. There is no set limit. There is nothing, either in the nature of things or in the sum total of the knowledge thus far acquired by man, to indicate any definite point in the persistent out-going of human thought, over which the words may be emblazoned:—"Hitherto shalt thou come, but no further." Yet how vast the unknown as compared with the known! And in the case of any single man, no matter how persistent, no matter how earnest he may be, how soon his quest is ended, and how very little the end surpasses the beginning! Unless he be unduly blessed with self-conceit, he cannot but feel from time to time, how exceedingly circumscribed I am! how feeble is my noblest thought! Why men who stand in the very first rank for talent and industry, will direct their whole study into some one particular channel, and there spend the greater part of their lives in merely catching up to their predecessors. And if, after that, they push out into untrodden ground, with what rigid care and scrutiny they must feel their way at every step! We are all familiar with those last memorable words of Newton, who declared himself to have been but as a little child picking up pebbles on the beach, while the whole ocean of truth lay unexplored before him. Thus, in language so well befitting one of the greatest and best of men, is at once expressed the boundlessness and the limitation of human research.

WM. ELLIOTT.

Controversy equalises fools and wise men in the same way—*and the fools know it.*—*Holmes.*

SKETCHES IN INDIA.

QUEEN Victoria is the ruler of a greater number of the world's inhabitants than any other living sovereign, the Emperor of China alone excepted. Of her subjects, over 240,000,000 are natives of India. Of course, in so large a population as this there are many and wide differences in appearance, language and habits amongst themselves, as well as the great distinction of race. There are eight different languages spoken in India in the different principalities, the lines of demarcation between them being as distinct as between the countries of Europe.

The people differ, too, in constitution and appearance. The Mahrattas are slight and swarthy in appearance, but have no great strength, either of mind or of body. The Rajpoots, on the other hand, are athletic, well-built men, and are capital soldiers. The Sikhs and Ghoorkas are also brave and capable soldiers. The Bengalees are a weak, effeminate people, depending upon cunning for success. They easily acquire the English language, and, when educated, become very useful as clerks. Large numbers of Bengalees are employed in the Governmental and other offices in Calcutta. The Parsees are not so numerous, but are an important branch of the Indian races. They are the most successful of the native merchants, many of them acquiring huge fortunes.

The distinctions of *caste*, peculiar to the Hindoos, are more complex than the distinctions of language and race. Caste regulates the social laws and the life of the people in a most arbitrary fashion. There are three great divisions: the Brahmin or priest caste is the highest; next comes the soldier and merchant caste; and, lastly, the coolies' or laborers'. These great divisions are again sub-divided into any number of particular castes for different occupations. The strict requirements of and the importance given to this social system are very curious. A Brahmin would be insulted in the highest degree if the shadow of a Rhestic Wallah—water-carrier—were to fall across him or any food he was about to eat. An

Englishman is an inferior, and his touch a defilement to the very lowest Hindoo. They will not use food out of a vessel that has been touched or used by a European. If a Hindoo has prepared his cooking apparatus, and any one of lower caste than himself should happen to step within the space he has set aside for his cooking operations, the place and the food are defiled, and he will throw the food away, even if he is so poor that he has to go without a meal for this observance of caste. On one or two occasions I have asked a native for a drink of water. Water was politely given me in a small earthenware vessel: but when I had satisfied my thirst and returned the vessel, it was quietly thrown away and broken—nobody would use it after me. Another peculiarity arising from caste is, that if a man professes to follow any one occupation he will do nothing else. This is discovered in hiring servants. A man who drives the horses will neither feed nor groom them; the gardener will not touch a horse; the waiter at table will not do anything in the kitchen. The consequence is, that any ordinary household requires from a dozen to twenty servants to do the work that three or four would do in this country.

Although the costume of the Hindoos in general is light and airy, one article of their apparel, the turban, does not conform to this rule. This is varied to suit every tribe. Some are very large, some are small and compact, some flat, some like a huge globe, and all comparatively heavy. They are of every color, often very rich, and made of silk, though usually of cotton. By the shape of a man's turban, you can tell in a moment from what part of the country he comes.

The natives are, as a rule, very polite and attentive to English people, arising probably from a wholesome respect for them. There are several native Princes who acknowledge British supremacy, and yet are allowed to govern their own subjects. While in the north of India we paid a visit to the capital of one of the wealthiest of these native Princes, the Maharajah of Jaypore. He had us conducted through his palace, invited us to an entertainment in his private theatre,

and furnished us with an elephant and servants to go to a celebrated old castle in the mountains, which had been the residence of his father. In this castle we were witnesses of a scene which is seldom permitted to Europeans. We saw the sacrifice of a goat before the altar of a Temple to Hanooman, the monkey god or god of wisdom. The priest went through a lengthy service, in the course of which a young goat was brought forward, and after being anointed and specially prepared, his head was struck off by an attendant with a huge sword. The priest caught some of the blood in the brazen vessel and placed it before the altar. This was the first and only heathen sacrifice I ever saw.

The Hindoo religion attaches great sanctity to all animals on account of the doctrine of transmigration of souls. Different deities also are supposed to exist in particular forms, such as the elephant, the bull, and the monkey. Benares, a sacred city on the Ganges, is now the great centre of Hindooism. There may be seen temples and shrines to the number of about three thousand. Several of these are fitted up with stables for the accommodation of the sacred cattle, and one in particular is called the Monkey Temple, within and around which about one thousand monkeys live. Some amusing stories are told of these monkeys. Being sacred, they are allowed every liberty. One day a devout Hindoo, who had made a fortune of some forty rupees at selling milk, and was about to retire on his means, went to pay his devotions at this temple. As a preparatory step, he went to the large reservoir, or tank, as it is called, adjoining the temple to perform his ablutions. He laid aside his upper garment, in which was wrapped his money, and while washing, a mischievous monkey caught up his clothes and quickly mounted a tree growing by the tank. He soon found the milk-seller's purse. He took out a rupee and, to the great distress of the owner, threw it into the water; the next rupee he threw into the road, where the owner recovered it. Mr. Monkey then deliberately proceeded to dispose of the rupees impartially, throwing them alternately into the water and in the road. When all were

disposed of the milk-seller raised his hands and exclaimed—"Oh! wise and just Hanooman, I have been a seller of milk. For many years have I supplied the people of Benares with milk, half of which was water drawn from this very tank. Lo! that which came from the water thou hast returned to the water, and that which was due to me thou hast returned to me." F. W. BARRETT, M.A.

HEARING.—We find millions of agencies combining to accomplish good and benign ends. Take the ear. A sister utters a word, a vibration is started, it reaches our ear, is collected by the outer surface and knocks on the tympanum, is propagated into the middle ear, whence it sets in motion the hammer, the anvil, and the stirrup; thence it penetrates into the inner ear, where it vibrates through a liquid, affects the thousand and more organs of corti, is sent through the semi-circular canals into the cochlea, and along the auditory nerve into the brain; the silence is broken, and we are cheered by a voice of love.—*Dr. McCosh.*

THE rounded world is fair to see,
Nine times folded in mystery;
Though baffled seers cannot impart
The secret of its laboring heart,
Throb thine with Nature's throbbing breast,
And all is clear from east to west.
Spirit that lurks each form within
Beckons to spirit of its kin;
Self-kindled every atom glows,
And hints the future which it owes.

IT is one of the misfortunes and disgraces of London that—alone among the capitals of Europe, with the exception of Constantinople—it is destitute of any institution corresponding to the universities and colleges of research which exist elsewhere.

BURIAL OF A BUDDHA PRIEST.—But the most remarkable celebration I attended while in Belligam was the burial of an aged Buddha priest on the 13th of January. While the common people here are simply buried (in the gardens behind their houses, or in the nearest cocoa-grove), the priests alone share the honor of being consumed by fire. The priest to be burned on this occasion was the oldest and most distinguished in the community; accordingly the funeral pyre of palm stems was erected near the principal temple. After the body, which rested on a flower-adorned bier, had been carried, amid solemn chanting, through the village, a band of young Buddha priests, in yellow robes, hoisted it to the top of the funeral pile, which was about thirty feet high. The four corners of the pyre were supported by four cocoa-palms, between which was stretched, canopy like, a large white cloth. After the conclusion of various ceremonies, solemn dirges and prayer, the pile at five o'clock was lighted amidst the most deafening tom-tom uproar. A crowd of several thousand people watched the burning pile with expectant interest, and when the flames seized and devoured the muslin canopy a loud, jubilant cry went up from every throat—the soul of the burning priest had taken its flight to heaven. This was the signal for the inauguration of more cheerful ceremonies. Rice cakes and palm wine were distributed among the crowd, and a merry carousal followed, that was kept up around the burning pyre the greater part of the night.—*Ernst Haeckel.*

THE terms "university," "professorship," and "college" are used very freely in England in reference to institutions which have no pecuniary resources whatever, and which, instead of corresponding to the German arrangements which go by these names, are empty titles, neither backed by adequate subsidy of the State nor by endowment from private sources. In England, with its 25,000,000 inhabitants, there are only four universities which possess endowments and professoriates—viz., Oxford, Cambridge, Durham, and the Victoria (Owens College).

THE substances which we perceive through the organ of smell must be conveyed to the olfactory mucous membrane, together with the inspired air, in a gaseous form; and since all gases and vapours are more or less soluble in water, they penetrate the moisture of the mucous membrane in small particles. Their influence upon the terminal apparatus of the olfactory nerve, with which they come in contact, is very probably of a chemical nature, for the smell of substances differs with their chemical composition. There is, however, a mechanical condition without which we could have no perception of smell—namely, a continual current of air through the nostrils, which is maintained by the process of breathing. If we hold our breath all sensation of smell ceases, even if we are in an atmosphere very strongly impregnated with odorous substances. Again, the sensation is strongest at the moment when we snuff up the air, and we, therefore, repeat it quickly several times in succession when we wish to perceive a delicate odor. The cause of this is that our nerves are excited by sudden changes in their condition, not by a permanent condition as—*e. g.*, by interruptions in an electric current and not by a continuous electric current. This will account for the constant renewal of air in the nostrils being so favorable to the perception of odors, and for the diminution of sensibility when the supply of air diminishes. It, therefore, follows that a greater number of substances are brought in contact with the olfactory mucous membrane by the current of air.

The amount of substance which we are enabled to recognize by the organ of smell is extraordinarily small. The merest trace, in a gaseous form, of a drop of oil of roses is all that is necessary to produce in our nostrils the impression of a pleasant odor. The smallest particle of musk is sufficient to impart its characteristic smell to our clothes for years, the strongest current of air being insufficient to drive it away; and Valentin has calculated that we are able to perceive about the three one-hundred-millionth of a grain of musk. The delicacy of

our sense of smell thus far surpasses that of the other senses. The minute particles of a substance which we perceive by smell would be quite imperceptible to our taste, and if they were in a solid form we should never be able to feel them, nor to see them, even if illuminated by the strongest sun-light. No chemical reaction can detect such minute particles of substances as those which we perceive by our sense of smell, and even spectrum analysis, which can recognize fifteen millionths of a grain, is far surpassed in delicacy by our organ of smell.

The development of the sense of smell is even more astonishing in animals than it is in man, and plays a very important part in their organization. Hounds will recognize by smell the trace of an animal perfectly inperceptible to sight. But the acuteness of their sense of smell is far surpassed by that of the animal itself, which is able, when the wind is favorable, to scent the huntsman a distance of many miles. The number, therefore, of those volatile substances which are perceived by animals at such great distances must be inconceivable. Their minuteness defies estimation.

PROF. BERNSTEIN.

COAL AND DIAMONDS.

IF the reader wishes to picture to himself the scenery of what is now central England, during the period when our coal was being laid down, he has only, I believe, to transport himself in fancy to any great alluvial delta, in a moist and warm climate, favorable to the growth of vegetation. He has only to conceive wooded marshes, at the mouth of great rivers, slowly sinking beneath the sea; the forests in them killed by the water, and then covered by layers of sand brought down from inland till that new layer became dry land to carry a new crop of vegetation. He has thus all that he needs to explain how coal-measures were formed. I myself saw once a scene of that kind, which I shall be sorry to forget, for there was, as I conceived, coal making or getting ready to be made before my eyes—a sheet of swamp sinking into the

sea—for there stood trees still rooted below high-water mark and killed by the waves, while inland huge trees stood dying or dead from the water at their roots. But what a scene—a labyrinth of narrow creeks, so narrow that a canoe could not pass up, haunted with alligators and boaconstrictors, parrots and white herons, amid an inextricable confusion of vegetable mud, roots of the alder-like mangroves, and tangled creepers hanging from tree to tree, and overhead huge fanpalms delighting in the moisture, mingling with still huger broad-leaved trees in every state of decay. The drowned vegetable soil of ages beneath me; above my head, for a hundred feet, a mass of stems and boughs, and leaves and flowers, compared with which the richest hot-house in England was poor and small. But if the sinking process which was going on continued a few hundred years, all that huge mass of wood and leaf would be sunk beneath the swamp, and covered with mud washed down from the mountains and sand driven from the sea, to form a bed many feet thick of what would be first peat, then lignite, and last, it may be, coal, with the stems of killed trees standing up out of it into the new mud and sand-beds above it, just as the Sagillariæ and other stems stand up in the coal-beds of Britain and of Nova Scotia, while over it a fresh forest would grow up, to suffer the same fate—if the sinking process went on—as that which had preceded it.

And is a further transformation possible? Yes, and more than one. If we conceive the anthracite cleared of all but one—its last atoms of oxygen, hydrogen and nitrogen, till it has become all but pure carbon, it would become—as it has become in certain rocks of immense antiquity, graphite—what we call blacklead. And, after that, it might go through one transformation more, and that the most startling of all. It would need only perfect purification and crystallization to become a diamond; nothing less. We may consider the coal upon the fire as the middle term of a series, of which the first is live wood and the last diamond; and indulge safely in the fancy that every diamond in the world has, probably, at some remote epoch, formed part of a growing plant.

A strange transformation, which will look to us more strange, more truly poetical, the more steadily we consider it.

The coal on the fire; the table at which I write—What are they made of? Gas and sunbeams, with a small percentage of air or earthly salts, which need hardly be taken into account. Gas and sunbeams—strange, but true.

The life of the growing plant—and what is life, who can tell?—laid hold of the gases in the air and in the soil; of the carbonic acid, the atmospheric air, the water, for that, too, is gas. It drank them in through its rootlets, it breathed them in through its leafpores, that it might distil them into sap and bud, and leaf, and wood. But it had to take in another element, without the distillation and the shaping could never have taken place. It had to drink in the sunbeams—that mysterious and complex force which is for ever pouring from the sun, and making itself partly palpable to our senses as heat and light. So the life of the plant seized the sunbeams and absorbed them in itself, no longer as light and heat, but as invisible chemical force, locked up for ages in that woody fibre.

So it is. Lord Lytton told us long ago, in a beautiful song, how

"The wind and the beam loved the rose."

But nature's poetry was more beautiful than man's. The wind and the beam loved the rose so well that they made the rose, or rather the rose took the wind and the beam and built up out of them, by her own inner life, her exquisite hue and fragrance.

What next? The rose dies; the timber tree dies—decays down into vegetable fibre, is buried and turned to coal; but the plant cannot altogether undo its own work. Even in death and decay it cannot set free the sunbeams imprisoned in its tissue. The sun-force must stay shut, age after age, invisible but strong, working at its own prison-cells, transmuting them or making them transmutable by man into the manifold product of coal-coke, petroleum, mineral-pitch, gases, coal-tar, benzole, delicate aniline dyes, and what not, till its day of deliverance comes.

Man digs it, throws it on the fire, a black, dead-seeming lump. A corner, an atom of it warms, till it reaches the igniting point—the temperature at which it is able to combine with oxygen.

And then, like a dormant live thing, awaking, after ages, to the sense of its own needs, its own powers, the whole lump is seized, atom after atom, with an infectious hunger for that oxygen which it lost centuries since in the bottom of the earth. It drinks the oxygen in at every pore and burns.

And so the spell of the ages is broken. The sun-force bursts its prison-cells, and blazes into the atmosphere as light and heat once more, returning in a moment into the same forms in which it entered the growing leaf a thousand years ago.

Strange it all is, yet true. But of nature, as of the heart of man, the old saying stands—That truth is stranger than fiction.

CANON KINGSLEY.

THE PHENOMENAL AND THE TRUE.

THERE are other illustrations which may serve to make this idea still more intelligible. We may easily perceive how, not only a partial, but a universal feeling of the existence of that which does not exist might arise. Let us conceive, for example, the case of a person in whom the sense of *touch* was wanting—that is, who could see things naturally, but had not the power of feeling. It is clear that, by such a person, the appearances of things (which we and all who have their senses perfect feel and know to be but appearances) would be felt as having real and separate existence. He would have no faculty by which to test them and discover their true nature, not having any apprehension of that solid thing of which they were the appearances. Seeing a book or a chair, for example, in various positions, before his eyes, he would consciously perceive, not several appearances of one book or chair, but so many

distinct things,—realities, existences practically to him, because filling all his faculties, and exhausting the scope of his (maimed and mutilated) powers.

Let us observe well the point here: the deficiency of a faculty which belongs to our nature would elevate what are in truth mere appearances into a *felt* reality, would give them, to our feeling, a fictitious existence which they do not possess. On the other hand, the imparting to such a person (so feeling mere appearances to be realities) the use of his full powers—giving back to him the sense of touch—would reduce these appearances again, in respect to his feelings, to the right position. From their false reality they would sink back into the mere appearances they are. And this is by no loss, but simply by a gain to him.

Thus we see how the absence of a faculty is adapted to give us a feeling of reality in respect to that which does not exist:—in the case supposed, it would make that seem *real* which is but *appearance*. The same fact is presented to us in another form in the case (no more a mere hypothesis) of dreaming. In dreams, non-existent things are felt as if existing; we live, to our feeling, a life which is not lived, and amid conditions which are not. And this we do simply through the temporary abeyance or inaction of certain of our faculties. For this is the essential difference between dreaming and imagining. The very same thoughts which constitute a dream might pass through the waking mind in felt unreality, and constitute a poem or a tale. But some of our faculties are inoperative during sleep (the power of the will, and probably some others); there is a temporary absence of their action; and as a consequence, existence is felt as pertaining to that which does not exist.

If, therefore, in our experience of material things we are feeling that to exist to which existence does not truly belong, the fact is capable of the simplest explanation: it implies merely the absence or comparative inactivity of some faculty in us; of some faculty belonging to our perfect nature. It is the known effect of such a cause to give a false feeling of existence.

And, therefore, when it is said that we do not know that which actually exists; that we cannot penetrate to the essence of Nature, and must be content with its appearances; we may readily understand both what the fact is and its consequence. A faculty that belongs to our perfect nature is wanting in us, or is imperfectly in action: that we have a false feeling of existence in respect to that which is truly but an appearance (the physical world), is an inevitable effect of this.

Thus we are brought by another path to the idea of a deadness as involved in our present state. It is exhibited to us from another side. We have found that thought forced upon us by the seeming deadness of almost the whole of Nature, and the banishing of life, by our investigation, even from that part in which it seemed to dwell. Now we perceive evidence that, in respect to us, the deepest and most essential powers of manhood are in abeyance. Do not these two views mutually interpret and confirm each other? Man's want of life expresses itself thus.

And a further light is cast also upon that life itself. It would be perfected in us by the perfect bestowal of the powers that are wanting now, in a perfect consciousness; that is, a perfect apprehension of that which truly is. To possess that were to be consciously in the spiritual world; and that were to live in the truest sense of living.

JAMES HINTON.

THE ANTI-VACCINATION MOVEMENT.—The Anti-Vaccinationists do not seem to be making much progress in England, if one may be allowed to judge by their latest "moral victory." On the 19th ult., a motion of Mr. Taylor, member for Leicester, against compulsory vaccination was defeated in the House of Commons by a vote of 286 to 16. The Anti-vaccinationists, however, will probably find consolation in the fact that the citizens of Basle, Switzerland, have voted by about five to one in favor of the abolition of compulsory vaccination.—*The Canada Lancet.*

SOCIETY NOTES.

The ranks of the Association have been increased lately by the introduction of three new members—F. B. Stacey, '85; E. H. Koyl, '86; and J. A. Ivey, '86.

MR. J. B. CHAMBERS, '80, has formed a law partnership with J. A. Longheed, Esq., barrister, who will have charge of the head office at Calgary, N.W.T., the former to conduct the business at Medicine Hat, the C.P.R. crossing on the South Saskatchewan. The North-West has attracted many of the rising young men of Ontario, who will exert a great influence in helping to build up this wonderful land. We wish them all success.

Mr. GEO. A. ELLIOT, class '83, still maintains his reputation for hard work, pluck and perseverance. He is now articled to the firm of Howard & Brophy, barristers, Winnipeg, and seems determined to push his way to the top. May he reach it.

MR. M. F. LIBBY has again advanced himself. After teaching in Pembroke for two months, he secured the position of English master in the Napanee High School, at a salary of $800 per year. Mr. N. Williams, class '84, has taken non-residence standing and gone to Pembroke in Mr. Libby's place. He expects to graduate in May, '84.

MR. E. L. BYINGTON, '79, Principal of the Normal School, Winnipeg, has commenced the study of medicine. He does not intend to practice, but retains his position as teacher.

REV. B. FRANKLIN, B. A., '78, is preaching at Carberry, Man. He is doing well. He is the Public School Inspector of his district. He attended the recent session of the American Association for the Advancement of Science, at Minneapolis, Minn.

REV. E. A. STAFFORD, B. A., '80, is pastor of Grace Church, the largest in the City of Winnipeg. He has succeeded in drawing together the largest congregation in Winnipeg, being by far the most eloquent preacher in the city. Salary $3,000.