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V. P. JOURNAL.

VOL. II.]

JULY, 1884.

[No. 1.

NOTES.

IN closing up the first year's work, and in making further and more complete arrangements for the second, we have been delayed longer than we anticipated. We can now promise, however, to have our JOURNAL promptly in the hands of the subscribers early in each month. Some may wonder why a *June* issue has not arrived. In changing our time of publication from the *end* to the *beginning* of each month we have been compelled to drop a month; but only in name, as this number will be only one month behind the other in *time*. We commence this second volume with a steadily increasing circulation, and confidently resume the pleasant task of the year's publication.

TORONTO UNIVERSITY.—At the recent Convocation at Toronto degrees were conferred upon seventy-six persons. LL.D. was given to two, LL.B. to three, M.A. to eight, B.A. to sixty-three. Twelve young ladies were advanced in their respective years' work, one carrying off high honors in the form of two scholarships. Recent changes and appointments give promise of still better work during the next year.

TRINITY.—On July 3rd, at Trinity Convocation, Toronto, the degree of B.A. was conferred upon five persons, M.A. on two, Lic. Th. on three, B.C.L. on two, M.D. on three—fifteen in all. The Chancellor would not *commit* himself on the question of University Confederation.

A DREAM OF NATURE.

A DREAM it seems, and yet it cannot be
 A dream and nothing more ; for in my mind
 So clear an image still remains, so true,
 That now in clearest light and plainest tone
 The sights fill up my eye, and in my ear
 The sounds so sweet do softly stir again.
 Ah no ! dreams are too shadowy and thin,
 Too evanescent, ghostly and confused,
 The tags of toil and trouble, not the peace
 That took possession of my very soul.
 It was a dream--if such you give it name--
 That had its source in light and in the day,
 Its progress ruled by reason from above,
 Its ending in the world of truth and love.

Wearied with work and worry, toil and care,
 I left the haunts of busy life behind
 And strayed far off adown the ocean's shore
 To cool my brow with nature's soothing breeze,
 To bathe my soul in nature, and drink in
 New life and vigor, as of olden days,
 When boyish freedom, careless sports and play
 Would draw me to the water's sandy margin
 To skip and gambol, and let loose, set free
 That inner self, which only ocean's roar
 Can rouse to actions bold and thoughts sublime,
 Its hissing rage stir up to vengeful scorn,
 Its heaving breast in sympathy to throb,
 And gentle murmurs, scarcely heard, subdued
 To quiet thoughts and feelings kind and true.

Burdened with cares, and almost out of mind,
 My will was driving me to desperate deeds.
 I prayed inaudibly for something new ;
 I longed for other worlds to open out
 And give me view of something strange--
 Something that soothes a weary, o'erwrought brain.
 Another world I wished, I cared not where ;
 For it could not be worse than this,
 And change could not present a world more sad.
 As thus I eager longed my soul seemed stilled,
 Half knowing that its wish would be fulfilled

The wind stole gently in and fanned my brow,
 Weaving, as 'twere, a garland fair and sweet,
 With fingers fairylike and mystical.
 The gentle voice of ocean, soft but stern,
 Silenced the growlings of the dogs of care
 That followed close my heels and crouched to stay,
 Driving them back from whence they followed me.
 While from my stooping shoulders slowly fell—
 Cut loose by hands invisible—the load of toil,
 Whose weight I did not fully comprehend
 Until removed and buried from my sight
 By shifting sands that whirled about and blew,
 Concealing e'en my wandering tracks from view.

Thus freed, I raised my head and found relief ;
 That very moment brought me back my youth.
 My chest heaved high and in there poured
 A stream of life that washed the channels free,
 And carried life and light to lungs grown old
 With impure air and close confinement's curse.
 But here the action stopped not ; through the veins
 And arteries of my being, with surprise,
 The life-blood coursed with sudden impetus ;
 As if rejoiced to find its former strength
 To turn the wheels of being swiftly round
 Still lying dormant, waiting for the hour
 To rouse itself and show once more its power.

Through my whole being ran a feeling strange,
 A quiver first that stirred, but soon increased
 As tho' a struggle shook my bodily frame
 'Twixt two combatants for the right to dwell
 Within the confines of these walls of flesh.
 It was a strange experience, new to me ;
 And I, though much concerned in the result,
 Seemed to stand idly by and allow the two
 To struggle for the mastery. When the thought
 Quick flashed that I must be the arbiter
 To decide 'tween worldly self and higher.
 The thought came quick ; the action quicker still,
 And triumph crowned the favorite of my will.

Then worldly self, with a convulsive shake,
 Loosed his firm grasp that years had made so strong,

And disappeared, I know not where, nor care.
 I felt him going and my bands unbound,
 The clogs removed from hearing and from sight,
 So that new sounds did flow in free and fast,
 At first confused, but after pleasant, pure.
 Such melodies and harmonies I heard,
 That Heaven's gates and windows seemed ajar
 And music floated from the realms afar.

But no ! the music was of earth and sea.
 'Twas there before, but the responsive chords
 Had been neglected and refused to sing
 The music of the world, or echo on
 Through the reverberating halls of mind
 The glorious strains which nature daily blows
 Against the portals of the human ear.
 But now it seemed a thousand harps were strung
 And, tuned aright, filled every auricle
 To catch the thousand strains that seemed to come
 From objects that before to me were dumb.

My visions ! I can ne'er describe or tell
 The sights that poured tumultuous on my view.
 The gates swung wide and gave an entrance free
 To floods of visions that had always flowed,
 But beat in vain against the natural way
 And hurled them back to wait and bide the time
 When, entrance given, they would clear out the mass
 Of worldly thoughts that had filled up and choked
 The channels nature built for her own use.
 The tides and currents, with resistless force,
 Swept all before them and made clear their course.

The distant rolling spheres, in colors new,
 Gave to the seeming rounded heavens and sky
 A beauty ne'er before observed or seen
 By eyes whose looks were darkened to the sight
 Of aught beyond the world of selfish gains.
 But there were other worlds that nearer whirled
 And, underneath and 'round, most useless things
 Glowed almost into life and seemed to speak—
 Or wished to speak—and show me mysteries
 Where man had never dreamt were mysteries :

The humblest, meanest object 'neath my feet
With harmony, life and beauty seemed replete.

As slowly to what seemed my normal state I came
My mind began to read aright the scene.
The sights and sounds aroused my memory
And led me back to great Creation's prime ;
Winding from thence on down in all, through all,
I traced the golden thread of harmony
Weaving with perfect art the glorious words
Of Love, Design and Immortality.
My soul on earth was thus a foretaste given
Of the rich feast awaiting it in Heaven.

May, 1884.

—KARL.

CANADENSES ALUMNI !!

CONVOCATIONS AND CANADIAN UNIVERSITIES.

THE Alumni of Canadian Universities are deeply interested in the welfare of their several *Almarum Matrum*. Especially are they interested in the closing ceremonies of each session. Question—Is there no means of arranging for annual reunions? We think there is, and shall submit two plans, one of which, or a better one if it can be found, should be adopted as soon as convenient.

Plan number one.—Let all Canadian Universities and Colleges hold their Convocation at the same time—say the first week of May. Let the Education Department give this week to the teachers of the High Schools for the purpose of attending the Convocation of their Universities. Nearly all the Head Masters are graduates, while the Assistants are either graduates or undergraduates. Of these a large majority would gladly be present at the closing exercises of their *Alma Mater*. The spring session is long, and a week of rest for pupils and teachers of the High Schools would be the very best thing for both. The plan is simple and easily accomplished.

Plan number two.—Others than teachers may feel like objecting to the above plan on the ground that the first week of

May is not a suitable time for them to leave their business. Doctors, ministers, and teachers would be as well suited by the time mentioned as by any other. Lawyers and others, however, may object. The writer does not see how they can. If there be none to object on this ground they may object to closing so soon. To meet these or any similar objections we would suggest Christmas week or rather the week before.

Let the last week before the present Christmas holidays be the time for Convocation at all the universities for graduation. Why not? Can men not receive their degree in December as well as May? Do not all classes of men, women and children look for relaxation, refreshment, and worthy amusement at Christmas times? Personally, we think that the second plan cannot be opposed very strongly excepting on the ground of custom. True, this should count. We all love custom when it is good, and many of us when otherwise.

The teaching fraternity of Canada are looking forward to better times, more chances for commingling with the literary and scientific savants of the day, and better opportunities of breaking in upon many of the barbarous customs sticking to the present system of teaching at the point of the bayonet.—F.

HUMBUGS.

OUR subject is indeed ample enough, but we wish to refer to only one phase, what we might term newspaper humbugs. There are many also of this class, but to one more particularly our attention is directed. Newspaper editors and owners have to a certain extent the right to fill their columns with what they choose, but only to a certain extent; the readers who pay the bill should have something to say as to the nature of the bill of fare daily served up to them. One cannot take up a paper, hardly a religious paper, but his eye is directed first and foremost to some Bogus Blood Bitters, Cranky Catarrh Cure, or other Heathenish Humbug. The advertising columns

are full, the locals are saturated, and the interesting-item columns degraded by some senseless trash concerning wounds and bruises and putrefying sores. It makes one feel sick to read such things, tries sorely the temper of humbugged innocents, and gives a tone to the whole paper that is certainly not of the highest order.

Isn't it about time that our respectable papers put a stop to this puffing, and allowed the people to breathe a little more freely? We may be disordered and diseased, but we do not want patent medicines. Some of us may be in good health, but this constant cloud of dire diseases hanging threatening over our heads will deluge us all the sooner if the papers do not desist. The country is in danger: the health of our people is deteriorating and patent-medicine men are reaping rich harvests. These cheap decoctions are ruining the enfeebled constitutions of many; the newspaper men know it: the quacks are raking in the shekels, growing rich, enormously rich, rich to insanity; yet the papers still puff and pocket their bribes. Pure air, plenty of exercise, *wholesome reading* and less deception are what the people need, not patent medicines. This wholesale puffing is *pernicious literature*, and the authorities should stop it.

We have lately seen a list of analyses made by a practical analyst. Eleven different articles were taken—cost price *fifty-seven cents*, selling price *six dollars and forty-nine cents*. This shows who are getting rich, and perhaps some of us are paying the money.

These are the goods our dailies, weeklies, and monthlies are praising and puffing, and the proprietors themselves do not risk using them. Let these men try them first; if they are cured, then others may try; if they are not cured, they will no longer be in a position to advertise.

Our people have have been dosed and pampered with these drugs until they have lost the vigor and rugged good health of their ancestors and it is about time some one called a halt, stepped in and cleared out the crowd of public parasites. The

nation is becoming enfeebled, and nature's true remedies are the panacea, but so long as the public guardians look more at their own pockets and less at our people's welfare the condition will not improve. Government analysis by competent men is needed, protection against fraud is demanded, a purer public press is necessary. If the press puff these quackeries the people will swallow them and be humbugged, ignorant of their deception, but still hanging on to the slight threads of hope. More people are cured by the wrappers than by the contents, and more killed by the contents than cured; yet the papers puff and the patent-medicine man grows rich. Newspapers should be compelled to relegate these squibs and notes to a separate advertising column, and people will then know exactly where the poison column will be found.

Our intellectual food has become seasoned, spiced, and adulterated; we want it purified.

We are easily humbugged and learn only by a too cruel experience. There are humbugs and humbuggers; and among the worst are Bottled Humbugs. The humbuggers must be bottled.

LIGHT SCIENCE—LIGHT AHEAD!

WE beg to add a short chapter to "A Face Illumined"—a head-light, so to speak. You remember, doubtless, if you ever were a boy, how carefully you scraped the insides from a pumpkin, with artistic skill bored two round holes for eyes, cut out a triangular slit for a nose, and a serrated oblong of no mean proportions for a mouth. So much so good; the fun was yet to come—and you had it; for the ghastly, grinning ghost, with its red, lurid light, has terrified many timid, superstitious persons, and, as you lay concealed a few yards away, you either held yourself from fear of an explosion of laughter, or suddenly roused yourself in anger as a big brawny fist laid low in many fragments the cause of your innocent sport. Or per-

haps you were a daring youngster, proud of your abilities and eager to display your wondrous boldness as you thrust a lighted match into your mouth and showed a double row of sparkling teeth to your delighted audience. It was sport indeed unless, in your hurry, you had forgotten to allow the phosphorus first to burn away. When we become men we do not always put away childish things; we are as fond of sports as ever, though the sport usually becomes more scientific, and therefore more useful. Some scientists have lately been sporting with a specially constructed electric lamp. When inserted into the mouth a most marvellous sight was revealed—a veritable living jack-lantern, with teeth, bones, muscles, and all the surrounding mechanism of the mouth presented in quite clear outlines. The perfections and imperfections of the different organs were clearly distinguished. “The lamp was left in the patient’s mouth for some time, and yet no more inconvenience was said to be experienced than from a drink of hot coffee. To the dentist and surgeon the invention certainly seems, from the examination made, to promise a useful method of diagnosis. It gives information of the interior portions of the bones of the face and the teeth that could be obtained in no other way. When developed, and perhaps tried in other shapes, and with different styles of lamps, holders and reflectors, the invention will, no doubt, prove of great value.”

This is a new application of electricity, and but the beginning. We do not venture to predict that any scientist will sacrifice the apparatus (or himself) by swallowing a miniature electrical lamp, or that science will perfect a light, harmless and digestible course of electricity, to be taken, say, for desert, and that man will be able at will to convert himself into a light-house—but who knows? Artificial light-headedness is the latest luxury.

MORE LIGHT.

IS the world making too fast progress in certain directions? Are we encroaching too far on the limits set by nature? If the regulation of the solar system arranges a portion of time for rest and relaxation during darkness, relieved at times by the soft, mellow moonbeams, is it best for man so to interfere with these regulations as to turn darkness into light and cause this wearied earth to spin in a continuous envelope of light? Darkness brings rest to man, to animals, to vegetation. Eternal, unceasing activity would soon wear out the world. Nature, animate and inanimate, requires regular periods of rest in order to restore itself to its normal condition. The too-much neglected waggon needs rest just as much as the horse that draws or the man who drives. But we are gradually encroaching on the rest and solitariness of night. The busy, bustling world is strongly tempted to lay violent hands upon the Sabbath's rest, but happily still stands off, respecting to a greater or less degree its sanctity. No such protection, however, enshrouds the hours of darkness: the work and requirements of the day have so pushed themselves in upon the night that it is simply astonishing to compute the amount of night labor, which is ever increasing. After the commercial enterprises of the day are settled, the busy scavengers of news commence to flash their interesting items from city to city armies of men are soon at work, and as we come down to our earliest meal the morning paper is placed before us. So with many other enterprises. No longer does the setting sun call forth the curfew notes that sound a benison to the busy toil of the day. The lamp burns late to show the gate that leads to wisdom's way. It sheds a mellow glow over the couch of the patient. It casts long shadows of the policeman on his solitary beat. It sheds a silvery sheen over the assembly of the gay, flashing from the jewels of the fair participants. It makes the long hours tedious to the weary workman who has already served his ample time.

“For some must watch, while some must sleep;
So runs the world away.”

What is it that has brought about this wondrous change that has taken place in the last half century? Have the demands of the times, the unsatisfied activity of man, given rise to the improvements of modern lighting? Or have the improvements and discoveries aroused the activity? Perhaps both.

What progress has been made in the mode of lighting! Yesterday was the age of candles and oil; to-day we have oil, gas and electricity; to-morrow we may have something else. As we walk down a crowded thoroughfare, white and glistening with the rays of the electric light, we can all remember that it is a growth of the day; that gas was a luxury a few years ago; that oil was very expensive but a few years earlier; that on the old homestead the old log-house was illumined with a single tallow "dip," which our parents deemed a luxury, since their education had been received by the glare of the blazing logs, or the single pine-knot stuck in between two logs near the fire-place. Little more than fifty years have wrought many changes—pine-knot, candle, oil, gas, electricity. Dr. Lucien Howe, in a late lecture, says:

"At the present time there are four varieties used more or less—candles, oil, gas, and electricity. The first three are in the form of a flame. When the melted tallow, sperm or wax of the candle, or oil of the lamp, is drawn up through the wick by capillary attraction, or when gas is forced out from an opening and ignited, a chemical action is at once begun. The various gases contained in the compound are decomposed, and the carbon which they all contain is set free in the form of minute particles. The accompanying heat causes these particles to glow like coals of infinitesimal fire, and the result is the flame which we see. If there is no carbon present there is no brilliancy, as when hydrogen is burned. On the contrary, if the carbon is supplied more rapidly than it can be burned, it simply passes off as soot. We say the flame smokes. The point to be gained, therefore, is to furnish just the proportion of carbon compounds that can be burned, and no more. Another remark which applies to all artificial sources of light except the

electric, is the preponderance of the yellow rays and absence of the blue. It is generally considered that the red end of the spectrum is more irritating than the blue; moreover, a red light, not being as brilliant as a bluish one, requires that it be more nearly approached to the eyes, and this, of course, produces a corresponding smartness of the lids and outer covering of the globe on account of the accompany heat. The less yellow, therefore, the flame contains, the better it is.

"The intensity of candle light is so slight and their regularity so great, that for practical purposes this illumination is worthless. The only reason why the light of the candle is of interest to us, is that this is still regarded as the standard of comparison of other lights, which are spoken of ordinarily as being of so many candle power. This depends upon a well-known law of optics, which is usually stated by saying that the intensity of light varies inversely to the square of the distance.

"The transition from candle to oil was a natural one, and the light of the latter was found to be the better, principally because the intensity and the regularity were greater; in other words, it was stronger and steadier. Thus a lamp of medium size is from eight to ten candle power. It has the disadvantage, on the other hand, of being rich in yellow rays, and, moreover, the amount of heat evolved is proportionately great. It is customary, at present, to use the so-called student lamp in preference to gas, not only because the oil is cheaper, but because it is erroneously said to give a softer light. On economic grounds this may be good reasoning, but otherwise the student lamp is not worthy of the confidence given it. The light is weaker, it is more yellow, and gives out more heat than gas."

Looking ahead, he further says: "The electric light is evidently to be the illuminator of the future. It has an intensity much greater than any other known; it more nearly approaches white light in its spectrum, and the accompanying heat is proportionately less. The two desiderata are regularity and cheapness."

Light-producing elements have gone through the whole range of matter—solid, liquid, gas. Electricity is immaterial. Motion impeded gives rise to heat and light; so electricity, in its progress through conductors, will, when it meets with resistance, cause the resisting object to glow.

There are scientists, however, who are looking ahead still farther, promising still greater things. Mattieu Williams, in his notes, tells us that Prof. Radziszewski "has actually separated the luminous matter of the *pelagia noctiluca*, one of the multitude of species of marine animals that appear like little lumps of jelly and produce the phosphorescence of the sea." A dry residue was obtained and a compound formed emitting light when shaken. The animal itself is luminous only when rubbed or shaken. This noctiluca fat gives light without appreciable heat; hence its advantage. "Let us then hope that Prof. R. will continue his researches and discover the whole secret of both the analysis and synthesis of this fat, and that of the glow-worms, fire-flies, etc. Now that we can supply the confectioner with the flavor of almonds, raspberries, jargonel pears, nectarines, etc., and imitate the perfumes and the richest colors of nature's sweetest and brightest flowers, all by the chemical manipulation of coal tar, we need not despair of solving the chemical problem of transforming mutton suet, or palm oil, or vaseline, into glow-worm or noctiluca fat."

FIAT LUX.

ODDS AND ENDS.

ELECTRICITY is the greatest *lux-ury* of this century, at the same time the lightest.

GREAT worlds have little worlds
 To circle round, and light 'em;
 Little worlds have lesser worlds,
 And so *ad infinitum*.

SOME one has suggested that the telephonic operator is the man to *telephon-ny* story. Here's one which makes up in truth whatever it lacks in fun (for you or those most interested):—
 “Quite a novel wedding took place in Weatherford, Texas, last week. Mr. J. M. Hudson and Mrs. Leave, of Dallas, came to be married, and, owing to the fact that the clerk was dead and his successor had not been appointed, they could not get any license. They telephoned to the clerk of Palo Pinto county and had him issue them a license. But still they were in a dilemma. They could not get it from there under twenty-four hours, so they roused up Judge Taylor and were married by telephone, each holding a telephone to the ear until the solemn words ‘man and wife’ were pronounced.”

UNDER the head of “Odds” we venture to add something that is *even*—even odd, perhaps:—

$$6 = \text{SIX}$$

$$9 = \text{IX}$$

$$\text{By subtraction — } 3 = \text{S}$$

$$7 = \text{SEVEN}$$

$$\text{— } 3 = \text{S}$$

Subtracting 10 is EVEN

THE Ottawas say that the *Milky Way* was caused by a turtle swimming along the bottom of the sky and stirring up the mud. The Patagonians call it the track along which the departed tribesmen hunt ostriches. Africans say it is wood ashes thrown up into the sky by a girl, that her people might be able to see their way home at night. Eastern people say it is chaff dropped by a thief in his hurried flight. Each nation thus tinges the myth with the coloring most familiar and intelligible to itself.

MY heart is awed within me when I think
 Of the great miracle which still goes on
 In silence round me—the perpetual work
 Of Thy creation, finished yet renewed for ever.

—Bryant.

TAKE wings of fancy and ascend,
 And in a moment set thy face
 Where all the starry heavens of space
 Are sharpened to a needle's end.

IN a former number we gave a copy of a testimonial or application of a native of India. This month we present you with a *verbatim* copy of an application of a Frenchman, for the benefit of interested students:—

MONTREAL, June 10th, 1884.

To A. H—, Esq.

SIR,—Having heard you was in want of bookkeeper, I take the liberty of offering myself for that situation. I am a gentleman who has made commercial and classics studies to the seminary of —, and I have the best references that you can require of my conduct and capacity. I can be storeman, bookkeeper, time-keeper, etc., etc., etc. I also speak English and French perfectly well. I hope that you will take my request in consideration, and you will do your possible for me. I am just coming into this place to gain me some money to study a profession. In this time I am working with Sir Lamont, and as you know yourself this work is very hard for a gentleman starting from the college. Hoping that you will be affected of my misfortune,

I am, with a deep respect, your very humble servant,

L. O. JONQUIERE.

ABOUT twenty years ago, Colonel Wilson, of Chicago, then an active telegraph superintendent, was on a tour in the southern part of his State. It was a season of floods. Large portions of the country adjacent to the Ohio and Mississippi rivers were inundated, and the wreckage had included the washing away of many miles of poles and wire. It became necessary to communicate with a point on the Missouri bank of the Mississippi river by telegraph. The fertile invention of Colonel Wilson directed that a locomotive be run to the Illinois bank. Mounting the footboard he grasped the valve, and soon the shrill screams of the locomotive whistle were heard by the listening operators on the other shore, whistling out Wilson's message in the long and short sounds of the alphabet familiar to them as that of their primers. Communication was kept up in this way for several hours.

NATURE TO AGASSIZ:—

“ And whenever the way seemed long,
Or his heart began to fail,
She would sing a more wonderful song,
Or tell a more marvellous tale.”

A WIRY AGE.—“ Future annalists may well describe this period of American history as the wire age,” says the *Boston Advertiser*. “ In no part of the economy of our daily life are we divorced from wire. It is our slave, and yet an ever-present master. Sleeping, we repose on wire mattresses. Eating, we see foods that have passed through sieves, and which are sheltered from insect appetite by wire covers. Calling, we pull wires to ring curled wire gongs. Travelling, we are conveyed by cable or electric railways, hoisted by elevators hung on wires, and hurried over wire bridges. We announce our coming by telegraph or telephone wires, and we tread our way by night through streets lighted by means of electric cables. Across our fields are strung many thousands of miles of barbed wire fences, against which dumb brutes protest, Texas rangers draw the knife, and lawyers, juries, judges, and reporters whet their intellectual blades. Our clocks are set by wires, our watches are run by wires, our books are stitched by wire, our pictures are hung by wires, and our politics are managed by wires.”

A NEW PROFESSORSHIP.

YOUNG brains are apt to be revolutionary. Bacon wrote that “ young men are fitter to invent than to judge, fitter for execution than for counsel, and fitter for new projects than for settled ones.” These thoughts concerning the filling up of a hazy gap in college education are respectfully submitted to the judgment of our elders. He who speaks from a sense of want sometimes speaks to the point. If the dictum of Aristotle is to stand, that youths should be taught what will be of most use to

them when they become men, then it is one of the pressing needs of the age that in all college professions, to give a liberal theological and scientific culture, a Chair of Human Nature and Christian Life should be established.

Said an American humorist: "There is a great deal of human nature in the world. The fact underlying the witticism forms the scientific basis of our plea." What know we greater than the soul? It is the highest in nature and the most revelatory of all God's works. It is a manufactured article with a plan. This fact is a divine guarantee of guidance and final success to the student. Study in this field has already perplexed the ages with problems of existence and of reason and as a result we have the few blazing certainties which shine in the sky of metaphysics and vast stretches of nebulous matter—mind-stuff—which may yet resolve itself into some well defined orbs of truth. But this age demands more than the problems of reason. So far the more practical, the richer in suggestion, the more seminal in culture has been left almost untouched. And that is the scientific study of the soul in all its ranges of experience, its wonderful manifestations under the touch of the world around, and the sublime existences above. The great problems of character and human life demand solution. Here there is many a Dark Continent to be explored, and many a Nile whose overflow enriches human existence, but which keeps its secret still. And this is the century for piercing Dark Continents, while the modern scientific spirit takes every difficulty as the challenge of Providence. In no region of inquiry is the explorer's enthusiasm so legitimate as here.

This line of investigation would yield a science, in which all other sciences would find their unity. From physiology to theology all would be laid under contribution. Analogies laden with suggestion, would crowd in from every quarter of earth and heaven. No nerve in the body, no fibre in the brain, no lurking motive or emotion in the soul, no throb of love, no rapture of worship, no agony of aspiration should be forgotten. Each has its own story to tell and carries its own fragment of

Divine revelation. Take one subject, that of the subtile influence of man upon man, which on its spiritual side we call "unction," on its mental side "persuasiveness," and on its physical side "animal magnetism." Its physiological basis is just as indispensable as its mental or spiritual basis, and it can never be understood till its three-fold nature is studied. In its highest forms it is the perfection and balance of the three. And what power has man that has not a physical, a mental, and a spiritual side? Of all those that are influential in human life and character there are few if any. Well has Dr. McCosh said, "It is well to keep in the foreground the physiological part of philosophy for that is the battle-field of the future." The practical psychology of the future will doubtless trace the laws revealed in the purely physical sciences up into the spiritual realm and by an exhaustive study of all the facts of life will give us the clue to many a maze in the human experience, and will unravel many a tangle in philosophy.

Shakespeare will be the father of this new science. Since his day, and since the birth of his character novel, there has been much rambling and discursive study, much keen analysis of character and motive but there have been too few lines of generalization, drawn through the mass of facts, which have been brought vividly to view. Since the days of Gall and Sperrzheim there has been much attention concentrated upon the physiological sources of character. Modern thought cries with old Protagoras "Man is the measure of all things" and in its devouter moods it whispers "because made in the image of God."

And, as this conception, that the human is Divine, has been making some twilight portions of theology radiant, there has been an awakening in this line of study on the theological side. That the soul is naturally Christian is a statement as old as the days of Tertullian, the truth of which is only now beginning to be felt. With the light of heaven's revelation streaming over our shoulders the proper study of mankind is man. In the soul we find—

“A reflex of the Eternal Mind
A glass to give us back the truth.”

Then, as the progress of scientific enquiry has brought the conviction to men's minds, that law is universal, many have looked anxiously into these cloudy realms of character and experience and have wondered, if science would ever draw its lines through these zones and reduce all to order and simplicity. Too long the expression has rested in the minds of men, that this region of the universe was not to be touched by the scientific method. They have said, “Man is a living soul, and science has been trained among the dead,” yet surely if the cold tongs of science clasp living souls they will catch the warmth and glow with borrowed light. All know that the radiant law of cause and effect runs through this field and we have good reason to believe that the many phases of the Christian experience are as reducible to law, as the miraculous growth of the plants and the mystic dance of the atoms. They are all the work of one unchangeable Spirit. The seen and unseen, the physical and moral realms of nature are all spirit-soaked. This is the promise of victory, for intelligence is interpretable. Why should we not have more studies like those of Joseph Cook, viz., “The Laughter of the Soul at itself,” “Solar self-culture and communion with God as personal,” and Bushnell's “Can Lost Purity be Restored?”

If the Great Teacher of Galilee has taught anything He has taught that the laws which subsist between man and man, personality and personality, subsist also between man as a person and God as a person. *Person and person.* The laws of this multiplex relation throw the only intelligible light upon the Divine methods in pardon, new birth, atonement, sanctification, inspiration, and prayer-answering. Theology will yet pulsate with personality and then it will pulsate with God.

All the phases of love, the bliss of self-surrendering choice, the transfiguring power of noble friendship, the uplifting and humbling power of a lofty ideal, the wonderful phenomena

and transcendent might of conscience, when touched by affection, the power of a vigorous personality to mould a soul in the white heat of repentance, which so often illuminate human life in its purely human relationships are all seen in the spiritual life of the Christian. "All's love yet all's law." It is no work of chance, or arbitrary decree that sin brings blindness and that particular sins bring particular kinds of blindness, that he who does not repent cannot believe that he sinneth against the Holy Spirit, hath never forgiveness, and that all things work together for good to those who love God. The very cry of the saved soul "Abba Father" is as truly born, according to law, as the bloom of the trees or the flash of the diamond. A sublime system of law has been settled by the fore-ordination of the Eternal, and according to those unalterable natural laws as we fulfil the conditions we are predestinated by a predestination that can never be shaken to pass through the stages of the spiritual life, till we reach the goal of Christian evolution and are conformed to the image of God's dear Son, and by the same law, if unfaithful, we pass through the stages of degradation, till we are conformed to the image of Satan. These laws like all great natural laws of God, are at once promise-crammed and curse-crammed. If these laws are ever to be revealed it must be by special study in this department of nature.

Further, if physical science looks with proper intentness upon the great facts of personality it will be delivered from the tyranny of mechanical theories and will find in every law the will of an Omnipresent Person, Eternal and without shadow of turning. And only thus can adequate emphasis be given, in these days of purely physical research, to the commanding reality of the great facts of conscience and the spiritual life. Prof. Drummond in his late work here comes to our aid with help all the more welcome because unexpected.

The time has come for the tracing of the laws, for the classification of facts and the presentation of a workable analysis of the human faculties. All that could be done in a college

course, would be to find out the more essential principles of classification, to indicate the greater laws and their bearings on questions in science and theology, and to provide the student with a few hints in the practical study of the classroom, as to the method of his independent investigations. Then, the study of the throbs of human life, the seething of its passions and the marches of its thought; of the genesis of great excitements, the sparkle and flow of soul in society and the rush of business life, would be infinite in suggestion and perennial in interest. We find God and His intelligence in the vast and sublime in nature, and in the microscopic and minute, but He is also present in the commonplace. This golden mean between these extremes, is golden because of the glory of His presence. And with it we are most familiar. There has been and rightly a demand of increasing urgency for more history in colleges. Let this science of Human Life throw its light on history, and the page of the past, which otherwise is little more than an almanac, becomes an inspired page for reverent study, since everywhere will be revealed those laws which are "the hands" of an Unseen Person "that reach through nature moulding men," and the anointed eyes of the faithful student will see them, writing on the quivering wall of human life, their sentence of promise and of doom.

Bacon wished that a science of the human passions could be elaborated. Gervinus, the noted commentator on Shakspeare, says that if he had turned to his neighbor William he might have found such a science, and that such will one day be constructed from his writings. The need of such a science is greater to-day than in the days of Bacon. It is impossible to name the text-books but the pages of the Bible and Shakspeare, of Geo. Eliot, Mrs. Browning and Dickens would be indispensable reference. The classics would yield some fruit and indeed this study of the humanities would pierce to the very heart of the English, classical, and metaphysical courses in a college course, and would suggest many new methods of teaching and study in the several branches; while the course in phy-

sical science could be drawn upon for terms, analogies, and laws. Would not the study of the orations, of Demosthenes and Cicero, the histories of Sallust and Thucydides be clothed with a new usefulness and zest when the student knew that the facts of life brought to his notice there, would, in another lecture room, be taken as illustrations of great natural laws, and when every page would be alive with inventing its original research? Indeed the great work of this professorship would be to lead students beyond the letter into the inner realm of the spirit, in all their work.

In conclusion one thing is certain that if any man aspires to the most efficient and the noblest self-culture he must establish such a professorship in his own soul; while to the practical life of the clergyman, the lawyer, the educator, the student of history and literature it is indispensable. As a study, it will develop the keenest powers of observation, the logical and metaphysical faculties and the realizistic grasp of the imagination. Its effect on the heart will be like that of travel on the intellect. It will broaden the view, and will enlarge and deepen the range of sympathy, for no truth is cosmopolitan so deep, so touching, so sweet, as the truth of human life.

In another paper we shall show the practical bearings and importance of this study in the life of the minister.

PHAM.

AMERICANS OF THE PAST—THE MOUND BUILDERS.

DURING the whole of a dull, dark, and soundless day in the autumn of the year, when the clouds hung oppressively low in the heavens, and the crisp, brown leaves were whisked piteously into corners, I sat, half reclined, in the depths of an easy chair, and read that most engrossing and most romantic of histories, Prescott's Conquest of Mexico. The thought of those unsolved people, so graphically pictured in its pages, is one that always calls up in me that pang which everyone feels in presence of a mystery. Whence came those

strange, bloody, civilized cannibals, those Aztecs—men of blood and iron? Yet they have a history and a place in the world; albeit their history begins in a cloud, and their place is the place of an all but forgotten people. But there is another people who were once equally mighty with those proud Aztecs: a people who dwelt nearer our own native soil, a people whose name has faded, whose deeds have been forgotten, and whose place has been taken by others more advanced, who are now laboriously sifting out of the sand-waste of untold oblivion a few gleams of their life-history and their life-work. Be it my task here to scan, with you, in almost their own words, the results of the enquiries and the opinions of the latest Americanists who have published the results of their labors.

From British Columbia and Manitoba to Florida and Texas, from New York and Carolina to Kansas and Colorado, are scattered, more or less thickly, an almost innumerable number of mounds and embankments. What do we know of the people who erected these mounds? In 1002 A.D. Thorwald Ericson landed on the New England coast, and found natives "sallow-colored and ill-looking, with ugly heads of hair, large eyes and broad cheeks." They came in canoes to his ships to trade; and though peaceable at first, soon showed hostility and treachery. Our northern savages; nothing else!

This is the first, and, until Columbus, the only authentic account of ancient America. Columbus and his successors, we all know, met none but the modern savages. We can learn nothing, then, of these mound-builders from outside sources. What can we learn from the Americans themselves? From the savages we can discover nothing but an inextricable confusion of moons and summers. So short indeed is their memory that in 200 years they had entirely forgotten the visits of the Jesuit fathers to the North and West, and even De Soto's journey to the Mississippi; and this, too, when he had horses and firearms, both utterly unknown to the natives, and which must have impressed them deeply.

There remain two sources yet; these are the Aztec histories,

and the mounds themselves. The histories of the old Mexican nations, though quite trustworthy with regard to comparatively late times, merge, as do all old historical tales, into a mist of heroes, demi-gods, and perplexing myths, after a few hundred years. Still, like the fabulous birth of Romulus and the marvelous list of Roman heroes, there is a kernel of the actual always hid in the thick shell of the ideal. Omitting their later and more authentic parts, which may well form the basis of another, and yet another paper, we may note that, in the mist of the confusion and perplexity that shrouds their earlier days, they all agree in declaring that they came from some common centre, distant from their present abodes. They call this centre by the name Aztlan, or Nahuatlan—land of the Aztecs or Nahuatlacs--and all, both of the native writers, and of the Spaniards who wrote at the time of the conquest, unite in placing the *locale* of this mother-land to the North, though they vary all the way from Florida to Oregon. (It will be observed that we here speak of the purely indigenous civilization of the Nahuas, to the exclusion of the earlier civilization of the Mayas, Quiches, etc., which was as plainly exotic. In a later paper, if permitted, we shall notice these latter). Again, the works of the mound-builders exist in considerable number in Texas, extending across the Rio Grande into Mexico, establishing an unmistakable relationship, as well as actual union, between the truncated mounds of the Mississippi Valley and the Teocalli, or temple pyramids of Mexico. There are evidences, also, that the most recent works of Louisiana and Texas do not compare in antiquity with any found in the Ohio Valley, showing it to be altogether probable that the mound-builders occupied the Lower Mississippi Valley and gulf coast for a considerable period after they were driven from the northern and central region by their enemies. So thickly crowded, indeed, must they have been upon the low-lands west of the Mississippi delta, extending into Arkansas and Texas, that here the mounds are numbered by millions. They are small, and just such as would be erected to serve as foundations for dwellings

in a low country. The whole region must have presented the appearance of a continuous community, instead of the proper proportion of country and village. This crowded state of affairs could have been produced by the pressure of enemies in the North, and the lack of agricultural lands evidently was sufficient alone to cause a migration to the South. Add to this that linguistic affinities are proven between the old Aztec and the Chinook Indian of Vancouver Island and the mainland, showing, if not a common race-hood, at least a time of close connection. When, stretching in a wide curve from these people of the Pacific, through Manitoba and the Mississippi and tributary valleys, on to Texas and into Mexico, we find a gradual transition from the rude and simple mounds of the North to the truncated pyramid of the South, constructed on strict geometrical principles, and having one or more graded ways, and so closely resembling the Mexican *teocallis*; when, we repeat, we find an unbroken chain of evidence such as this, we must be either obtuse or prejudiced if we hesitate to admit its validity. Yet to this may be added that the mound crania closely resemble those of ancient Mexico, and there are other evidences of a racial identity common to mound-builders and Mexicans, such as pottery, sculptured portraiture of the facial type, indications of commercial intercourse between the two countries—such as the discovery of Mexican obsidian in the mounds of the Ohio Valley—and the probability, from like temple forms and remains, that both worshipped the sun and offered human sacrifices.

Mound-builder remains are to be found, as has been noted, over a great part of the continent; yet in the interior we find the heart of their country in Illinois, Indiana, and Ohio. It is uncertain whether its vital centre was in Southern Illinois or in Ohio: probably the former, because of its geographical situation with reference to the mouths of the Missouri and Ohio. That they possessed a due appreciation of the physical advantages of certain localities for their cities is shown by the fact that the site of St. Louis was formerly covered with mounds, one of

which was 35 feet high: while in the American bottom on the Illinois side of the river their number approximates 200. In a group of 60 or more, lying near East St. Louis, stands the most magnificent of all the mound-builders' works—the great mound of Cahokia—which once rose to a height of 90 feet, and extended its huge mass in the form of a parallelogram with sides measuring 700 and 500 feet respectively. On one side was a terrace 160 by 300 feet, reached by a graded way. The summit affords a level platform 200 by 450 feet. Upon this mound stands a conical elevation 10 feet high. When we consider the analogy between the general features of this pyramid and that on which was raised the great temple of Mexico, we can hardly avoid reflecting that Cahokia may have served as the prototype of the more magnificent structure which was so often deluged with the blood of its thousands of human victims. The temple of Mexico, and many others of its type, seem like the embodiment of the same principles of architecture employed at Cahokia, but carried to a greater perfection under the more favorable conditions of the valley of Anahuac. Go with me in fancy to that vale before the razing hand of Cortes had levelled the proud capital of the Aztecs. Every temple, every palace, every tower (and there were hundreds in this Queen City of a million inhabitants) was built upon a terrace of earth work, morticed and masoned with stone: about them for miles stretched the low straw and mud huts of the masses. Now glide back a dozen centuries or more, and over a thousand leagues of land to the Missouri mouth. See its 500 odd mounds, each crowned by its temple, its tower, or its palace; see its miles of huts, its swarm of men and women, tall and fair, squat and swarthy, noble browed, or with brutal foreheads—for their graves tell us that there was variety of feature and complexion—the capital city of the mound-builders, the home of their princes.

Not far south of this great city, partly in a cypress swamp covered with heavy timber, and partly on adjacent prairie land, an earthwork enclosure of some 50 acres is to be seen. In this

enclosure are three large mounds, one of which is pyramidal in form and still has traces of a graded way. An ancient well is discernable near it. A circular mound at the opposite end of the enclosure is estimated to have afforded a place of burial for 1,000 individuals. The bodies were buried with their heads pointing to the centre of the mound. A gourd-shaped vase, a small jug or drinking vessel, and an earthen pan or platter was found with each skeleton, probably once containing victuals for the disembodied spirit's use on its journey. The mouths of the vases were fashioned into the form of the head of some bird, or the figure of some animal or of a human female. In depressions about 3 feet deep within the enclosure remains of burnt clay ovens were found. Fire-places were disclosed, as well as fragments of large earthen vessels. The veritable kitchens of the mound-builders, with their furniture, seem to have been brought to life. In front of the enclosure, and projecting into the bayou, are tongues of land about 30 feet long by 10 or 15 feet wide, resembling on a small scale the wharves of a sea-port town. From the evidence of the mound works scattered over the whole of that region it is certain that it was once inhabited by a population so numerous that, in comparison, its present occupants are only the scattered pioneers of a newly-settled country.

The mound-builders seem to have come into the country from the North, and during their residence in the central parts, where they must have remained a long time, they became extremely populous. Their settlements were wide-spread, and the magnitude and perfection of their works testify to the architectural talent of the people, and the fact that they had developed a system of government which controlled the labor of multitudes, whether of subjects or slaves. They were an agricultural people, as the extensive ancient garden-beds found in Wisconsin and Missouri indicate. Their manufactures afford proof that they had attained a respectable degree of advancement, and show that they understood the advantages of the division of labor. Their domestic utensils, the cloth of which

they made their clothing, and the artistic vessels met with everywhere in the mounds, point to the development of home culture and domestic industry. Their skill in sculpture, painting, etc., while perhaps open to criticism, would still compare not unfavorably with that of nations far more boasted. Copper was mined and wrought into a great variety of implements and ornaments. The labor involved in a journey of 1,000 miles from the Ohio Valley to the copper region of Lake Superior, the toil of the summer's mining, and the tedious transportation of the metal to their homes upon their backs and by means of an imperfect system of navigation, and its after distribution to all parts of the continent—even to the Gulf of Mexico—indicates a high degree of civilization. No permanent abodes were erected by miners, no mounds were constructed: but the indications all point to a summer's residence only, and a return to the South with the accumulation of their toil when the severities of winter approached. The mound-builders dug canals, by which lake systems were united—a fact well established in Missouri. Their defences were numerous and well constructed. They had well-organized lines of protection all along their northern frontier, and, at frequent intervals, fortresses trenched, walled, curtained and bastioned in the most approved styles of modern fortification. Of one it is estimated that it could have held a garrison of 60,000 men with their families and provisions. To erect it at the present day would require a force of many thousand men for several years, assisted by modern appliances and implements, as well as horse-power, which the mound-builders did not possess. Yet we must remember that all was laid down by paltry basketfuls, carried one at a time on the shoulders of the toilers. Tall mounds placed on lofty summits tell us that they possessed a system of signals visible from their settlements and communicating with the great water courses at immense distances. They possessed regular scales of measurement, and could accurately determine angles; indeed, at such a pitch had their scientific and mathematical knowledge arrived that they

executed with precision the square and circle, and were able to compute the area enclosed by these figures, so that the space enclosed by them standing side by side might exactly coincide.

Their religion seems to have been attended with the same ceremonies in all parts of their domain. That its rites were celebrated with great demonstrations is certain.

The simple mound, so common in the North and in the prairie region of the United States, represents probably the first attempts at the imitation of nature in providing a place of worship. The erection of religious structures representing animals, no doubt sacred to the mound-builders, was carried to a remarkable extent in Wisconsin. These strange works probably indicate the second step in the scale of their architectural progress. In the Ohio Valley, while the ordinary mound is found in great numbers, and a few instances of animals occur, three new architectural features appear—the enclosures, the truncated mounds, and principally the truncated pyramids—all of them a marked advance artistically and on the score of utility. South of the Ohio Valley the animal mounds disappear and truncated mounds become few, while the truncated pyramid, with its complicated system of graded ways and nice geometrical proportions—the highest artistic form—becomes the predominant type of structure. In the Lower Mississippi Valley dried bricks and stone were used in the walls and angles of the pyramids.

The sun and moon were probably the all-important deities, to whom sacrifices (possibly human) were offered.

Here then we find the transition to Southern Mexico complete. Not a break in the chain. Here we find the rude beginnings of the civilization which no doubt subsequently unfolded in its fuller glory in the valley of Anahuac.

The Italian Rome was shut in by the waters of the Mediterranean; its conquered remnant could not flee; it submitted, and henceforth two peoples became one nation. Not so in America. Boundless stretches of unoccupied territory lay always to the south, and when the Rome of the New World,

stifled by surge after surge of fierce Northern savages, saw its warriors drop one by one at their post, and their cities melt in the flames, the people drew out from their kindling dwellings and fled to the South, and—alas! into an almost impenetrable oblivion.

CORRESPONDENCE.

WE have letters and communications from various sources, and give our readers some extracts and clippings in order to economize space.

DREAMS.—"Your article on dreams recalls to my mind a dream I had lately. It was in few words, as follows:—A young man came to me, informed me that he was insane at times, that he could now feel the insanity coming upon him, and desired me to have him secured safely. I called a policeman, and together we walked to the police station. On the way he quietly removed himself from his position next to me to that outside of the policeman, and seemed very anxious to place himself in a position where he could do no harm. He was secured and the explanation next day was satisfactory to myself. The evening before, on my way home, I was reading a work in which some similar cases were recorded, and also listened to the account of a young man who had assisted in conveying an insane person to the asylum. Before going to sleep I had been thinking over a project that was for some days employing my waking moments, in which the person of my dream was a prominent character. He was not inclined to insanity at all, but the complication or combination of the two or three circumstances working off my mind at night formed the dream as recorded."

FENCES.—The writer of "Fences" has made a happy hit, and deserves much praise. All reasonable farmers would gladly agree with his views. Being a farmer myself, and putting in spring crops at the present time, I find the difficulty of fencing

to keep out my neighbors' cattle. I shall hail the day when our statesmen come to our rescue. More than this: the writer of "Fences" shall be rewarded with the first-fruits of everything grown on my farm the year in which the new law comes in force. Now, Mr. Writer, "agitate, agitate, agitate," and your reward is sure.

SCIENCE IN SCHOOLS.—"Elementary Science in our schools" touches upon an important matter. The writer will doubtless receive the strong support of most liberal and progressive teachers. More chemistry, more botany, more physiology, more applied mechanics, more mineralogy, and more natural history, of all kinds, should be introduced into our system of education.

We hope the writer on "Dreams" will keep at the subject till all their mysteries are cleared up. By that time the world will immortalize the author.

ORTHOEPIC REFORM.—"Orthoepic Reform" presents tersely some valuable suggestions; but after all, is it not an improvement to pronounce "barrel, gravel, civil, cavil, confederates, circumstances, squalor, and frugal," as indicated by the spelling, "barl, gravl, civl, cavl," etc.? The spelling is quite another question. Why not begin at once and illustrate the new method of spelling in actual writing? Let all theorizing end and illustrate, by example:—Hu kin find folt if wun duz taik a leeding part in aul gud reformnz? For mi felomanz welfair i wud at wuns maik enee sakrufais. Hou gloryus it iz hwen trew devoshun tu a kaus leeds a man strate tu the wurk ov elevaiting the peepl! Kum awn aul ho wud taik a hand in the wurk ov improving the masus. Let Kanide leed aun.

CAT BATTERY IN APRIL No.—"The Cat Battery" is an able article, and merits a place in the nations archives. It is full of bristling points; two of these act upon us, and we are "attracted" to refer to them.

1st. "There are 1,317,009 ohmless cats in this city alone." Cool, keen, skeptical readers are apt to doubt just here. Who

counted? Did the numerator make no mistake? While counting did none of those *counted already* leave? Did none of the counted pass by the back fence into his neighbor's yard and *count* again? My experience is that an active and nervous man can count up to 4,307 while there are only two cats on the premises. "Surrounding objects may be attracted with great velocity from distances of 100 to 250 feet." The writer knows of one case where two farmers and their families were attracted across a twenty acre field, coming together with terrific violence. The cats induced them to thus meet in deadly combat.

Now I can prove that the writer has made a serious mistake in attributing all this cat phenomena to catelectricity; here it is:—A body moving towards another body, as the result of electric attraction, increases in velocity until the moment of collision. In other words velocity varies directly as the units of time. Again, during the first unit of time, the attracted body travels over one unit of distance, during the second unit of time it passes over three units of distance, and in the third unit of time over five units of distance.

Do bootjacks, overshoes, inkbottles, tumblers, hairbrushes, and waterpitchers, move towards the attracting cat batteries in keeping with the above well-known laws? No: not a bit of it. The whole world knows they do not. What is the fact? Why that these above-mentioned articles leave a *certain point* with a high velocity, but gradually lose their force until they fall four and a half inches this side of the battery. And, even when they chance to hit the so-called attracting body, everyone knows well that there is not the desired effect. The battery only works more vigorously. The erected fur keeps its position. The harmonious "vibrations" continue; oh, no! the "corpuscular emanations" still emit, and charming melodies are heard. What then is the true cause? This: cats meet together and get angry; then they swear and call names. I have heard them. So there, by pure repulsion the angry passions of drowsy humanity are stirred up. By an active method of muscular operation the "bootjacks," etc., are repelled, repelled in the

direction of the repulsive birds of song. "Like begets like," angry passions of the cats beget angry passions in the breasts of the owners, and at times *batteries* and *batterers* are evolved. Passion begets passion, repulsion repulsion, and The Cat Battery *Light Science*.

OUR UNKNOWN SERVANT AGAIN.

MR. EDITOR—Dear Sir,—I cut the following article written by Prof. Thwing, from the June number of the *Homiletic Monthly*, New York, as it contains a few suggestions in reference to the subject of J. W. A.'s article in your last issue:—

PULPIT MAGNETISM.—The genesis and growth of the subtle influence which is called Personal Magnetism is a theme of vital interest to the preacher. I shall look rather at the manward than at the Godward side—at the physical and constitutional, rather than at the religious factors that may be supposed to enter into the analysis. Intelligence, scholarship and piety are assumed. What other elements are needed to realize the conception of a magnetic man? Science lends to art and to philosophy convenient phrases. Terms applied to metals may be given to men. A magnet draws and holds. Why? Simply because the magnet has something to give. The steel is made to receive. So with men. This hidden potentiality clearly has a physiological basis. The common phrases, animal spirits or animal magnetism, show the popular theory of its evolution, which is in the main a true one.

1. A magnetic man is one of thoroughly developed animal nature. He who expects to put forth power must have a plenitude of power at command. This is not muscular energy or physical health merely. The ox is healthy and strong, but as stolid as he is strong, for certain functions have been arrested. A man may be stalwart and sinewy, yet sodden and passionless, bloodless and marrowless, utterly destitute of fiery and eruptive life. How can he master men of vehement and palpitating passions? In his recent work, "Body and Will," Maudsley hints at the vital unity subsisting between intellectual and

sexual energy, and shows that the finest poetic and artistic emotion, as well as the essence of religion and morality, stand related to the healthful development and control of the reproductive system. A man of metal is never a metal man! The chisel of Praxiteles, the counsels of Pericles, and the fiery eloquence of Demosthenes, got much of their inspiration at the feet of Phryne, Aspasia and Lais.

There are other kindred passions, that need not be enumerated, which go to make up a masterful nature. The more of them the better, provided they are all handled as Robert Boyle says Abraham did his domestics—"circumcised and made them servants."

2. A magnetic man has—in addition to these inward, vital, physical forces—that eliminative or distributive nature which furnishes a vehicle for their transmission. Aromatic gums carry condensed odors by which they are detected, but the breath of fire loosens the full volume of their pungent odor. Naturalists have said that the changing hue of the chameleon is partly automatic and partly volitional. A man conscious of the possession of this subtle something we call magnetism, is also conscious that he can emit or retain it. He has indeed an "atmosphere" as truly as the spice has its flavor, or fire its glow; but the penetrating and distributive character of this mesmeric power, as it is sometimes called, is largely under his voluntary control. When he, by some inexplicable insight or sympathy, finds himself in contact with responsive souls, he can exhale the fullness of the atmosphere that is peculiarly his own. He has the resources. He also has the power of elimination and of restraint. The conjunction of an affluent, distributive nature with an absorbent one, produces marvellous effects, material and moral. Dr. Livingstone says that the contact of a lion's paw conquers the will of the victim and makes it insensible to its bite. So, says Philip Hamerton, there are men who can emit a physical influence that prepares those they touch to submit. He felt "an odd tingling sensation" when he met Napoleon III., and says that a friend who came in contact

with the Emperor in the street, not knowing him, experienced "a shock of immeasurable power."

These elements, both automatic and volitional in exercise, go to make up that material efflux of soul, which it is easy to feel but hard to analyze. There is a radiation from a man as heat, a glowing coal, which infects the very atmosphere in which he moves. We properly call it his "air." Artifice may conceal it, but art cannot create it. It is partly a gift and partly a growth. It is a polarization that touches certain souls and draws them like doves to their windows.

We have touched but a segment of this "magnetic sphere," and suggested but two factors that enter into it. There are temperamental conditions to be considered in the evolution of this form of personal power to which another paper will draw attention.

Brooklyn, N. Y.

E. P. THWING.

THOUGHTS ABOUT APPARITIONS.

THE greater number of ghost stories are generally disbelieved in the nineteenth century. Few persons will dispute the propriety and justice of this result. Many of the stories are absurd; others have been explained by physical and even commonplace causes; falsehood, imagination, exaggeration, and that peculiar process of evolution or growth which goes on when a story passes from mouth to mouth, will generally account for the rest. In the rabble and mob of ghost stories, however, may be found certain narratives of a very respectable and even solemn aspect, and which cannot be designated as either fictitious or absurd. I refer chiefly to those depending upon one alleged fact, namely, the appearance of a person deceased, nearly at the moment of decease, to some other person to whom the deceased has been known in life. Reflection upon this class of story has led me to some speculative thoughts of a partly physical and partly spiritual kind, which I

now submit to the consideration of the candid and thoughtful reader.

The essential characteristic is the recognition, after physical dissolution, of a deceased, by one who has known him in his lifetime, in the form which distinguished him while a member of the living human family. Stories of this class contain, in a simple, humble, prosaic form, the features of Shakespeare's magnificent poetical creation in "Hamlet." It will be remembered how, in this case, the poet lays stress upon the identity of appearance between the deceased king and the ghost:—

Marcellus.—Is it not like the king?

Horatio.—As thou art to thyself:

Such was the very armour he had on
When he the ambitious Norway combated;
So frown'd he once, when, in an angry parle,
He smote the sledded Polacks on the ice.
'Tis strange."

Again:—

Hamlet.—His beard was grizzled? No?

Horatio.—It was as I have seen it in his life,
A sable silver'd."

Observe, not merely the face and features, but the armor also, identifying the apparition with the deceased king.

Let me pass from the spiritual to the physical, and endeavor to expound some notions concerning real vision and supposed vision of objects. It will be necessary for my purpose briefly to describe the process of real vision.

When an object is placed before the eye, the light emanating from each point of the object falls upon the eye, and, having passed through the several lenses and humors of which the eye is composed, is made to converge upon the retina, there forming a picture made in the same way as in the photographer's camera-obscura. The retina is in reality the expanded extremity of the optic nerve which communicates with the brain. After this our physical investigation comes to an end;

there is still an infinite gap between the impression on the brain and the result expressed by the words "I see."

The fact is, that in vision we have a demonstrable transition from the physical to the spiritual. This being so, is it not at least conceivable that as the object moves the visual machinery of the eye, and this machinery moves the mind, so if the mind be directly moved (supposing for a moment that this is possible), the result may be the movement of the visual machinery, or at all events the production of the impression that it has been so moved.

Now let it be supposed, for argument's sake, that the mind of man can be acted upon otherwise than through the senses. If man has a spiritual nature which is embodied in a fleshly tenement, and if there be spiritual beings which are not so embodied, then it would seem not unreasonable to suppose that those spiritual beings should be able to hold converse with the spiritual part of men without the use of those avenues which the senses supply. Let us go a step further. Is it not conceivable that the spiritual part of man when "set free from the burden of the flesh" may have communication with the spiritual part of another man who still lives in the body? I can see nothing unreasonable in supposing it possible. The only thing really postulated by the supposition is the double being or man, material or spiritual, which almost every one concludes and which many consider to be self-evident.

Now, may it not be that a communication made directly from one spirit to another may *seem* to arise from that action of the senses to which mental impressions are usually due? I lose a friend, and that friend is able (I know not how or why) to communicate with me; what more probable than the supposition that this direct communication will *seem* to have been made through the senses? In fact, as being myself subject to the laws of sense, could I be conscious of my friend's presence in any other way than by imagining that I saw his form, or that I heard his voice?

This view of apparitions has the advantage of explaining the difficulty that when one sees another who is departed, what he sees is, for the most part, merely the clothes of the departed, and not the man himself. If there is to be an apparition at all, how can the departed be recognized by him to whom he appears except by the fact of the same appearance being presented which characterized the deceased in his lifetime? The clothes must somehow appear to identify the man; you cannot conceive of a nebulous figure with the name of the deceased written under it. Grant the possibility of communication between spirit and spirit, and regard the so-called apparition as the brain representation of the spiritual communication, and then it seems to follow of necessity that the appearance being supplied by the living man's own mind will represent the departed person as the survivor knew him.

Connected with this subject is probably that of dreams. John Bunyan's phrase, "Now I saw in my dream," is a representation of what abundantly takes place in common life, though on a much humbler scale. People *see* in their dreams, but how do they see? A writer of a letter which I saw recently in one of the newspapers describes a dream which he had when an undergraduate at Cambridge, and in which he saw a large herd of cattle. The vision connected itself with a succession of events which were flashed upon his mind; and the whole was apparently the result of a knock at his door and an announcement that his bedmaker had brought his *kettle*. The similarity of the words *kettle* and *cattle* was sufficient to constitute the basis of the whole dream. In what way then, I say, do men *see* in their dreams? Certainly the vision does not commence with the eye, for it is closed. In some manner the effect is produced upon the mind—in the instance justed quoted, apparently through the ear—and then the vision, or quasi-vision, follows. What I wish to lay stress upon is this, that sometimes and somehow there is something which corresponds to vision in sleep, and that this vision does not always correspond to what is trivial and transitory: "the stuff that dreams are made of" is sometimes solid and real.

Sleep itself is a mystery. I, at least, have never been able to find in any scientific work, or to learn from any scientific man, a description of what sleep really is. It is not much to be wondered at, therefore, if the action of the eye and the brain and the mental powers during sleep be also a mystery. But some light seems to be thrown upon the question if we apply to the case of dreams the notion of reversed action, which is the foundation of this essay. Suppose the mind or the brain to be first acted upon, either by a message through some other sense, as that of feeling or hearing, or by some process originating in the mind itself, the remembrance of some thought which has been dwelt upon in the waking hours, the whisper of an angel—if you please to recognize angelic agency—or what not, and then it certainly seems to come within the bounds of practical speculation that we should conceive of vision in sleep as a possible thing. Waking visions and dreams have often, and very naturally, been connected with each other. If we get near to a scientific connection of them, the conception becomes all the more real.

There is a very interesting discussion by Sir William Hamilton (Edinburgh) on the condition of the mind during sleep, to which reference may be advantageously made in connection with the remarks which have been now offered. The concluding sentence is as follows: "In case of sleep, therefore, so far is it from being proved that the mind is at any moment unconscious, that the result of observation would incline us to the opposite conclusion." The result of Sir W. Hamilton's own observations, and that of Mr. Jouffroy, whom he quotes at length, is to suggest that during sleep the mind is awake and active: so much so, that when communications are made to the senses, the mind decides whether notice shall be taken of the communications or not. Thus a man comes from the quiet of the country to a noisy city; for the first few nights he cannot sleep, soon he sleeps as soundly as in the country; he is accustomed to the noise; the action on the physical organs is the same as before, but the mind knows

that the noise means nothing, and therefore does not disturb the sleeping limbs. In like manner we have the phenomena of waking early, contrary to our established habit, when an early rise is necessary; the mind acts as a night porter, and stirs the body up when the proper hour arrives.

I have referred to Sir W. Hamilton's lecture, because the facts and conclusions contained in it seemed to strengthen the view put forward in this paper as to the possible reversal of the ordinary process of mental action. In general, the mind sits upon its throne with the senses as its ministers, and only approachable through them, as the queen can only be approached in general through her Secretaries of State. Sometimes, it would seem, however, that the mind asserts its essential royalty and supremacy, and communicates with the senses, instead of permitting the senses to take the initiative. Certainly this view of the mind is a very interesting one, and there is much to be said for it; it helps the apparition question, with which this essay is more immediately concerned, but it is interesting and worthy of examination in itself, without any reference to apparitions.

I trust that no one who reads what I have written will suppose that I regard my speculation as an absolute solution of a mystery, or indeed as anything more than an essay in the direction of solution. But it seems to me that, however incomplete the speculation may be, it may help us in the contemplation of that marvellous combination of matter with something that is not matter, which is exhibited in human life. That man is material and spiritual, that he combines in his complicated and composite nature the brute and the angel, is the old belief, and I trust is true; and it is agreeable to such a belief to think of the material laws which govern man as part of the material universe, sometimes making way for the action of super-material laws, and permitting man to pose for the time as a creature in some sense and degree himself super-material. It is from this point of view, in my judgment, that sober tales of alleged apparitions have an interest

for thoughtful persons. The vulgar ghost story is a poor contemptible thing, fitted chiefly to amuse a Christmas party sitting round the yule log, and enjoying the excitement of a little harmless mystery; but it is impossible to class as mere vulgar ghost stories all the tales that have been told concerning the appearance of persons deceased; there is a curious consistency, and an abundance of individual and independent instances of the same kind of phenomenon, which make it impossible to ridicule the whole subject, and, on the other hand, give a value to any attempt to render it more thinkable.—Condensed from article by THE BISHOP OF CARLISLE in *The Contemporary Review*.

SKETCHES IN THE SUNNY SOUTH.

I.

THE Senate was complaining of the shabby conduct of France and Germany towards the American hog. The negro population, who largely fill the galleries of Congress during the session, were indignantly discussing the unseemly haste with which the great negro champion, Frederick Douglass, at the ripe age of 73, had passed by all the dusky belles of the capital and suddenly married a young white girl. So we left the broad, clean streets and "magnificent distances" of Washington, and in the very early morning took a railway ride across the Potomac into the "Old Dominion." Our English party were routed out of bed before daylight on a cold, frosty morning to catch the train, and behold a brilliant sunrise as we crossed the river on the "Long Bridge," and briefly halted at the ancient and not very active Virginia city of Alexandria. Then as the day advanced we rode along the border of the "Wilderness"—that barren and unattractive, but historically famous portion of Eastern Virginia, where some of the fiercest conflicts of the Civil War were fought. Here Grant and Lee manoeuvred, and Stonewall Jackson, the typical Southern

soldier won the battle of Chancellorsville that cost him his life. We crossed the Rappahannock River at the quaint town of Fredericksburg, near which George Washington was born, and at Guinea, a few miles southward, passed the house where Stonewall Jackson died in May, 1863, his last words dreamily spoken, being, "Let us cross over the river, and rest under the shade of the trees." Then, swiftly moving over the poorly cultivated but, nevertheless, "sacred soil" of old Virginia, we passed the little settlements where the negroes were sunning themselves alongside the fences as they watched the trains go by, and saw a few "razor-backed" and very hungry-looking hogs dart through the scrubby pine woods—almost the only animal life. The white inhabitants of this region, who are the present representatives of the "first families of Virginia," vary their always generous hospitality by a close devotion to politics; and at present are earnestly debating the question which engrosses the chief attention of the State Legislature—a resolution requesting the "Readjuster," Senator Mahone, to resign. As Mahone's Democratic opponents have the majority, the resolution will probably pass, but none of them have much expectation that the plucky little Senator will obey, as they know that a cardinal doctrine of the American office-holder's creed is that "few die, and none resign."

A brief journey—passing the little village of Ashland, where the American Protectionist apostle, Henry Clay, was born—brought us to the attractive valley of the James River at Richmond, the stream being slowly crossed on a high bridge, with Hollywood Cemetery and its white tombs beautifully nestling above the bank to the westward, and the bubbling cascade made by the swiftly flowing river just below. This flourishing city is the capital of the State, and was the headquarters of the Southern Confederacy. Nature has given Richmond a position as impregnable as it is beautiful, and it was the object of years of Northern strategy that produced an awful carnage before the fortress succumbed at the close of the rebellion in 1865. The hills and vales and bordering river banks near Richmond

present a succession of picturesque landscapes, while the swollen James, muddy with the drainage of the rich red soils of the tobacco plantations of this section of the State, flows swiftly by. The railway soon led us away from the hills bordering the James into the level land of Southern Virginia, to the Valley of the Appomattox, where the apple tree stands under which Lee surrendered. Around Petersburg, on the banks of this river, were the closing struggles of the rebellion, but now a brisk trade in tobacco has replaced the former military ardour among the inhabitants, and the town is a thriving mart of that traffic. To the southward there is much pine wood and poor agriculture, the worn-out farms having primitive cabins, which the pigs and little darkey "piccaninnies" appeared to hold in joint tenancy. A vicious agricultural system, combined with the planter's poverty, has ruined most of the plantations in this region, so that the sparse population may be said to exist rather than to live. New blood must be infused before there can be much improvement. The people—whites and blacks together—cluster at the "cross-roads" grocery, and discuss politics and the news of the neighborhood. The whites do as little work as possible, while the negroes lazily endeavor to coax an apology for a crop out of the poor soil by the rudest culture. Broad stretches of pine barrens cross the level land, and on the paths through the woods an occasional ox team plods along, or a stray horseman can be seen going home with the supplies from the store—not forgetting the whiskey-jug hung from the saddle-bow. At each little railway station, where the train holds up for a moment, is generally the "saloon" or "bar" where the population of both colors—all men being now free in America—are impartially supplied with patriotism in a liquid form; and thus Virginia imperceptibly blends into North Carolina, and the "first families of Virginia" are replaced by the "tar heels" of the latter commonwealth. We soon cross the deep valley of the Roanoke river, and after a brief halt at the town of Weldon enter upon a monotonous journey through the flat and uninteresting pine belt for many miles. This belt borders the Atlantic coast from New

England to Florida, and in Carolina it becomes the great source of the world's main supply of naval stores—the tar, pitch, turpentine, resin and turpentine that are shipped out of the Cape Fear River from Wilmington. The coast, which trends southward to Hatteras, turns westward beyond that dangerous headland, and our railway steadily approaches it. As we have swiftly made the southern journey, we have at the same time run out of the regions of ice and snow, into a warmer country bearing a brighter foliage and more luxuriant evergreens. Crossing miles and miles of swamp and forest, with woodmen's camps gathering the naval stores, we go over the Tar and Neus rivers, and at the latter pass Goldsborough, and beyond some smaller places, all of which look exactly alike, and none of them very attractive, and approach the Cape Fear River at Wilmington. This city, the chief town of North Carolina, is in the southeastern part of the State, and about 20 miles below it. Guarding the entrance to Cape Fear River, is the famous Fort Fisher, so conspicuous during the war, when, under the cover of its guns, the swift Clyde-built steamers ran the blockade in and out of the river, and trading between Wilmington and Nassau made fortunes for their owners and gave vast trouble to "Uncle Sam's" fleet, that tried in vain to close the entrance. The railway from Wilmington goes westward through a region largely composed of swamps, and entering South Carolina turns southward again to the coast at Charleston. For hundreds of miles this region is a variation of pine barrens and morass, sparsely inhabited, and having many cotton bales brought out to the stations on the line, for shipment down to Charleston. There is evidently a larger population of blacks than whites, and like much of the country to the northward, this, too, needs an infusion of new blood and enterprise to wake up the sleepy inhabitants.

Charleston, which is the metropolis of South Carolina, has a good export trade in cotton, timber, naval stores, rice, and that recent most valuable discovery made in the extensive deposits near by—the phosphate rock, which is shipped northward in

large quantities for manufacture into fertilizers. It is a low-lying city, built upon a peninsula between the Ashley and Cooper rivers, just inland from the sea, and presents an air of comfort, yet, at the same time, of decadence. Its many wooden houses are varied with others of brick and stone, some of much pretension; and here the dwelling architecture begins to present the tropical features of open verandahs, spacious porticos, and broad windows leading out upon gardens in which the typical palmetto tree grows. At the point of the peninsula is the battery, a park and popular promenade, overlooking the bay and having several fine residences fronting upon it. From this park, where the people were taking their afternoon promenade, an attractive view was given of the harbour entrance, about seven miles below, with the celebrated Fort Sumter like a small dark streak across the distant horizon. In the bay some vessels were at anchor, the chief one of them the British steamship *North Durham*, loaded with 5,200 bales of cotton, bound to Sebastopol, The *Atalanta*, Jay Gould's yacht, also was there awaiting her millionaire owner, who is said to be contemplating a voyage in her to the West Indies, but just when he cannot tell, as he has too much business at present in Wall street to think of leaving home. The crop of negro children in Charleston must always be good, judging from the way they swarm the streets, and, in fact, the blacks everywhere outnumber the whites; and in this unusually cold season they showed a decided tendency to cluster around the fires in public places, and to get into sheltered locations where the sunshine is warm. The city has several fine public buildings, and in many ways shows its reverence for the great apostle of "State Rights" and Secession, South Carolina's favourite statesman, John C. Calhoun, whose remains lie in St. Philip's (Episcopal) churchyard.

Charleston harbour, formed by the two rivers, is a broad estuary below their junction, completely landlocked, and having an entrance from the sea about a mile wide. On the northern side is Sullivan's Island, dotted with wooden cottages facing the sea, and a favourite summer resort. Here is Fort

Moultrie, which was a battery during the revolutionary war that twice repulsed British naval attacks. Just behind this fort, now in a state of transition from an old brick and stone structure, to a modern earthwork, and having a few guns mounted *en barbette*, is the grave of Ocoela. This famous Indian was a chief of the Seminoles, who long carried on a war with the whites in the Florida everglades, and he died in Moultrie in 1838. Out across the water, standing upon about three acres of a mud shoal, protected from encroachment by a stone facing, is Fort Sumter, rising as a small low island from the water. It is faced with brick, and is also being converted into an earthwork. We walked through its covered galleries and mounted the parapets, but most of the present fort is modern, built since 1865. The firing upon Sumter, which opened from the batteries to the southward and continued from Moultrie, began the Civil War in April, 1861, and set the North in a blaze, yet none of the garrison were hurt by the bombardment, though there were some casualties caused by the bursting of a gun when saluting the Union flag when the garrison withdrew. Their barracks were burnt by shells, and the place thus made untenable. There are no troops in the fort now, and the labourers who are building the sandbanks have entire possession, and will soon make it a very strong work. From the parapet can be seen the low neck of land to the southward where the Union troops afterwards effected a landing, and for a long period bombarded Charleston with the original "long-range gun," General Gillmore's "swamp angel." Far away up the estuary is Charleston, low-lying between the diverging rivers, with a "ring of distant foliage beyond them on either hand, and the spires pointing upwards, the most conspicuous being St. Michael's white steeple at which this gun was aimed. Its bolts sometimes struck the mark, and did much damage. Fort Sumter, at Charleston, and Independence Hall, at Philadelphia, each the conspicuous object of a great war, divide the honours of American history. Neither is of much pretension in itself, but the events that happened in both had a momentous influence upon the world.—*Quoted from London Times.*

WHAT IS ELECTRICITY?

ELECTRICITY is the most stupendous force in nature, apparently active throughout the universe, the cause of the phenomena described as attraction, gravitation, and magnetism, and most probably of heat and light. It is incessantly active, and maintains, it would seem, the physical life of the world. Science can only appreciate some of its results, and apply it on a very limited scale to practical purposes; but knowledge of its adaptability is growing every day, and what a few years since was little more than material for brilliant laboratory experiment, or the production of scientific toys, is now becoming a gigantic motive power available for the service of practical science and the progress of civilization.

Already it provides a means of instantaneous communication between portions of the earth's surface, most remote from each other. It is gradually superseding all other methods of artificial illumination, and it promises to make steam obsolete as a motive power. What other aid it may give we know not, and we scarcely dare conjecture, although it would seem that the most vivid imagination must fail to apprehend its possibilities. It is in the earth beneath us, known as terrestrial magnetism; it is in the atmosphere around us, and its energy is seen in the lightning flashes which mark the discharge of force between clouds, each of which is a storage of force; and in the vast—indeed, inconceivable—cosmos, electricity maintains the relations of suns and systems moving with enormous velocity and unvarying regularity through space. It is a force which, so far as human intellect can appreciate it, knows no cessation, diminution, or deterioration. It can be summoned, but not created by any skill of man—made apparent in the results of friction or chemical action, but made apparent only, not produced. A spark the eighth of an inch long, produced by contact with the small electric machine in the lecture-room, is precisely similar in character to the terrible flash which splits a

tree to fragments, striking it with sudden death, or topples down the most massive tower reared by the skill of man. In Oriental fable we read of lamps, the rubbing of which produced an obedient genius ready to minister to every wrath. We can excite the electric force, and the most stupendous of all the genii nature—if not, indeed, the master spirit, of which all known natural forces are but variations—is at our service; our servant, if we will—our most terrible master if we have no skill to conciliate him.—*Beeton's Dictionary of Science.*

ATOMS AND MOLECULES.

UNFORTUNATELY we have no chance of seeing the ultimate atoms or molecules of matter. Chemists use the term molecule to denote the smallest quantity of any substance capable of existing alone; but the definition is not quite satisfactory, because they have reason to believe that there are many compound molecules that only exist in parts of more complicated combinations. Could we, by help of any apparatus, see ultimate molecules, the sight would be an astounding one: for the extremely minute portions of any substance, however solid or liquid it may appear to ordinary vision, would become exhibited to us as composed of infinitely more particles than all the stars we can perceive in a clear sky, and all in motions as harmonious as those of the celestial bodies. When either compositions or decompositions are going on we should see hosts by the myriad rushing together or springing apart, as the case might be. Eternal motion is the condition of life, whether it be of the smallest unit or of the entire universe. Nature, as Humboldt said, is ever arranging herself in new forms, and absolute stillness would be cessation of being.—*Sc. American.*

THE world has a million roosts for a man, but only one nest.—*Holmes.*

THE one where your place is is the best for you.—*Holmes.*