MEDICAL

AND

PHYSICAL MEMOIRS.

Memoir IV

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MEMOIR IV.

THOUGHTS ON THE PRESERVATIVE AND RESTORATIVE POWERS OF NATURE.

AN INTRODUCTORY ADDRESS.

GENTLEMEN,

BY a writer, who is no less distinguished by the soundness of his views, and the extent of his attainments, as a philosopher and a scholar, than by his inspiration and classical polish, as a poet, we are told, that

"*All things subsist by elemental strife,*
"*And passions are the elements of life.*"

The more extensive the survey we take of the general arrangement and administration of nature, and the more successful we prove, in discovering the state and condition of things, *as they are*, the more thoroughly shall we be convinced of the truth, and the more highly will we appreciate the profundity, of the sentiments inculcated in these two lines.

We shall perceive, in a particular manner, while thus engaged, that, throughout creation, as far as we are permitted to examine it, there exist certain great antagonist powers, by the conflicting influence of which the balance of things is settled and maintained. And it is in reference to this peculiar condition of general existence, that the universe is truly said to stand *self balanced; universal action* and re-action being equal and contrary, and giving stability to the whole; precisely as the human body stands self balanced, by the opposite action of antagonizing muscles. For, we shall see hereafter, that in LIVING as well as *dead* matter these opposites prevail.

Give to one of those powers, in any of the deparments of nature, an ascendency over the other, and the inevitable consequence will be, wild commotion, disorder, and misrule. And the extent of the uproar and desolation thus produced, will be in proportion to the violence done to the equipoise.

From no other source, as might be easily proved, do we derive tempests, and inundations, and those still more terrific and destructive occurrences, earth-quakes and volcanic eruptions. To the same cause must we attribute the tornado, the thunder-storm, the water-spout, the monsoons, the trade-winds, and all minor disturb-

ances in the atmosphere, down to the balmy zephyr, and the grateful fanning of the sea and land breezes.

It is thus, that, when, in the human body, the muscles of voluntary motion escape from the controlling influence of the will, which is the conservator of their equipoise, epilepsy, St. Vitus's dance, and other convulsive affections ensue.

But to proceed, on this subject, more methodically and in detail, and present to you, collected from a hasty survey of various portions of nature, illustrations and proofs of the proposition I have stated.

If we direct our attention to the general organization and economy of the heavens, we shall there find every thing governed and controlled by the two antagonizing powers of gravitation and projection, or centripetal and centrifugal tendencies From those two conflicting influences proceed directly that exquisite balance of parts, and that beautiful, sublime, and harmonious movement of the whole, which have constituted, for ages, the theme of the poet, the delight of the astronomer, the admiration of the general philosopher, and the wonder of all created intelligence; and which enhance so indescribably the magnificence and glory of all those systems of suns, and planets, and inferior orbs, that people infinity, and compose the universe.

Destroy, on an extended scale, this mighty balance, and a scene of disorder and ruin will ensue, which nothing but *Almighty power* can arrest, and nothing but infinite wisdom restore.

Under such circumstances, all things would either fly abroad, in lawless confusion, or tumble together, in a consolidated mass, moons into planets, and planets and comets into suns, while suns themselves, thus encumbered and driven from their positions, would rush on other suns, in a similar condition, until, with a force of collision, which nothing could withstand, the whole would fall into some great central orb, which had heretofore controlled them, and thus exhibit, to the astonishment and dismay of a universe of spirit, the crushed and shattered ruins of a universe of matter.

"Let Earth unbalanced from her orbit fly,
"Planets and suns rush lawless through the sky;
"Let Ruling Angels from their spheres be hurled,
"Being on being wrecked, and world on world;
"Heaven's whole foundations to their centre nod,
"And Nature trembles to the throne of God."

Descending from the heavens to the globe we inhabit, we here find all things material retained in their position, and governed in their economy, by the opposite powers of attraction and repulsion. Extinguish the *former*, and all terrestrial matter will become dust: at least, it will fall into loose and incoherent masses of elementary atoms. Extinguish the *latter*, and it will be so far consolidated, as to lose its present properties, and become incompetent to the performance of its present functions. Solidity and elasticity, the two great master properties, which give to matter its character and

its uses, and which are the immediate offspring of attraction and repulsion, will both disappear.

Augment preternaturally the force of repulsion, so as to give to it an ascendency over attraction, deranging thus their existing balance, and, in another respect, the condition and character of matter will be essentially changed. The atmosphere will be so far rarefied and attenuated, as to be no longer fit for its present uses; and the waters of the earth will be converted into vapour. The consequence will be, the entire extinction of life on our globe, as well in the vegetable, as the animal kingdom.

Hence the infinite importance of maintaining, between attraction and repulsion, in terrestrial matter, a well adjusted balance.

To inquire into the causes of those two powers, constitutes no part of my present intention. It will be permitted me, however, to observe, that with repulsion, caloric, or the matter of heat, would seem to be, in some way, very intimately connected. Unite with water a superabundance of caloric, the elasticity, or repulsive influence of that fluid will be augmented, and the fluid itself converted into steam. The same thing is true of other liquids, as well as of several metallic substances.

If, on the contrary, you so far compress atmospheric air, by mechanical force, as to diminish its repulsion, and reduce it toward the condition of a solid substance, a large amount of caloric escapes from it. The same is true of metals, and I believe also of water, when diminished in volume by compression; an effect first produced on it, as far as I am informed, by our celebrated countryman, Mr. Perkins, the most able and distinguished mechanician of the age.

In the general economy of nature, in relation to dead matter, there are presented to us various other phenomena, necessary to preserve the balance and harmony of things, which arise from the action of *antagonizing influences*.

Of this description are *light* and *darkness*, as constituting the leading characteristics of *day* and *night*, and *heat* and *cold*, especially as modified by the different seasons of the year, and by gradual vicissitudes from other causes.

That a perpetuation of either the darkness of night, or the light of day would be incompatible with the salutary administration and the pleasurable condition of things, must be obvious to every one. To *us*, perpetual gloom and perpetual glare would be alike intolerable. And that *inferior animals* would be equally offended and injured by them, might be easily proved. Nor is it less certain that great evils would arise from any material derangement of the existing balance between those two modifications of time.

This earth, with all its concomitants of night and day, and change of season, is intended for the accommodation, not of its rocks and streams, and hills and valleys, and other kinds of *dead matter*, but of its *living inhabitants* of the animal and vegetable kingdoms

And to them the alternations, refered to, are not only grateful and useful, but *indispensable.*

All living beings not only require certain periods of action and repose, but they also require that those periods should be nearly equal. Destroy this equality, and, as respects their accommodation, you destroy the aptitude and beauty of the relation. But to those beings darkness seems essential to salutary repose This inference we are authorized to draw from the universality of the fact, that night is the time they select for their repose.

If to this rule a few *apparent* exceptions exist, they are *but* apparent, the eyes of those animals that roam by *night*, and rest by *day*, being calculated for better vision during the *former* period than the *latter*. To them, therefore, day is the period of darkness.

To vegetable health and vigour, also, the alternation of day and night is essential. That vegetables excluded from light are pallid, feeble, and sickly, is a fact of universal notoriety Nor is it less true, although not, perhaps, so generally known or attended to, that a superabundance of light is likewise deleterious to them Vegetables require sleep as well as animals. And it is perfectly understood, that night is the time of their salutary repose.

But mere health and vigour, in the abstract, do not constitute the only legitimate and essential condition of living existence. It is included in the kind and benificent ordinations of Heaven, that being should be *pleasurable* as well as *healthful*— that enjoyment as well as *life* should be allotted to man and other animals

But it is a well known truth, that to the whole animal creation, the vicissitudes of night and day, light and darkness, are peculiarly *delightful.* As relates to ourselves, our own consciousness testifies to the fact; while the morning and evening manifestations of pleasure and gratitude made by inferior animals, give proof of the same, in relation to them.

Whether, then, we regard the matter morally or physically, it conclusively appears, that to the salutary condition of terrestrial things, a well sustained balance between the opposites of light and darkness, is indispensable. Derange that balance, and healthful and desirable existence will be deranged; destroy it, and that condition of existence will cease.

That a similar balance between the opposites of *heat* and *cold*, as they are developed and manifested in the succession of the seasons, is also essential, will not be doubted. In confirmation of this, facts present themselves from every quarter. Hence the deep disasters both to animals and vegetables, and sometimes even to dead matter, which seldom fail to occur, when, from any irregularity in the processes of nature, that balance is seriously interrupted. The inconveniences and sufferings resulting from seasons excessively hot and excessively cold, it would be not only superfluous, but impossible to enumerate.

Of the preservation of the balance we are now considering, a very beautiful and impressive example occurs in the freezing of

water, and the dissolution of ice and snow. In the *former* process a large amount of imprisoned and latent heat is set at liberty, and rendered sensible, to prevent the occurrence of an excessive and injurious degree of cold; and in the *latter*, to prevent any mischief that might arise from a superabundance of active and sensible caloric, an equal amount of it is suddenly arrested, and rendered insensible.

Thus does nature not only proclaim the importance of the balance, but devises effectual measures to maintain it.

To the importance and necessity of a balance between the opposites of humidity and dryness, similar remarks are equally applicable. The calamities arising from the breach of that balance, by droughts and inundations, are too well known, to render it necessary that they should be here recited. They are already recorded in the dismal catalogues of want, and famine, and pestilence, the engulphing of towns and villages, with their inhabitants, and all the other evils that accompany the failure of rain, and the fearful sweep of overwhelming waters. To that breach are to be attributed the desolations of all the deluges that the earth has sustained.

Another balance of great importance in the economy of our globe, is that which subsists between elevated or hilly, and depressed portions of land. Destroy it, and the most grievous disasters will ensue.

Hills and mountains are necessary to give origin to rivers and smaller streams, and valleys and plains are equally requisite to give them breadth of channel, and moderation of current. Great valleys or excavations are also essential to furnish beds for lakes, seas, and oceans, without which, as parent fountains, rivers would fail, and the earth be denied the supply of waters indispensable to its economy.

Were the whole earth hilly and mountainous, or could such a condition of things exist, it would be comparatively unproductive; its waters would be confined within deep and narrow and tumultuous channels, not peopled as they are at present, and it would be, in the main, an unsuitable residence. as well for man, as for various tribes of inferior but useful animals that now inhabit it; and to whose existence and welfare wide valleys and extensive champains are known to be essential.

Were it, on the contrary, entirely destitute of hills and mountains, instead of running, and salutary, and important streams, it would be covered chiefly with interminable morasses, and vast sheets of stagnant waters, and inhabited only by an aquatic race. As relates to the point I am considering, alter in any way the existing arrangements, and you will circumscribe the variety and range of living beings. create unbounded difficulty and embarrassment, and diminish the general amount of enjoyment. Hence the necessity of maintaining unalterably an accurate balance between the elevated and depressed grounds on the surface of the earth.

There are also certain *moral opposites*, between which, in the

economy of being, it would seem important that a balance be preserved. Of these I shall mention only *virtue* and *vice*, *pain* or *misery*, and *pleasure* or *happiness*.

To many it may, perhaps, seem paradoxical in me to allege, that in the moral economy of this world, it is requisite that there should be a balance between virtue and vice; or that there is a necessity for the existence of vice at all. But, permit me to believe, that, on a due consideration of the subject, the paradox will disappear.

When we recollect that the moral character of the Creator and Ruler of this world, is, in all respects, perfect, and that he has the power to arrange every thing in it *precisely to his will*, it follows, as a corollary clear and irresistible, that, both morally and physically, all things in it are as they ought to be. To deny this, is to charge the Deity with a *want of perfection*. It is virtually to assert, either that he has not the power to order things in the best possible manner; or that, having the power, he declines to do it, and is, therefore, the *immediate and intentional author of evil*.

Were man to act thus, his conscience, which is the moral representative of the Deity within him, would condemn him for neglect; and his fellow men would denounce him as a delinquent, if not as a malefactor. He would be considered, by every one, as accessory to the existence, and all the deplorable consequences of evil. How, then, can the Creator stand acquitted, before his own tribunal, of that, on account of which his creature would be *censured and self-condemned?* Or if the Creator has presented such an example, why is the creature blameworthy for following it? But I decline to dwell on this abstract principle, although it is founded on truth, and is perfectly clear, and pertinent to my purpose.

Were vice to be suddenly and radically extinguished, I will not assert that virtue would perish with it; but I do assert that it would become, comparatively, sickly and uninviting, losing, at once, both its strength and its lustre.

It is a principle, as well of our moral as of our physical nature, that *to be strong, we must be active*. Indolence and inaction enervate the intellect no less than the body. The strength of virtue, then, depends on its being exercised. But, extinguish vice, and where is the object on which several of the virtues *can* be exercised? It is palpable that no such object will exist; for the struggle of virtue is to repress vice, or to resist its attack. Without the incentives to this struggle, virtue would sleep.

Were there no crimes to be punished, no decision to be effected between right and wrong, and no rewards to be adjudged to the opposers of crime, justice would be paralyzed in some of its cardinal functions; and were there no guilt and offence to be forgiven, *the attribute of mercy would be but a name*. The very fact that the Deity possesses the attribute of mercy, is proof conclusive, that the existence of crime comports with the scheme of creative wisdom. But it comports equally with that scheme, that the virtuous should strenuously endeavor to repress it, and punish it when it occurs.

Were there no lawless usurpations or other daring crimes of state, where would be the lustre, where the merit, I might perhaps say, where the very existence of the virtue of patriotism?—No unjust incroachments and assaults, of a public nature, where the glory of virtuous heroism?—No private wrongs inflicted by injustice and vicious propensities, where would be fortitude and calm resignation?—No fiery and licentious passions, backed by duplicity and the arts of seduction, to withstand, where the consummation of female honour?

Had there been no Tarquin, there could have been no Lucretia; no Cæsar, no Brutus; no Gesler, no Tell; no Charles and Ferdinand, no Bolivar; no corrupt and tyrannical ministry to resist, no Washington. Even Adams and Jefferson, whose recent death has left such a blank in the affections of our country, were indebted for much of the splendour of their virtues, to the vices they opposed.

Had it not been for the unnatural vices of his brethren, the benefactions and pious example of Joseph could have had no existence.

The conflict between virtue and vice, is a struggle for supremacy between the animal propensities of man, on one side, and his moral and intellectual faculties on the other.

In this combat, the higher powers of our nature acquire a purity, an elevation, and a masculine vigour and dexterity in action, to which, under peaceful circumstances, they could never attain. In like manner as the gladiator and the wrestler prepare themselves for victory by antecedent exertion Thus, by an operation, and a course of events, *perfectly natural*, is *good brought out of evil.*

In this war of the "spirit with the flesh," of the higher with the inferior powers of man, not only his moral and intellectual, but even his physical character is, in the issue, ennobled and rendered illustrious.

It is in this conflict that have been elicited, not only some of the most sublime manifestations of virtue, but many of the most resplendent exhibitions of genius and talent, that have done honour to our nature.

The lawless ambition of a Philip, awakened, in the conflict, the irresistable thunders of the eloquence of a Demosthenes; the vices of a Cataline, and the profligate and oppressive exactions of a Verres, augmented the intensity and brightened the effulgence of the eloquence of a Cicero; Chatham and Burke owed much of their force, and vehemence, and splendour, to the corruptions and enormities, on which they poured out the *virtuous* but *terrible* indignation of their spirits; the crimes of a Hastings aroused to its almost supernatural efforts, the intellect of a Sheridan; and but for the tyrannical usurpations of a wicked ministry and a venal parliament, the consummate achievements in eloquence, of a Henry, a Lee, a Rutledge, and an Adams, would never have *ennobled* themselves, their country, and their age. But for the obduracy and gigantic vices of those whom he went forth to instruct and convert, even the

divine eloquence of a Paul of Tarsus, would have been wanting to the world. So true is it, that great occasions, of whatever description, make illustrious men.

> "*Great Julius* on the mountains bred,
> "A flock, perhaps, or herd had led;
> "*He that subdued the world*, had been
> "But the best wrestler on the green."

But the scenes of grandeur, and the momentous concerns, all of them essentially connected with crime, in which they were called forth to perform their parts, developing completely their stupendous powers, threw into the hands of those two illustrious chieftains the temporary sway of the world, and rendered them the glory of their own times, and the admiration and wonder of future ages.

Nor does this struggle with vice awaken alone the genius of those who mingle in the conflict. Its influence operates as a source of inspiration to the ardent spirits and elevated intellects, of countries the most distant, and ages the most remote.

To the incontinency of a Helen, and the inexorable character and sanguinary deeds of an Achilles, are we indebted for the immortal productions of Homer; the perfidy of Æneas to the guilty but injured Dido, and his subsequent usurpations and acts of blood, in the dominions of Turnus, awakened the loftiest and noblest effort of the poet of Mantua; but for the vices of the period in which he lived, the rich and fervid imagination of Dante would never have blazed forth so intensely in his imperishable stanzas; the unauthorised invasion of the territory of the Saracen, by the Christian Crusaders, gave to us the choicest fruits of the Muse of Tasso; and had not the transgression of our First Parents lost to them and to us the Paradise of Eden, the genius of Milton would not, as an episode in his matchless poem commemorative of the event, have presented us with an Eden of fancy, more beautiful in colours, richer in foliage, more exquisite in fragrance, more enchanting in melody, and superior in all that can charm in the landscape.

The virtuous, moreover, derive much of their most rational and sublime enjoyment from their conflicts with the vicious. A consciousness of acting worthily and nobly, which, without vice, they would have no distinguished opportunities to do, is their highest reward. But, as already observed, it is the will of Heaven, that man should *enjoy* as well as *act*. By a wise and beneficent dispensation of things, then, vice is rendered tributary to the happiness of virtue.

Morally as well as physically, *variety* and *excitement* are essential to enjoyment. Of all intolerable things that man has to encounter, monotony and apathy are among the most intolerable.

Were there in nature but one colour, one sound, one taste, or one odour, however grateful it might be in itself, it would pall on the sense, and become offensive. A journey through a barren champain, or a cheerless desert, is doubly grievous from the *sameness it presents*, and the *privations it imposes;* and a calm on the ocean is

as *distressing*, although not so disastrous, as a tempest. The aspect of the dead sea is revolting to the traveller, *on account of its deadness.*

Thus also in morals, a changeless *monotony*, although it be of *virtue*, must become a source of misery. But such a monotony would universally prevail, were vice eradicated. Virtue would lose its lustre, if not its existence, and the human character much of its energy, interest, and usefulness. For want of a suitable field of action, virtue would stagnate, and produce, in morals, somewhat of that impure and deleterious condition, that results from stagnation of the atmosphere, or the waters.

Nor is this all. Vice is necessary to awaken in man a relish for virtue, as darkness heightens his relish for light, cold for heat, hunger for food, and sickness for health. Such is our constitution, that vicissitudes between opposites are indispensable to our gratification, if not to our well being. Deprive us of these, and our existence will become miserable.

It was the influence of sentiments like these, that drew from the poet the following beautiful and philosophical effusion, when, descanting on *human happiness*, he exclaims,

> " As much *that end* a constant course requires,
> " Of showers and sunshine, as of man's desires;
> " As much eternal springs and cloudless skies,
> " As men forever temperate, calm, and wise.
> " If plagues and earthquakes break not heaven's design,
> " Why, then, a Borgia, or a Cataline?
> " —Better for *us*, perhaps, it might appear.
> " Were there all harmony, all sunshine here;
> " That never air, or ocean felt the wind;
> " That never passion discomposed the mind.
> " But *all* subsists by elemental strife;
> " And passions are the elements of life."

But although, as relates to terrestrial affairs, the existence of vice appears to fall within the ordination of nature (which is *that of Heaven*) it is its *regulated existence. In excess, it would be ruinous.* Hence the necessity of a well adjusted *balance* between it and virtue.

What has been just said *expressly* of virtue and vice, may be considered as said, *by implication*, of *good* and *evil.* For the latter are but more abstract and general terms, denoting the origin and object of the former. Virtue and vice are but moral good and evil, or good and evil as connected with human motives and actions. They are, therefore, as positively associated with them in their existence, as they are allied to them in their nature. In the arrangement and economy of earthly matters, they are equally essential. The proposition can be easily maintained, that evil is the fountain, if not of all our knowledge, at least of the most abundant portion of it. To that effect is the express declaration of the Holy Scriptures. Until after their disobedience, our First Parents are represented as *comparatively uninformed.* Besides, we toil after

knowledge, that we may be enabled, by means of it, to remove or master the various evils and difficulties of life. Place us perfectly at our ease, our only business being that of enjoyment, and our indolence will so far predominate over our curiosity and love of knowledge, that we shall continue in ignorance.

By arguments analogous to the foregoing may we establish the importance and necessity of the existence of a *balance* between the opposites, *pain* and *pleasure*, or *happiness* and *misery*.

By pain or misery experienced by ourselves, our relish for happiness is quickened and augmented. No one enjoys the pleasures of health so exquisitely as the convalescent from a painful disease. Competency or affluence after want, joy after sorrow, safety after danger, and hope and fruition after doubt and despair, are peculiarly delightful. Hence the "joy of fear" is a well known expression among the aborigines of our country; and hence the poet playfully but philosophically declares, that

> " —Spring itself would cease to please us,
> " If there were nothing else but Spring."

This representation accords so perfectly with our daily experience, that it is *self-estalished*.

Personal suffering has oftentimes a very happy and decisive influence in the regulation of the propensities, and the improvement of character. By giving to the higher a permanent ascendency over the lower faculties of human nature, it tends to enlighten and strengthen the intellect, and imparts to the individual more real elevation, dignity, and worth It ameliorates the moral sentiments generally, but especially those of fortitude, gratitude, and piety. Hence a competent discipline in the school of adversity, is considered the most salutary that a man can receive. To those who experience it, then, a certain amount of suffering is important.

Nor is it less so, in its influence on those who witness it. In them it cultivates and strengthens charity, benevolence, munificence, magnanimity, and all the more amiable virtues of our nature. It furnishes the chief object for the exercise of philanthropy, and brightens the flame of *patriotism* itself. For it is when our country is in a suffering condition, that the latter virtue exhibits its fairest lustre. Nor is it unimportant to observe, that misfortune and misery quicken the intellect, and enrich it in expedients, by exciting it to strenuous and persevering exertions after means of relief. The miseries and sorrows of human life have afforded, moreover, to the poet and the painter, themes and subjects for some of the most sublime and splendid productions, that have ever done honour to the pencil or the pen. The tragic Muse claims, as her birthplace and residence, the abode of wretchedness, and the region of woe; and to the bitter misfortune of his blindness is the world indebted for one of the happiest effusions of the genius of Milton. Perhaps the same misfortune, by giving more entire concentration and intensity to their intellectual efforts, augmented, not a little, the

sublimity, force, and grandeur of the epic productions of both Milton and Homer.

Nor is it to be regarded as the least valuable of the advantages of suffering, that, by weakening our attachment to this world, its amusements and delights, it prepares us the better for our final departure from it, and reconciles us to the *death* of our friends, as the *termination* of their sorrows and pains.

View the subject, then, in whatever light you may, that cup in which a portion of the bitterness of misery is mingled, is best suited to the palate and the condition of man. The sweets of happiness without alloy, would satiate and sicken.

Nor would undiluted bitterness be a suitable potion. Conformably to that checkered scene of diversities and opposites, which every where surrounds us, the draught must be *mixed*, and the two ingredients so apportioned as to balance each other.

Such, then, appears to be the decree of Heaven in relation to man. Varied in his constitution, variety is essential to all his enjoyments. *Singleness* and *simplicity* are incompatible with his nature. Subjected to their ceaseless influence, he would sicken of life, and voluntarily renounce it, as the most grievous of burthens. Better to be tossed between the very extremes of opposites, than to lie supine and corrupting amid the calm of identity.

But notwithstanding the interest, which, as topics of contemplation, may be attached to the several conflicts and balances, of which I have spoken, there remain to be treated of two others, with which, as physicians, we are more immediately concerned. They are the balances between *life* and *death*, on a general scale, and, as relates more particularly to man, between the *lædentia* and *juvantia*, or things salutary and things injurious to him.

As respects the first of these, it is requisite, before commencing our immediate illustration of it, that we determine, with accuracy, what we are to understand by the term *death*.

The event or condition designated by that word, is referable only to *matter*, *spirit* being an *imperishable substance*, of which death cannot be predicated. Nor is it predicable of matter, *in the abstract*, but only of compound and organized forms of it; matter, in its simple condition, being as indestructible as spirit.

Death, then, as a general term, means nothing more than a radical change in the modes of existence of compound bodies, the nexus or bond that held together their elementary parts having deserted them. In reference to man, it is the separation of his vital principle and spirit from his body, and the subsequent resolution of the latter into its original elements, to be re-employed in further compounds. But in this process of *separation* and *resolution*, it is to be distinctly understood, that there is no *actual destruction* of matter, any more than of spirit.

In death, then, there is no *annihilation* of substance, but merely a separation of its parts, and a passage of it from one form and mode of existence to another. Were spirit a compound substance,

there is reason to believe, that *it* also would *die*, in the same sense, in which that term is applicable to matter The immortality, then, of spirit, would seem to depend on its simplicity, or uncompounded condition; it being a law of nature that *compounds*, especially vital ones, *must change*.

According to this definition of the term, the death of terrestrial beings is nothing but a *succession of races*, a *former* disappearing, and giving place to a *latter*, precisely as one day succeeds to another that has passed away; or one wave to another, in the ceaseless fluctuation of an agitated ocean. And as it is deemed not improbable, that, in the boundless circulation of that fluid throughout the universe, some of the *same particles of light*, returning to the sun, may issue thence again, and contribute to the illumination of *successive days*, so it can scarcely be doubted, that into the composition of the different succeeding races of living beings, the same elementary parts repeatedly enter. Indeed it would seem to be impossible that they should not thus enter; for the aggregate mass of living beings, vegetable and animal, that have existed, since the first peopling of our globe, must be more than equal, in bulk, to that portion of the crust or external part of the earth, that is constantly changing its condition, by becoming a part of living bodies, or that is even *capable* of becoming a part of them, and returning again to an inorganic state.

Hence the well known lines of a favourite poet are no less true than beautiful.

"All forms that perish other forms supply,
"(By turns we catch the vital spark and die)
"Like bubbles on the sea of matter born,
"They rise, they burst, and to that sea return."

It manifestly appears, then, that between the two great rival and antagonizing processes of death and life, or of the dissolving and reorganizing of living beings, there exists a constant and unrelenting conflict. To the truth of this, nature bears testimony, as well in the vegetable as in the animal kingdom.

During spring and summer, the process of life is active and energetic, in repairing, among vegetables, the extensive devastations which death had perpetrated, during the two preceding seasons of autumn and winter. But no sooner has it, within half the year, completed its work, in the re-production of flowers, and foliage, and ripening fruit, than its antagonist advances again to the assault, and, in the course of the remaining half, finishes afresh the work of destruction. And thus successively and perseveringly with the progress of time, do these rivals experience alternately triumph and defeat.

Nor, in the animal kingdom, are the phenomena exhibited materially different. In relation to a large proportion of the insect tribe, the course of nature is precisely the same, as with respect to vegetables. During spring and summer, life regenerates what death is to destroy, in the course of the succeeding autumn and

winter. Of *other animals*, the span of life is not so brief. But however protracted it may be, it is destined to be ultimately terminated by death. If this is not done during the autumn and winter of each succeeding year, it is effected, at least, by accident, disease, or the winter of age.

It is palpable, then, that between life and death, there is an incessant struggle for the mastery; and that this struggle is maintained in relation to the same portions of matter. The very same substance which death breaks down from a compound and organized condition, and resolves into its original elements, life re-unites, reorganizes, and erects into new races of being. As far as relates to *matter*, therefore, a perpetual change of it from being to being, in a process analogous to that of metempsychosis, is literally true.

I might here change my mode of expression, and pronounce *chemistry* and *vitality* to be the conflicting antagonists of which I am speaking. By its specific powers, the *latter organizes* and *constructs*, while, by means of *putrefaction*, the latter *demolishes* and *resolves into atoms*.

The *surface* of the earth is the theatre on which those two rival powers perpetually combat And there alone do they find materials adapted to their purpose It is on *living organized* matter exclusively, that death commits his ravages; and only in the exterior or crust of the earth, and the atmosphere around it, can the elements of that description of matter be found. It is to maintain herself on the surface, amid light and air, that life sustains a perpetual conflict. To death she resigns, without a struggle, the dark and airless interior, the dreary grave of terrestrial nature.

That it is essential to the economy of the world, that between these two great antagonists, there exist a well adjusted balance of power, must be obvious to every one. Victory on either side would be a ruinous catastrophe.

Were death to prevail, I need scarcely observe that the consequence would be awful, beyond what even imagination can conceive. A dead world would be a spectacle ineffably loathsome and appalling. An entire globe converted into a foul and pestilent charnel-house! A barren ball of brute matter, with nothing in it to gratify or attract, but every thing to shock, disgust, and repel, constituting a blot on the escutcheon of creation! In vegetables and animals, all qualities of beauty and loveliness—colour, fragrance, and symmetry, grace, melody, and sprightliness entirely extinguished, or exchanged for their opposites, and every thing of usefulness irrevocably expunged! The whole world of organized matter already reduced to its primitive elements, a shapeless mass of incoherent atoms, or rapidly passing into that condition, through the process of corruption! Such, *corporeally* speaking, would be some of the consequences of the ascendency of death on our globe.

Nor, *morally* considered, would they be less deplorable. Erase from earth organization and life, and intellectual existence, in its present form, will be converted into a blank. All that is lovely and valuable in it will be subverted. Sensation will be destroyed, judgment, and reason, and talent overthrown, the flame of genius extinguished, as relates to the virtues, the world will be a desart, and the glow of sentiment, and the throb of emotion will be forever obliterated. A condition of things more dismal than that which issued from the box of Pandora, will every where arise; for when love, and joy, and gratitude, charity, benevolence, and philanthropy, and every other virtuous and amiable affection, shall have forsaken earth, for a more congenial sphere, not even *hope*, the only balm and solace of wretchedness, and the chief brightener and charmer of life, will remain behind. All will have fled together, from the dismal desolation of an exanimate world.

Imagine life, on the contrary, to prevail, in the contest, and the work of *death* to be entirely arrested, and an overwhelming superabundance of organized existence, with its multifarious train of concomitant disasters will presently ensue. In every habitable department of the globe, an unwieldy glut of living beings will, in a short time, appear, to the embarrassment and indescribable distress of each other.

By the crowded and struggling mass of their inhabitants, the rivers and smaller streams will be impeded in their channels, and the very waters of the ocean will scarcely find room for their usual fluctuation.

Deprived of space for the expansion of their wings, and their light and airy movements along the heavens, the birds and insects will flutter and flounder in confusion and fatal collision through the atmosphere, and the quadrupeds and reptiles will crush and trample each other on the ground. The only business in which man himself can engage, will be to seek a place of security, in the universal struggle and tumult around him. Deprived of all his means of dominion, he will be the ruler of terrestrial creation no longer. The search after sustenance, and the exercise of his faculties, on a liberal scale, will be altogether prohibited, and he will become one of the feeblest and most miserable of beings.

Of such a condition of things, the general consequences must be obvious to every one. Pleasure and usefulness will be now but names for modes of being and action that no longer exist; and universal famine will consummate the catastrophe.

From these considerations it conclusively appears, that, under any imaginable circumstances, the very idea of the immortality of man, on this earth, connected with that of an *indefinite multiplication of the race*, is a palpable absurdity. It may be correctly pronounced to imply an impossibility. Whenever life and propagation exist, death must have employment, to hold the luxuriance of production in check. Had man never sinned, his immortality would have been incompatible with his multiplication, and the perpetuity

of his residence on earth. Hence, in the government of creation, as well as in Political government, a well adjusted system of checks and balances is essential to safety, efficiency, and success

Forbidden, by a want of time, to enumerate and expound the entire class of the *lædentia* and *juvantia*, or *deleterious* and *salutary* agents, I shall confine myself to a brief consideration of disease and *wounds*, with the *power which living matter possesses* to prevent and remove them; and the balance in the struggle, which thence arises and perpetually subsists.

Ever since the commencement of medicine, as a science, this power of living matter has been recognized by the faithful observers and interpreters of nature. It has been designated, moreover, by different names, according to the views entertained of its origin, character, and mode of operation.

It was the "*to theion*" and the "*enormoun*" of Hippocrates, and his followers, because they considered it of *heavenly origin*, and the spring of life, the "*Archeus*,"or original principle of action, of Van Helmont, the "anima medica rationalis" of Stahl, the "vis conservatrix et medicatrix naturæ" of Cullen, and the "preservative and recuperative principle" of more modern writers.

As the reality of these powers has been often denied, and that by physicians whose standing in medicine gives weight to their opinions, the facts that will be adduced in illustration of their effects, may be regarded as arguments in favour of their existence. Whatever demonstrates their effects, of course establishes their existence, on the ground, that nothing can act which does not exist.

To prove that there subsists between living and dead matter, a state of constant hostility and conflict, nothing but the commonest observation is requisite. Wherever they are brought into immediate contact, the hostility is manifested, and the conflict goes on, until one or the other is subdued. And it is particularly worthy of observation, that the vital power, when not so deeply overwhelmed, as to be paralysed, or rendered incapable of regular reaction, always pursues that course which is best calculated to sustain itself, and vanquish its antagonist. Hence the denomination of "anima medica *rationalis*" or the *reasoning* medical soul.

Thus when any irritating matter makes its way into the eye, a superabundance of tears is immediately secreted and poured upon the ball, to dilute or wash away the offending substance. Next to that of taking hold of the mote, and thus removing it, or brushing it away in some other more rapid mechanical process, this is the most effectual mode that could be adopted, for the certain attainment of the object in view.

When a blistering plaster is applied to any part of the skin, an immediate secretion of serum takes place, which interposing itself between the cuticle and the cutis vera, separates them from each other, and thus protects the nerves of the latter from further irritation. A process better adapted than this for the attainment of the object proposed, reason itself could not devise. Hence as soon

as the serum is secreted in sufficient quantity, the irritation of the plaster ceases. The same thing occurs in cases of burning, or severe irritation from hot water. Serum is secreted, the cuticle detached and protruded in the form of a blister, and the true skin protected from further annoyance.

Irritate any highly vascular part of the system, and the immediate consequence is, a copious flux of blood to the spot, to dilute, or wash away the cause of the irritation, or otherwise repair the injury produced.

One of the most memorable contests that occurs between living and dead matter, is witnessed in the stomach, during the digestion of food. Digestion means nothing more, than such a change in alimentary matter, as to assimilate it to the nature of the animal that uses it.

If the article swallowed be easily digested or changed in its qualities, it offers no serious resistance to the vital powers of the stomach, but yields to the action of that organ, and the digestive process goes healthfully and harmoniously on. But if it be too intractable to be subdued, resolved, and properly assimilated, the conflict and commotion become serious and often alarming. In that case, the stomach, unable to master the indigestible substance, and reduce it to a state of harmony with itself, adopts the next most natural and advisable expedient—that which reason would approve and inculcate, and prepares to free itself from its deleterious action by immediately rejecting it.

Let us suppose the article swallowed to be a *poison*, which is nothing but a name for a class of potently irritating substances, that cannot be digested, and whose stimulous is entirely out of harmony with the susceptibilites of the stomach, or other organ with which they may come in contact.

The vital powers are immediately roused to peculiar and violent action, on an extensive scale, to guard the system from the impending danger. Nor could reason, had she the entire control, on the occasion, direct a process or series of movements, more specifically appropriate to the end in view, than that which is instituted.

To protect the internal coat of the stomach from immediate injury, a preternatural conflux of blood to it takes place, from which it secretes a superabundant quantity of mucous and aqueous fluids, for the purpose of diluting and blunting the acrimony of the poison, and aiding in its expulsion. This process is precisely analogous to that which occurs for the relief of the eye, when suffering from the contact of an irritating substance. A secreted mucus, in the one case, serves the purpose of secreted tears in the other. But, in both cases, the object of the secretion is to guard against the action of a deleterious substance.

But, for the relief of the stomach from the irritation of the poison, the process of nature is not yet complete. The poison is diluted, inviscated, and prepared for expulsion, but not yet expelled. To effect this, a violent contraction of the stomach takes place,

accompanied by a cotemporaneous and auxiliary operation of an extensive apparatus of muscles and other parts, which continue in action, pressing out the contents of the stomach, until the poison is ejected.

Had I leisure, and were it admissible to enter into the details of this interesting and important process, it would be easy to show it to be one of the most complex and beautiful schemes of the adaptation of organs, and concert of movement, that is any where exhibited.

The parts thus thrown into action are not such as are, from position, or any other *apparent* cause, most necessarily or intimately connected with each other, or with the irritated organ; nor such as we would expect, on first principles, to move most readily in concert; they are only such as are best calculated, by their joint operation, to resist the poisonous substance, in its pernicious influence, and expel it from the stomach. Paralyse any one of them, or otherwise impede its movements, and the preservative process will be interrupted. Destroy several of them, and it will be extinguished.

To a case in which a deleterious substance irritates the membrane that lines the internal surface of the lungs, observations precisely similar may be applied. The mode of action best adapted to the removal of the irritation is immediately instituted.

A preternatural amount of blood rushes to the part affected, the irritating body is inviscated in a quantity of mucus secreted for the purpose, and, for the expulsion of the offending matter, a complicated and extensive apparatus of organs is thrown into action. The process excited is coughing or sneezing, in the performance of each of which the same muscles and other parts co-operate as instruments. And it is peculiarly worthy of observation, that according as either process is best adapted to expel the offending substances, that process is uniformly employed. Is coughing best calculated to produce the desired effect? The individual coughs, and cannot refrain from it. Is sneezingg most suitable? He sneezes, not of choice, but necessity. Nor is there here any more of natural connexion between the organs that act in concert, nor between them and the part irritated, than there is in relation to those that co-operate in the evacuation of the stomach.

For the welfare of the human body, it is requisite that its temperature be maintained at the standard of 95° to 98° of Fahrenheit's thermometer. If materially above or below this, it is the temperature of disease. Place man beneath the fervours of Congo, and, in health, his temperature rises no higher; remove him to the icy blasts of the extreme north, and it sinks no lower.

For the maintenance of this equability of temparature, he is indebted to no chemical process, as some very distinguished philosophers have contended; but to the vital action of his own capillary vessels—to that salutary and necessary resistance, which the living preservative principle within him offers to all deleterious agents. For extreme heat and extreme cold, in common with poisonous

substances, are deleterious, and, if not opposed and checked, in their influence, will destroy life.

Is the temperature of the medium, to which man is exposed, forty degrees below zero, at the touch of which most liquids become solid, and even mercury freezes? To counteract this, the preservative principle generates a superabundant quantity of heat, to supply the rapid and perpetual waste of it from the surface of the body, by the cold of the atmosphere.

Is the *natural* temperature of the atmosphere at one hundred and ten or twenty degrees; or is it *artificially* raised, as it sometimes has been, to *two hundred and twenty-four*; two hundred and sixty, or even to upwards of three hundred? and is man, either from choice or necessity, exposed to its action?

Here, instead of generating or developing heat, the preservative principle, to meet the emergency, must pursue an opposite course, and institute *a cooling process*. And such a process it does institute. For, while the atmosphere, a few inches from the body, is at the elevated temperature just designated, that portion of it in contact with the skin is reduced to about *one hundred*. Under no degree of heat to which the human body has been exposed, has its temperature in health, ever exceeded one hundred and one or two degrees. This is true, even of those individuals who have entered heated ovens, and remained sometime in them, where water boiled in vessels held in their hands, and where eggs were roasting, bread baking, and chickens, beef steaks, veal cutlets, and shoulders of mutton, broiling around them.

Such are the facts, whose truth, however extraordinary they may appear, is not to be questioned. But what is their explanation? I answer, that the only explanation of which they are susceptible, must be founded on the preservative powers of living matter.

Is the system of man endangered in its existence or its health, from excessive cold? In opposition to the cold, those powers exert themselves for its preservation; and they effect that preservation, unless the cold, from being long continued, as well as extreme, become overwhelming.

Does the danger arise from excessive heat? The same powers, accommodating to the exigency their mode of action, institute a cooling process, and, in the struggle that ensues, take from the heat its capacity to injure.

To defend the body from cold, they throw around it a panoply of caloric. To protect it from heat, an armour of cool atmospheric air. By this conflict is the balance maintained and life saved.

But it is not only with a view to the *prevention* of disease and mischief, that the powers of life successfully exert themselves. When those evils have actually occurred, they labour, with equal success, for their removal.

In all cases of slight disease, such, for example, as common catarrh, or ephemeral fever, no medicinal aid is requisite. Unless

great imprudence be, in some way, perpetrated, *nature cures the affection herself.* This she does by instituting a process specifically calculated for the end in view—the very kind of process which reason itself would institute, if consulted on the subject.

Catarrh consists in a congestion, or preternatural accumulation of blood, in the membrane which lines the internal surface of the lungs. A soreness of the part, especially on coughing, is always experienced.

In this case, it is the suggestion of reason, that the most effectual measure for the removal of the congestion, is a preternatural secretion of mucus from the diseased membrane; as by that evacuation the congestion is resolved.

But this is the very measure which nature adopts, and which is generally denominated, *the breaking of the cold.* Previously to the occurrence of this, as already stated, there exists a soreness of the part affected. But, with the commencement of a free and copious secretion, that soreness disappears. The individual diseased will tell you that he "feels he is getting well, *because his cold is broken.*" Of this, the real interpretation is, that nature has instituted the specific process, by which alone the congestion can be safely and certainly resolved.

Is the congestion, which constitutes the disease, situated in any other membrane, or part of the body; and is that part the liver? Here again, nature, with her accustomed power and disposition to accommodate her action to the crisis that exists, brings on a copious secretion of bile, which, freeing the liver from its preternatural and deleterious accumulation of blood, removes the disease.

It may be permitted me to remark, in general, that, for the removal of congestion, wherever it may be situated, nature has recourse to the processes of *secretion* and *absorption;* and that she always takes measures to excite these processes in those parts, where they can act with most effect, in the attainment of the contemplated end. In whatever great cavity of the body the accumulation exists, whether the abdomen, the thorax, or the cranium, in the same cavity is the curative action awakened. Hence the perfect adaptation which always obtains between the means employed, and the object to be achieved.

Is the diseased affection, under which the body labours, a wound, a contusion, or the fracture of a bone? In this conjuncture, again, the recuperative powers institute the process best calculated, in each case, to remedy the evil.

To heal a wound, in the simplest way, the parts that are divided secrete a peculiar fluid, technically denominated, *the matter of adhesion.* That substance, which, in its character, always conforms to that of the divided organ, closing the wound and excluding the air, prepares the way for a certain specific action, which soon succeeds, and effects a permanent re-union of the separated parts.

Is the wound of a character so serious as to have carried away a portion of the organ on which it was inflicted; or has a part been

removed by deep ulceration? Here nature institutes an actual growth of new organic matter, to fill up the vacuity, and restore the defect which would otherwise exist. Nor could any thing short of this re-productive process, be competent to the contemplated end.

For the resolution of the tumour produced by *simple* contusion, absorption is the best adapted expedient; and to that does nature usually resort. But when, as is often the case, the contusion is too severe to be resolved by absorption alone, in aid of this, the powers of nature, which are appointed to watch over the well-being of the system, institute the peculiar process of suppuration. This is a secretion of a specific character, which never occurs in health, but is calculated to resolve congestion, and to *restore* health. Nor does nature ever call it forth, except for the resolution of existing congestion. Co-operating with absorption, it rarely fails to remove the tumour produced by contusion.

In the fracture of a bone, where, from the deep seated, and concealed position of the injured part, no healing balsam can be applied to it, the entire process of re-union must be consigned to the restorative powers of nature. Nor, under favourable circumstances, do they ever prove incompetent to the end to be attained.

The surgeon, in attendance, having brought into apposition the ends of the fractured bone, made the requisite arrangements for retaining them there, and given suitable directions for the diet and regimen of his the individual injured, has performed the principal part of his duty.

His work being thus terminated, *that of nature* now begins. And, here, to secretion she again resorts for the accomplishment of her purpose. But not to a secretion of the same kind of matter, which she employs in the re-union of a divided muscle. It is to the secretion of a fluid assimilated, in its nature, to bone, and, therefore, specifically adapted to its re-union. Nor would it serve for the re-union of any other kind of divided substance. And thus generally, whatever may be the nature of the separated organ—bone, tendon, muscle, nerve, or membrane, its re-union depends essentially on secretion. And, in each case, the secretion is specific; that which is adapted to the re-union of one organ or structure, being suited to that alone, and not to the re-union of either of the others. So true is it, that every cause and mode of operation are *specific*, as well in their nature as their effects.

The bone, being united, to complete her work, nature has yet to institute another process. And this she does, in general, without the aid or interference of art.

The matter secreted for the purposes of the union, which is now effected, being generally superabundant in quantity, the bone, at the place of junction, is preternaturally large. This enlargement, being not only inconvenient, but injurious in its effects, nature makes the necessary arrangement for its removal. For the accomplishment of this, she employs absorption.

By the instrumentality of that process, all superfluous osseous matter is carried away, and, at its place of union, the bone is reduced to its native dimensions. Here again the adaptation of the means to the end is complete, because the balance between *absorption* and its antagonist, *secretion*, is, on the whole, strictly maintained. The *latter* having predominated during the process of re-union, the *former* assumes the predominancy afterwards, until its object is accomplished, and then they go on in *harmonious equality*.

In illustration of our general subject, we might have heretofore referred to the conflict which perpetually exists, in organic nature, between those two antagonizing powers; and the absolute necessity of preserving their balance. When secretion, into any of the close cavities of the body, predominates over absorption, dropsy is produced. When that branch of secretion, which is tributary to nutrition, is excessive, preternatural obesity prevails. When, on the contrary, absorption gains the ascendency, ulceration, or emaciation of parts or of the whole body is the consequence. To the maintenance of sound health, the preservation of a well adjusted balance between them is essential. It is to the predominance of absorption, that we attribute the occasional disappearance of the dark colour of the African's skin.

But to witness, in its entire extent, the influence of the recuperative powers of nature, we must direct our attention to the lower orders of living matter. It is there alone, in the restorative action of the simpler structures, that the undivided energy of those powers are manifested.

If, in the vegetable kingdom, we lop from a tree the whole of its branches, leaving the trunk but a mutilated stock, a new and more crowded crop of branches will be, in a short time, protruded. Or, take from many kinds of trees, the smallest twig, and plant it in a suitable situation, and, in the lapse of years, it will equal in size and luxuriance its parent. Of various others, split the twigs into numerous divisions, and out of each division, the restorative powers will form, in time, an entire tree. To the ingrafting and inoculation of vegetables, I might refer, for further facts and arguments confirmatory of the principle for which I am contending. In those processes, the productive powers of vegetables are strongly manifested. Nor are they less strikingly exhibited in the difficulty which agriculturists experience in eradicating from their fields many species of noxious plants. If the smallest section of a root be suffered to remain on the ground, its strong re-productive powers will soon restore the troublesome weed. On the operation and energy of these powers is founded the propagation of vines, and various other plants, by slips and cuttings.

Of the lower orders of the animal kingdom, our notice shall be brief. Of the whole tribe of the polypi, and other beings approximated to them in rank, the re-productive energies are generally known.

Bisect one of those animals, and the phenomena presented by it are singular and amusing. The *head*-end will protude a *tail*, and

the *tail*-end *a head*, until two complete polypi are formed out of one. Divide it into three, or four, or five sections, and the product will be an equal number of complete animals. From the head-end split it into three divisions, and you will generate a *Cerberus*—a three-headed monster. Split from the tail-end, and you produce a *Bashaw*—a monster with three tails.

In this process, it is remarkable that each section which has neither head nor tail, will protrude *both;* while that which possesses the head will send out only *a tail;* and that which has the tail, only *a head* Thus, as if it were under the guidance of reason, each section produces precisely what is requisite to convert it into a perfect animal, and no more. An adaptation more beautiful than this, can scarcely be imagined.

Cut out the eye of a water newt, and the organ will be re-produced. Remove an equal portion, and in the same way, from any other part of its body, and no eye will be formed *there;* because none is requisite for the purposes of the animal. The mutilation will be restored by the same kind of substance that was taken away. Lop off the horns, or even the head of a snail, and the parts will be regenerated.

The power of the crawfish, in the re-production of its claws, legs, and other avulsed parts, has been long known. So has the power of lizards and certain species of the serpent tribe, in the regeneration of their tails.

In reference to animals of a higher order, it would be superfluous to dwell on the annual loss and re-production of the horns of the elk, the stag, and other species of the deer family. Of these facts no one is ignorant; and the power of restoration manifested in them is strikingly great; because the regenerated organs are very large and ponderous, and the progress of growth, during their re-production, exceedingly rapid.

In man, the renovation of parts has been already referred to, so far as relates to the process of granulation. It is further manifested in the re-production of the hair and nails, that have been lost, and in the regeneration of portions, sometimes very large ones, of bone and muscle, that have been, in some way, removed. To the same principle, although in an irregular and disordered condition, must be referred the growth of all preternatural excrescences and tumours, and often the protrusion of supernumerary parts by the fœtus in utero.

Of the perpetual struggle of *death* and *life*, in relation to animated existence *in general*, I have already spoken. I shall now very briefly consider that which subsists between them in the *individual system* of every living being.

In reference to ourselves, it is literally true, that *our own persons* constitute a field of incessant conflict between those two great antagonizing powers.

In every imaginable point of time, however evanescent, that flits over us, myriads of the elementary portions of our bodies,

worn out, by organic action and age, are *dying*, passing away, and giving place to other *new-born* and *living* ones, destined to run the same career of action and function, and in the same manner, and from the same causes, die and be succeeded by others, in constant succession. By the process of *nutrition* the *living* matter is furnished, while the removal of the *dead* is the work of *absorption*. The contest here, then, which is *apparently* between *nutrition* and *absorption*, is *really* between *life* and *death*. The particles removed by the absorbents, from the various parts of our systems, are as literally dead, as are the bodies of individuals when they are deposited in the tomb.

Had I leisure to engage in the analysis, it would be easy to show, that of all the schemes of *antagonization* which nature has established, none is more perfect and beautiful, than that which exists between the faculties of the human intellect. It is alone by this system of checks and balances, that among those faculties an equipoise is maintained. Subvert it, and the issue will be *moral* commotion, as certainly as *physical* commotion ensues, when the natural balance of the atmosphere is destroyed.

In this respect, then, the economy of our own bodies is strikingly analogous to that of the human family at large, or of the whole kingdom of living matter. In either instance the contest between life and death is alike obvious and alike constant. But in the struggle for the mastery between those two antagonists, in relation to the great family of man, old *individuals* fall, and are succeeded by new ones; whereas, in the contest that exists in single persons, the *death* and *succession* are of *elementary portions*. In each case, it is essential that an accurate balance be maintained.

So numerous and such are the opposite powers, which are in perpetual conflict around us and within us, and whose antagonizing influence appears to be essential to preserve the stability and harmony of creation. Derange any one of them, and disorder and misrule will inevitably ensue.

Thus, as heretofore mentioned, the human body, when erect, is maintained in that position by the countervailing action of an exquisite arrangement of antagonizing muscles. Paralyse, dissever, or otherwise deeply injure, any considerable portion of them, and the body will fall, or experience disorderly and painful inflexions.

Let no one complain, then, of the world in which we reside, because it is a theatre of contention and strife. *It is necessarily so*, in conformity to the positive arrangement of the Most High; and out of this contention arises all that is beautiful and delightful, stable and harmonious, valuable and sublime. Analyze any thing possessing these properties, and you will find that they spring from the influence of opposites. Extinguish the contrasts and antitheses of nature, and you annihilate in her all that is impressive and lovely.

Gentlemen, your lot has been cast in a world of strife, where, by the immutable arrangement of Heaven itself, warfare of some

kind constitutes the irreversible order of the day—warfare with vice, with ignorance, prejudice, superstition, or error, or some other source of pernicious influence. And, to be worthy of the food that sustains and the clothes that cover you, you must take a part in the combat. You will never find either that spot of earth, or that moment of time, in which you will not encounter, within you, or around you, something to oppose—your own propensities, the propensities of others, the ignorance, error, or prejudices of the times, or some other circumstance, whose tendency is unfavourable, and with which it, therefore, becomes in you a duty to contend.

Of the system of *art* I have been considering and condemning, one of the very worst features is its recommendation of *contentment*, as among the highest of duties.

To be so far *content* with your own situation, and the general state of things, as not to make them subjects of feverish fretfulness and unmannerly complaint, is certainly a duty, as well of a moral as of a social character. But [redacted] to be so far *discontented* with them, as to make every practicable exertion to amend them is equally a duty.

All situations in life, however felicitous, are susceptible of amendment. Every man's particular condition, moreover, forms a part of the general condition of his country, and of the world. In improving the former, therefore, he improves also the latter, to the performance of which he is bound by the strongest and most sacred of ties.

Under its usual interpretation of supine satisfaction with the existing condition of things, contentment may, indeed, be the poet's theme, and the lover's topic of rhetoric and rhapsody.

> "My soul" said the doating Othello, "hath her *content* so absolute,
> "That not another comfort like to this,
> "Succeeds in unknown fate."

And again,

> "I cannot speak enough of this *content*."

But it should be recollected that it is also the laggard's virtue, and never awakens to noble achievements. To the actively benevolent, the useful, and the great, it is a sentiment unknown.

Can the virtuous be content when vice is triumphant? or the votary of education and knowledge, when ignorance and barbarism are predominant around him? Is the patriot content, when his country is in danger, the honest statesman, when the laws are inefficient, or defectively executed, or the chief magistrate, when they are grossly and openly violated? Is the physician content when the sick are in agony, or the faithful divine, when profligacy and vice are abroad in the land? or is the general philanthropist content, while he beholds in the condition of his fellow men, any source of misfortune or misery, which he has it in his power to remove?

To these interrogatories the answer must be negative. So must be the answer to every interrogatory, touching the contentment of

any individual or class of individuals, who are obedient to the dictates of practical duty.

In a world where there are no conflicts to encounter, and no changes to be produced—nothing to oppose and nothing to improve, contentment may be a virtue. But on a theatre where all things are the reverse of this—where the struggle is perpetual and general—where literally "all things subsist by elemental strife" and the progress of improvement appears to be interminable, it would be a fatal defect—a radical inaptitude, such as is no where to be found in the institutions of nature. Did it exist, it would be a solitary defect in the otherwise faultless constitution of human nature.

Nor does the condition which imposes on man the necessity to pursue an active and sometimes a toilsome course of duty and virtue, detract, in any measure, from the *goodness* and *benevolence*, in relation to him, of that system of which he forms a part. On the contrary, it is indicative of the existence and influence of those attributes in the economy of the earth. The health of man, his usefulness, and general respectibility and welfare, are promoted by activity, and his happiness consists, not in apathy, but continued and varied excitement.

Excitement is to his *moral* nature, what respiration and the circulation of the blood are to his *physical*, *its immediate life-spring*, without which it cannot be sustained. Let respiration cease, and the blood stagnate, and gangrene and death will immediately follow. In like manner, extinguish mental excitement, and the consequence will be a moral stagnation, which will poison healthy existence and minister to corruption.

Hence solitary imprisonment, where all varied excitement is shut out, and sensitive existence reduced to mere monotonous duration, is considered the most dismal and appalling punishment that malefactors can experience. And hence the region of condemned spirits is supposed, by many, to be a place of solitary confinement, where each individual, unconscious of ought but his own torments and crimes, has those torments unspeakably augmented, by a dismal unvarying contemplation of the darkness and depth of his own guilt.

Permit me, gentlemen, to hope, that a sentiment of discontent has been the cause of your assembling within these walls, and placing yourselves under the auspices of Transylvania University—Discontent with the attainments in medicine, which you have hitherto made, and with the opportunities you have enjoyed of pursuing your studies in that branch of science. And allow me further to hope, and express my persuasion, that you possess and cherish an ardent zeal and inflexible resolution to remove, as far as possible, the ground of that discontent, by a judicious, steady, and faithful employment of every means, for that purpose, that may be placed within your reach.

To effect this, you must become strenuous and persevering participators in the general conflict, of which I have spoken. You

must earnestly cultivate the spirit of battle, and become a corps militant, if you wish or expect to be a corps triumphant. The enemies with which, both now and in future years, it will be your business, as votaries of professional knowledge, to contend, are numerous and formidable. They are, the intrinsic difficulty of certain subjects of research, the prejudices of early education, pre-established errors in your medical opinions, resulting from mistaken and injudicious instruction, the influence and authority of distinguished names in the profession, a defective acquaintance with certain collateral and auxiliary branches of science, and errors that may, and, from the frailty of man and the imperfect condition of human knowledge, inevitably will be inculcated in this institution. With these foes to your progress in science you will be necessarily engaged in perpetual combat; and in proportion as you suffer them to gain an ascendancy, will your progress be retarded.

But by far the most formidable foes to your advancement, lie in ambuscade within yourselves, and constitute a portion of your own nature. They are *the love of pleasure*, and *the love of ease:* or, to designate them by a more general expression, *the love of enjoyment.* I mean the love of enjoyment *carried to excess.* This is the natural and irreconcileable enemy of man. The inexorability of her enmity is equalled only by the art and perseverance with which she carries it into effect. Like Hannibal, in relation to the Romans, she has sworn eternal hostility to the human race. Nor has ever an oath been more sacredly regarded, or more rigidly observed. In the high-wrought character of that being, denominated, in token of his consummate wickedness, malignity, and art, the *Great Enemy of man*, she is aptly allegorized. She is the arch enchantress, that with all that is attractive in aspect, and seductive in manner, allures into her bowers, and entangles in her toils, inebriates, enervates, and ultimately destroys. Such are her purposes, and such her deportment in relation to the *general* family of man.

But it is against *youth* that her machinations are more particularly directed, because, from their inexperience, the ardour of their feelings, and the impetuosity of their impulses, on them can they be most successfully practised. She is the subduing Siren, whose charms and witcheries can blight in them every virtuous sentiment, and paralyze every manly exertion. To the fair plant of science, as it springs from their intellect, her dulcet voice and seductive smiles, are as withering and deadly, as is the aspic poison to the energies of life, or the breath of the Sirrocco, to the flowers and foliage that spring from the plain.

Even now do I behold, in imagination, the artful sorceress insidiously approaching them, with symmetry in her form, refined and modest voluptuousness in her mein, grace in her movements, fascination in her eye, and the balm of enticement distilling from her lips, while in one hand she displays the lute or the castinet, and pre-

sents, in the other, the intoxicating bowl. Yet, under an aspect thus enchanting, are her "intents" to use the words of the poet,

——————"savage wild;
"More fierce, and more inexorable far,
"Than empty tigers, or the roaring sea."

An enemy most jeopardous for youth to encounter, with part of their nature rebellious in her behalf!

But to repel the danger, and escape the delicious ruin that threatens them, a single act, and that of a moment, is all that is requisite. Obedient to the higher and nobler faculties of their nature, *those which particularly characterize humanity*, let them resolve *to be men*; and, not indulging in a degrading compliance with the seductive calls of their *coarser propensities*, those which they have *in common with humbler natures*, descend from their proper sphere, to mingle in enjoyments of the inferior animals. For the youth who pursues the downward course, to luxuriate in what the world denominates *pleasure*, to say nothing of the deep immorality of his conduct, is marked with the *revolting characteristics* of the *brutal race*, compared to his coequal in years, who conforms, in deportment, to his moral sentiments, and *moves in the elevated region of intellect*. If the language I employ seems *impassioned* and *severe*, experience and observation prove it to be *true*. A deep sense of duty, therefore, impels me to pronounce it.

Let no young man indulge in the delusive belief, that he can participate, at once, in devotion to study, and the pursuit of pleasure. The union is unnatural, and, therefore, impossible. As well may he attempt to act, and not to act, or to be, and not to be, at the same time. Like bodies charged with the electrical fluid, the love of pleasure and the love of study are mutually repulsive. As easily may oil and water be made to unite, without an intermedium, as they to harmonize in the same individual.

Let him who may counsel in opposition to this, be suspected as unsound or insincere; and of him who may attempt, in his own career, to reconcile the two conflicting pursuits, let not the example be recommended or imitated.

Between the love of pleasure and the love of study, every youth must make his election. He must "choose which of the two he will serve." He "cannot serve God and Mammon." Nor can he become, at once, the man of fashion and pleasure, and the man of science.

That any of you, gentlemen, will so far degrade yourselves, as to barter the love and pursuit of knowledge for indolence and dissipation, I have no ground, for a moment, to suspect. On the contrary, I confidently persuade myself, that you never will.

You cannot act in a manner so unworthy of yourselves, and of all the relations in which you stand to society. In particular, you cannot render yourselves so unworthy to be the successors of that body of enlightened and high-minded youth, who have been antecedently the pupils of this institution—a body whose ruling

spirit was manliness, sobriety, and honourable ambition, and who were strangers to idleness, dissipation, and misrule—who would have felt, in an *imputation* of immorality, the pang of a wound; and who frowned from their fellowship all that was undeserving; who, with the refined sensibility of woman to *feel* what was *wrong*, had the resolution of man to combat and repel it, and *pursue* what was *right*. A choice example of early and distinguished promise, which you will permit me most cordially to invite you to imitate, and to urge on you a lofty ambition to excel.

Nor has this promise, in your predecessors, of distinction and usefulness, been violated by any failure in the practical result. For I feel the pride of a teacher, mingled with the heartfelt gratification of a man, in announcing to you, that the physicians who have gone forth from this institution, are the most eminent, for their years, in the western country. One of them, in particular, who has devoted himself to writing, is bearing off, from his competitors, in the Atlantic States, the palm in almost every prize-question, in which he contends. Nor has the success of another, who has more recently contended in a similar scheme of elevated emulation, been less flattering. To secure to them the matured reputation and extended usefulness of advanced years, nothing is requisite, but a steady perseverance in the career they have begun.

This, let me assure you, is no exaggeration—no studied dash in rhetorick, in behalf of the medical department of Transylvania. It is sober truth. It is history. As far as my information on the subject extends—and I have not been idle in pushing the inquiry—I am authorized to attest it with an uplifted hand. Let me, then, press on you the glorious fact—the proud example of your elder brothers, as an irresistible incentive to arouse in you, at once, emulation and exertion, and enkindle a lofty determination to excel.

Nor do I fear that the example will be barren in effect. It is not in the nature of things that it should prove unproductive. There will, there must be a family likeness among the members of our school. A common blood warms them, and a common teaching conveys to them intellectual nourishment, augmented and improved with the progress of time. The younger brothers, therefore, *will*, in some things, *resemble* the elder, and, if true to themselves, *must*, in others, *excel* them. I say, they *must*, because their opportunities for attainment are better. The resources of the school are annually enlarged. Each subsequent course of lectures is an improvement on the preceding. This is no unfounded panegyrick. It is fact, unperverted and unadorned.

Shall I be told, that a difference in the intellectual endowments of different classes, will necessarily make a difference in attainment and efficiency? I answer, that, on this score, there is but little ground to fear or to complain. The difference, in native talent, between man and man, and class and class, is much less than is commonly imagined. The great discrepancy, in the issue

results chiefly from a corresponding discrepancy, in the means employed, and the efforts to improve.

The class I have now the honour to address, possesses intellect enough for any purpose contemplated or wished Should it fail, therefore, to send forth from its numbers distinguished members, it will find no apology for the failure, in a want of talent. That want would be a *misfortune only*. But *its* failure, should any occur, will be chargeable to that, which will be, at once, *a misfortune* and *a fault*

Native talent, that may be pronounced *distinguished*, is no where wanting in the United States. This fact is conclusively proved, by the uniform character of the legislatures of our State and general governments; and by every other circumstance that bears on the subject. In no section of our country can a deliberative body be assembled, that will not be marked by eminence of intellect.

In relation to every church-yard in the Union, it may be said, not alone with poetic beauty, but with philosophical truth,

"Some village Hamden, that with dauntless breast,
"The little tyrant of his field withstood,
"Some mute inglorious Milton here may rest,
"Some Cromwell guiltless of his country's blood."

Or, substituting, in fancy, for the name of the river and the climate, immortalized in the poem, any of those that belong to the United States, we may fearlessly exclaim, with the Muse of Portugal,

"On *Tagus'* banks are Scipios, Cæsars born,
"And Alexanders *Lisboa's* clime adorn."

In such a body of youth as I am now addressing, assembled from most of the States and climates of the Union, it is impossible that there should not be a great amount of talent. I mean not to indulge either in flattery or hyperbole, in asserting my belief, that there appear, in my presence, at this moment, the *native* talents of a Sydenham, or a Boerhaave, a Cullen or a Rush; and that to form, out of this class, such physicians, nothing is wanting but opportunity, industry, and perseverance in study, equal to theirs. The advantages with which you are favoured, are and must be, in many respects superior to what they enjoyed, because you live in a more enlightened age, and in a country much more propitious than Europe to the free and independent exercise of the intellect. Among other invaluable privileges of your day and situation, you enjoy all the benefit of their experience and study, in the excellent writings, and great example which they have bequeathed to the world.

If some of you, therefore, do not become their equals, I might say, their superiors, the fault will be your own. And what more powerful incentive can be presented to you, or what more glorious result predicted, to invigorate your exertions, and as a recompense of your toils! The gifted youth, who will not labour for a reward

so illustrious, sins against nature, and deserves, amply deserves, the humblest and most mortifying situation that can await him.

But, to ascend to this envious elevation, in your profession, you must neither surrender yourselves to pleasure and amusement, nor indulge in idleness, while in this school; nor, with the close of your academical course, consider your medical studies at an end. On the contrary, you must pursue them unremittingly, to the termination of your lives, or it is in vain for you to be aspirants after professional renown. Their biographers will teach you, that such was the practice of the illustrious physicians whose names have been mentioned, and their examples held up to you, as models of imitation. The most ripened age to which either of them attained, found him as zealously engaged in pursuit of science, as he had been during any other period of his life. They seemed practically to consider themselves as having achieved nothing in their profession, while any thing remained that they were able to achieve.

To conclude. Considered in its nature, and all its relations, the profession you have selected, as the employment of your lives, is one of the most momentous that society presents.

It embraces a knowledge of the entire universe, both material and spiritual, as far as it is operative, either proximately or remotely, on this globe, and the beings that inhabit it. For, whatever, in any way, affects man, as an inhabitant of earth, may become instrumental in the prevention or production, the mitigation or the cure of disease. And with all that can be thus instrumental, the physician should be familiar.

I am aware that this view of the field of knowledge, which it is the duty of the enlightened physician to explore, is much more ample than it is generally represented But I am equally aware, that it is not more extensive than *truth* represents it.

To confine the knowledge of the physician to the structure and healthy functions of the human body, the symptoms of diseases and their causes, and the few articles constituting what is usually denominated MATERIA MEDICA, with their proportion and combination, their doses, and the modes of administering them, would be to narrow and degrade the profession, and render it unworthy of the attention and patronage of the enlightened and the liberal.

To the knowledge of these things, he must add, in particular, an intimate and practical acquaintance with the entire philosophy of the atmosphere, as influenced by climate, situation, soil, the seasons of the year, day and night, humidity and dryness with their vicissitudes, prevailing winds, the electrical fluid, the growth and decay of vegetables, the process of putrefaction generally, the condition of countries, or large tracts of land, in relation to clearing and cultivation, draining and flooding, the influence of the heavenly bodies, and such other causes as are known to produce alterations in its qualities. He must be a disciplined and practical meteorologist, under which phrase I include a knowledge of the relation of the atmosphere, in all its conditions, to the body of man, in health

and disease. Without these attainments, the science of endemical and epidemical complaints must be unknown to him. With the history of medicine, the history of the lives of distinguished physicians of all times and countries, and the most approved modern doctrines of contagion, its propagation and laws, he should also be familiar.

But this is not all. The acquirements of the physician must not terminate here. His acquaintance with the world of intellect, both in a *healthy* and a *diseased* condition, with its changes and modifications in each, and their effects on the body, must be as thorough and familiar, as his acquaintance with the world of matter.

Without this, no physician can ever become eminent. That practitioner of medicine who knows not the nature and constitution of the human intellect, and its influence in the prevention, production, and removal of disease, is, so far, an ignoramus in his profession, and unworthy to be trusted. He is unable to avail himself of one of the most powerful remedies that is placed at the disposal of the educated physician.

In its other relations and effects, medicine is pre-eminently multifarious and momentous.

Without any indulgence in the extravagance of figure, it may be pronounced to be, in no inconsiderable degree, the solemn and legitimate arbiter between *life* and *death*. For often when the balance has been trembling on the poise, or has assumed, for a moment, a *portentous stillness*, does it throw its influence into the scale of the *former*, and decide the contest.

In thus prolonging the lives and services, oftentimes of the wise, the good, and the great, the amount of its contributions to the public welfare, and to human happiness, is beyond calculation. For the extent and efficiency of its influence, in the alleviation and removal of *mental suffering generally*, it stands, among all vocations, pre-eminent. In this respect it has no rival.

In the advancement of literature, medicine has done much; and in the development of the science of nature, including that of the human intellect, it has taken a vast ascendency over all other professions. For let metaphysicians and theologians deny it, as they may, and do homage, as they may, to Locke, and Reid, and Stewart, as the objects of their idolatry, had it not been for the profession of medicine, even the day star of *true intellectual philosophy* would not yet have appeared. From the time of Aristotle to the present moment, all that has issued, in relation to that subject, from other sources, is, with a single exception, but little else than the *ignis fatuus* of error. And this exception is found in the lectures of the late Dr. Brown, of Edinburgh, one of the most eloquent writers, ablest analysts, and most cogent reasoners, that science can boast, or that literature deplores. Yet *he* does not constitute *an actual* exception; for he was educated a physician. While to that great teacher must be conceded the palm of having

delineated the most beautiful picture of the *operations* of the human intellect, with an excellent view of their general classification, association, and exciting causes, it belongs to Drs. Gall and Spurzheim, with their followers and advocates, to have made known its real *faculties* and expounded its genuine philosophy. Such, with a march that is resistless, and a rapidity that is unparalleled in the spread of opinion, is becoming the sentiment of the philosophers of Europe; and such, in a short time, will be the sentiment of the unprejudiced philosophers of America. Nor do I hazard any thing in asserting, that the period is near at hand, when it will be held disgraceful in physicians to be ignorant of that scheme of the structure and functions of the human brain, to which I allude—I mean Phrenology.

The science of politics, including diplomacy, excepted, medicine now predominates over every other, in giving to our country real consideration and standing abroad. In all parts of Europe, continental as well as insular, the medical writings of the United States, are beginning to be sought after with extreme avidity, as a source of the choicest professional knowledge. While the productions of Great Britain are characterized by more learning, and a greater depth of real scholarship, those of our own country are fresher, more vigorous and more practical, and truer to nature. The physicians *now*, like the statesmen, of America, *think more for themselves*; while those of Europe are influenced more by *precedent* and *authority*. The physicians of the United States are aspiring to perfect intellectual and professional independence. Give them but a Jefferson to draught, and an Adams to defend, a *Declaration* to that effect, and they will unanimously adopt it, and pledge, for its maintenance, their "lives, their fortunes, and their sacred honours." I do not allude to that *lawless* independence, which, plunging into the wilds of *mental libertinism*, sets reason, morality, and religion at defiance. I mean that entire exemption from all factitious and antiquated authority, which dissolves the influence of venerated prejudice, and gives rational freedom to the soul. Permit me, however, to add, that it is not long since this auspicious era began.

On the States of the West, embracing the magnificent valley of the Mississippi, in which it is, at present, our fortune to reside, much of new character and consequence has been lately conferred, by the science of medicine. From its ample stores, an amount of intellectual capital has been drawn forth, and thrown into circulation and action among us, the effects of which, in meliorating the condition of the present and future generations, no powers can calculate, nor can any foresight descry. This state of things, so propitious in its existing influence, and prospectively so glorious, must pass to the *credit* and RENOWN of Transylvania, from which alone the science has been diffused. I say *alone;* for all the medical knowledge that has reached us from the *east* and *other sources*, within the last seven years, compared to that which has been shed

abroad from this University, is but a *candle* to a *conflagration*—a *twinkling star* to the meridian *sun*. Let the spirit of the cavilling and the envious call this *boasting*, if it please; let it, in affected derision, bandy and repeat it from witling to witling, and from jester to jester, until it shall have made of it the most and the worst, and sickened even babbling echo with the sound; the intelligent and the magnanimous will pronounce it to be true.

But, contrasted with that which is, hereafter, to be attached to it, the real importance of the profession of medicine is yet but in embryo. *We* are but sowing the seeds of that balmy and salutiferous plant, whose fragrant blossoms, and healing fruits posterity will enjoy—beneath whose shadow the nations will repose, and experience from it that relief from the ravages of disease, which, at present, it would be denominated in me *visionary* to predict.

It is on account of the rapidly progressive knowledge of their profession, that the lines of the poet are peculiarly applicable to physicians;

"We think our fathers *fools*, so wise we grow;
"Our wiser sons we hope will think us so."

Nor does the profession of medicine yield to any other, in cultivating and improving the *finest feelings and sentiments* of our nature—those which are styled, in token of their peculiar excellence and amiability, the *virtues of the heart*. From his daily intercourse with scenes of sickness and distress, the physician acquires a habitual sympathy with suffering, a confirmed kindness of manner in soothing and softening it, and a disciplined and practical benevolence in giving it permanent relief, which can scarcely attach to any other character. That he becomes, by this course of duty, either hardened or callous, loses, in the slightest degree, his native sensibility to sorrow or distress, or experiences the least diminution of his heartfelt regret for the loss of human life, it belongs only to the *ignorant*, or the *censorious* to allege. It is in consideration of its many excellent and highly exalted attributes—such as attach not to other vocations, that the art of healing has been denominated DIVINE; and, in ancient mythology, had its origin among the Gods.

If, then, such are the *nature* and the *relations* of medicine, and so elevated the standing, and so pre-eminent the usefulness of those who are its faithful and distinguished votaries—let me entreat you, by every consideration that can make its way to the heart and the conscience of high minded, virtuous, and honourable men—by the estimation in which you hold yourselves, and in which you wish to be held, by your contemporaries and posterity—by your regard for your families and friends, who have generously reposed their affections on your worth, and their hopes on your reputation—for the school in which you are educated, which trusts it will behold in you, in future years, the evidences of its utility, and the pillars of its renown—for the profession you have chosen, which relies on you for the maintenance of its dignity,

and the advancement of its interests—for Western America, which claims you as its chosen and legitimate sons, and confidently looks to you for that deportment, and those attainments and achievements, which will be instrumental in bestowing on it lasting reputation in science and letters—for your country at large, which expects with solicitude, that you will sustain, with honour to yourselves, your several parts, in the great and multifarious drama, that is to secure and confirm to her a pre-eminent standing among the nations of the earth—for the general condition of the age you live in, which is to throw its influence, and transmit much of its character, to ages that are to come—for the claims of afflicted and suffering humanity, which expects, and has a right to expect, that, by your skill as physicians, and your virtues and sympathies, as moralists and men, her sorrows will be solaced, and her sufferings relieved—for your rational enjoyments, as philosophers here, and your hopes of more exquisite enjoyments hereafter—By these several and urgent considerations, and such other impressive ones, bearing on the subject, as the richness of your own imaginations may suggest, let me implore you so to deport yourselves, in the capacities of pupils, practitioners, and men, as to command the esteem of the enlightened and the meritorious, to awaken the gratitude and love of the afflicted, and, as a still higher reward, to merit and receive the smiles of Heaven, announced to you through the approbation of your own consciences.

In a word, be enlightened and virtuous, enterprising and useful, and the temple of renown, from its pinnacle of adamant, will unfold its wide-spreading portals to receive you; pursue a course the reverse of this, and go down, as you inevitably will, to that dreary, darksome, and pestilent abode, the inexorable gulf of *disgrace* and *oblivion*.

MEMOIR V.

THOUGHTS ON OPTIMISM

INTRODUCTORY ADDRESS.

" Let us, since life can little more supply,
Than just to look about us, and to die,
Expatiate free o'er all this scene of man;
A mighty maze! but not without a plan—
—Eye nature's walks, shoot folly as it flies,
And catch the manners living as they rise;
Laugh where we must, be candid where we can;
BUT VINDICATE THE WAYS OF GOD TO MAN."

GENTLEMEN,

The impressions we receive from without, and the sensations we experience within, whether they be corporeal, intellectual, or mixt, and even the emotions, and fancies, that flit through our minds, derive their character much more essentially from the condition of our systems, than from the nature of the causes by which they are produced.

I am perfectly aware, that to most individuals who have not made it previously a subject of consideration, this proposition will appear, at first view, at least problematical, if not unfounded. But a momentary analysis will prove it to be true.

The impression that affords to one person pleasure, gives pain to another; the conception that is delightful to one, is revolting to another; and even to the same individual, the same impression is pleasurable and painful, under different circumstances.

To the inflamed eye, the delicate hue of the rose and the violet, the blue of the heavens, the tints of the rainbow, and all mixtures of colours that had previously been most grateful, are irritating and offensive; by the disordered stomach, the choicest viands are rejected with loathing; to the morbidly sensitive nerve of touch, impressions at other times the most soothing and acceptable, are productive of agony; and to the wounded heart and sorrowing spirit, recollections that were once rendered dear by all that is most precious in friendship, in love, and in gratified ambition, are deeply afflictive.

Nor is this all. It is not in consequence of changes produced in us by disease alone, that our sensations are so different under similar circumstances. Even when health is unbroken, and nothing has

occurred to embitter existence, this discrepancy of sensation is ... necessary effect of the changes that occur in the human system, in the progress of life.

What was delightful to the child, becomes indifferent to the youth; in his meridian perfection, the man looks, without emotion, on what constituted an element of his youthful felicity; and, in the fretfulness of age, he condemns, as worthless, what he was once in the habit of praising as most excellent.

To the querulous octogenarian, it is not alone the zephyrs of spring that have lost their balm, the flowers their fragrance, the heavens their azure, the woodlands their music, and even woman herself, her power to fascinate. In his indiscriminate condemnation, he complains of the whole rising generation, of society in general, and even of the world at large, its productions and entire economy, as deeply deteriorated from their former condition. The women are less fair and less virtuous, and the men feebler, less brave, and more dishonourable. The winters are colder, and the summers more irregular, dry, and scorching, than in anterior times.

But the complaint is unfounded. Far from deterioration, society and all things terrestrial are improved. The change which offends the venerable but mistaken complainer, is not in the *world*, but in *himself;* not in the causes that impress him from without, but in his *susceptibility* in relation to the impression.

The breezes of Spring are as mild and balmy, and the flowers as fresh and fragrant as formerly; the heavens have lost nothing of their wonted beauty, nor the woodlands of the variety and melody of their song; of the heart that feels, woman is still the lovely enchantress, and society and the world possess, as formerly, their attractions and their worth. But the octogenarian is grown old, and, with his intellectual sprightliness and corporeal activity, has lost his powers to feel and to enjoy. His nerves and brain, no less than his muscles, his organs of feeling and thought, in common with those of motion, are disqualified, by age, for the extent and pleasantness of their youthful functions. *He* is changed and deteriorated in his corporeal organization, while *nature*, in all her departments, remains perfect.

The successive mutations in our sensibilities and sources of enjoyment, arising out of the different periods of life, the poet has thus very graphically depicted.

> "Behold the child, by nature's kindly law,
> "Pleased with a rattle, tickled with a straw;
> "Some livelier plaything gives his youth delight,
> "A little louder, but as empty quite;
> "Scarfs, garters, gold, amuse his riper stage,
> "And beads and prayer books are the toys of age.
> "Pleased with this bauble still, as that, before,
> "Till tir'd he sleeps, and life's poor play is o'er."

Dissimilarities of original and permanent temperament constitute another cause, why, among the human family, dissimilar feel

ings and conceptions prevail. It is not to be expected, nor can it possibly occur, that the frigid hyperborean, and the child of the South, whose soul, like his native sky, is fired by the fervors of a tropical sun, can be in any thing identified, except in the general *outline* of their *figure*, and the number and general character of *their intellectual faculties*. In every attribute, liable to modification from external causes, they *must be unlike*.

But, for the discrepances of feeling and thought, that so strikingly diversify the human family, there exists yet another cause, which is all but omnipotent. It is the difference of education. According as this process is conducted on *true* or *false principles*, by which is to be understood, *principles in harmony with nature, or opposed to her*, it improves and ornaments, or deteriorates and deforms, the intellect of man.

An education true to nature, and liberal in its compass, expands and elevates the mind, and unfolds to the possessor of it, creation as it is.

But an education of an opposite character—and I regret to say that such forms of education too generally prevail—whose object is to oppose, restrict, and subdue nature, instead of strengthening and directing her, presents to the mind a view of creation, factitious and false. The former is creation, as it came from the hand of its immaculate author, in its totality and kind as spotless and perfect as himself. The latter is creation, as man, in his ignorance and presumption, has metamorphosed it, impressing on it the image of his own imperfections.

These two schemes of education, so opposite to each other, in their principles and result, constitute what may be denominated the *school of nature*, and the *school of art*. The tendency of the former is to truth and usefulness; of the latter, to error and its necessary concomitants. The one accelerates the march of science, the other retards it.

The members of these two schools, as already intimated, differ abundantly from each other, in many of their sentiments, but in none *more* abundantly, than in the views they entertain of this earth, as a place of residence, and of the state and condition of man as an inhabitant of it.

Respecting one point of primary importance, the pupils and advocates of both schools concur in opinion. They consider the present abode of man as nothing but a place of transitory probation, preparatory to another and more exalted state of being, that shall experience no change, but that of endless progression in knowledge and felicity. But of the real condition and character of this place of trial, their views are opposite.

While the disciples of the school of nature regard this earth as the home of the children of a benificent parent, whose provision for their wants, their comforts, and even their wishes, has been most bounteous, and whose paternal dispensations in relation to them are characterized only by wisdom and love; who has prepared for

them a dwelling in all respects most exquisitely adapted to their nature; where, in a degree almost infinite, the agreeable predominates over the disagreeable, good over evil, pleasure over pain, virtue over vice, and general enjoyment and happiness, over suffering and misery; where the chief duty of man is, by industry and virtue, to render himself in the highest degree useful to society, to cherish gratitude to Heaven for favours received from it, to manifest, by his actions and general deportment, practical piety towards his God, and to enjoy with cheerfulness, but in moderation, the *good things* that are around him—I allude to the good things of *sense* as well as of *intellect*.—While the pupils of the school of nature, I say, regard this earth, in its entire economy, as a place of *practical virtue*, and *delightful enjoyment*, where man himself can do much both to merit and obtain reward, where all things are in requisite harmony and order, worthy in every way of the Architect who arranged them; and where it is not only the privilege but the *duty* of our race *to enjoy* as well as to *act*, the disciples of the school of Art would seem to discredit all this, to be even shocked at such opinions, as heretical and impious, and to adopt, as orthodox, the reverse of the tablet.

To those sons or error, for so I must denominate them, "This goodly frame of earth" to use the language of the *Great Dramatist*, "seems a sterile promontory; and this most excellent canopy, the air, this brave o'erhanging firmament, this majestical roof, fretted with golden fires, appears no other to them, than a foul and pestilent congregation of vapours."

And as to man, however "noble in reason! infinite in faculties! in form and moving, however express and admirable! in action however like an angel! in apprehension however like a God! although he is the beauty of the world, and the paragon of animals"—To those sons, I say, of the school of Art and error, man, with all these elevations and elegancies, aptitudes and excellences about him, appears to be nothing but the "quintessence of dust!"

To drop the language of the poet, and express myself in that which more resembles their own, those modern Heraclytuses seem to regard this earth as a spot in creation blighted by the peculiar malediction of Heaven; as the abode of whatever is most degenerate and unworthy; as a garden overrun with weeds, or a wilderness bristling with briars and thorns; as a place of sorrow, a house of mourning, and a vale of tears! where evil and deformity, pain and misery, vice and corruption, not only predominate over their opposites, but reign almost alone!—where, in fact, every thing is revolting, and nothing attractive!

So deep, in their estimation, is the depravity and degradation of man, that some of his chief duties consist in self-abhorrence, self-restraint, self-condemnation, and self-punishment. In none of the pleasures of sense must he indulge, under the most fearful of penalties. They but lure him to vice and criminality, and the enjoyment of them plunges him into irremediable wo!

Such is the picture which those miserable complainers delight to draw of this fair earth, the goodly inheritance which a kind and beneficent PARENT has bestowed on his children. Were the picture true, the *original* would be unworthy of him whose hand moulded it into its present form, and gave to it its present condition in the universe. It would constitute such a blot on the escutcheon of creation, that it ought to be immediately brightened or expunged.

Placed in a situation, where, from every quarter, danger would threaten, and wretchedness present to him her embittered chalice, man might be driven, by apprehension, to tremble and adore; but neither could the beamings of hope ever brighten his countenance, nor his bosom glow with the filial emotions of sincere veneration, gratitude, or love.

These opposite views of the condition of this earth, and of man as an inhabitant of it, entertained by the two schools of philosophy, of which I have spoken, must arise from views equally opposite, of the character of its omnipotent Author and Ruler, and of his administration of its government.

It is the vindictive, inexorable, and profligate tyrant alone, that, when free from restraint, *intentionally* renders his dominions the constant abode of vice and misery; and none but the indolent and the reckless will *suffer them to become so*, having the power to prevent it.

The paternal and beneficent monarch delights in the virtue and comfort, the felicity and joy of his subjects, and provides and prepares the means and measures, that certainly produce them. These are sentiments which cannot in a spirit of verity be contradicted, because they are founded in the nature of things, and because all history and all experience testify to their truth.

If, then, this earth be the tragical and hateful scene of sorrow, suffering, and moral deformity, that the school of art and error represents it, the cause must be sought for, either in the neglect, or the jealous, revengeful, and inexorable character of him who framed and administers its government. And such are some of the attributes which that school ascribes to him.

But if, on the contrary, this earth is, as the disciples of the school of nature depict it, and as it exhibits itself to sound and unprejudiced observation, a scene of enjoyment rather than suffering; where virtue, happiness, and beauty predominate immeasurably over vice, deformity, and wretchedness; and where harmony and order predominate equally over discord and confusion; then are beneficence, clemency and love, the moral attributes of the Deity, which are manifested in the government of it. And such is the character, which the school bestows on him. It proclaims him to be a father, beneficent, kind, and merciful; not a tyrant, whose delight is in groans.

It will not be denied that a knowledge, founded on observation, of the real condition of this earth, as the home of sentient and intellectual beings, of the character of HIM who framed and gov-

ems it, and of the real relation in which he stands to the family of man, is among the most important of human attainments. Permit me, then, to hope, that you will indulge and accompany me, in a few observations, intended for the illustration of these topics.

To become acquainted with the inhabited globe, in the light here contemplated, we must look at it as it is, and consider it *as a whole*. Partial views of it must necessarily mislead, because they conceal its *general relations*.

In examining, under the influence of this principle, and on a scale commensurate with the occasion, the earth, as a residence for all *sentient existence*, we are bound to recollect, that *beauty* and *deformity*, *pleasure* and *pain*, are but *relative terms*. They relate to the different structures and susceptibilities of different kinds of living matter. To substances that cannot *feel*, nothing can be either beautiful or deformed, pleasing or painful. And that which is beautiful and agreeable to one order of sentient existence, is deformed and disagreeable to another; and nothing, perhaps, is either beautiful and pleasing, or unsightly and displeasing, to all. Nor is there, therefore, any being organized and fitted *to feel*, that does not find something to awaken agreeable sensations. As far as our actual knowledge extends, every being encounters much more that is calculated to please than to offend; and, by the rules of fair analogy, we are not only authorized, but bound to infer, that the same thing is true, with regard to beings to which our knowledge does not extend.

Look abroad through nature, as unfolded to our view, and, comparing deliberately the *beautiful* with the *deformed*, and the *agreeable* with the *disagreeable* generally, settle the account, as relates to man, and the balance will be infinitely in favour of the *pleasing*. Considered on a general scale, scarcely a *fraction exclusively* painful to him will be found in the estimate.

That this is no gratuitous assertion, appears satisfactorily from the illustration and proof, of which it is susceptible.

When we take a comprehensive survey of *visible* nature, what are the objects that most prominently present themselves? I answer, not painful or offensive ones, but such as awaken in us emotions of delight.

They are, by day, the golden sun, the light-giver, and life-awakener in numerous worlds, moving in his majesty, pouring forth his unmeasured radiance, and dispensing, like a God, his varied beneficences, to the system which he illuminates. The lofty arch of the heavens, in its spotless azure, exhibiting, at once, the most beautiful of figures, the most magnificent of canopies, and the most delightful of colours The expanded ocean, calm or tumultuous, in either case, a world of sublimity and beauty. The dark-blue of the mountains, with their summits glittering in perennial snows, or wreathed in fantastic garlands of clouds, the thunder-cloud itself, sweeping across the heavens, in its terrible but beauteous magnifi-

cence, the majestic river, the wide-spreading lake, and the stupendous cataract.

By night, when the sun has withdrawn his effulgence, and darkness has deprived the objects of day of their splendours and loveliness, that no blank may occur in the volume of visual delight, the boundless pageant of the starry heavens is disclosed to our view, where the enraptured eye may range interminably from orb to orb, that are visible, while the fired imagination wings its way to millions of others which the eye cannot reach.

Such are a few of the more magnificent objects of beauty and sources of pleasure, which nature exhibits to the eye of the intelligent observer. Nor are innumerable others wanting, which, although humbler in character, are, perhaps, no less abundant in the gratification they afford.

Among these may be recounted the waving forest, interminable and lonely, with the bright green of its foliage, contrasted with the depth and darkness of its shadow; the extensive landscape, diversified by hill and dale, and grove and stream, and enlivened and ornamented by flocks and herds, and human dwellings; the grass-covered lawn, silvered by the moon-beams, or spangled by the pearly dews of the morning; the flower-enamelled meadow, the bow in the heavens, and, in every direction, engaged in their subsistence, their pastimes, or their loves, the feathered and the insect tribes, elegant in form, graceful in movement, and gorgeous in all that colours can bestow.

All this, and infinitely more, which cannot now be recited, does nature offer to the *eye* of man, to gratify and improve him. Nor, when his intellect is unperverted, and in perfect accord with the harmonies of creation, does she exhibit any thing exclusively offensive or painful, to poison his delights. She surrounds him with *visible* objects *essentially* and *unconditionally pleasurable*. If any be directly the reverse of this, he renders them so himself.

For the gratification of his other external senses, it were easy, had I leisure to dwell on the subject, to show, that nature has been equally kind and abundant in her provisions. The ample resources for his intellectual enjoyments will be considered hereafter.

But in a discussion like the present, our observations should not relate exclusively to the human family. If animals of an inferior order are worthy of the attention of a superintending Providence —and we are assured that not even a sparrow falls to the ground without the notice of Heaven—they are certainly, in an equal degree, worthy of ours. In making a correct estimate of the aggregate happiness of sentient being on this globe, *theirs* must be necessarily included in the account. Let us contemplate them, then, for a moment, and judge from their actions, notes, and general appearance and deportment, of their real condition. These constitute as correct manifestations of *their* feelings, as our articulate language does of *ours*.

If we commence our examination with the inhabitants of the waters, we shall find the entire appearance of that class of being indicative of health and plenty, while the vivacity and sportiveness of their movements are expressive of joy. Their life seems to be devoted chiefly to the gratification of the three master propensities of animated nature, the desire of food, the passion of love, and the feeling that urges to the care of their young. Add to this, the playful gambols in which they so repeatedly engage, from the mere love of motion, and the pleasure of existence, which every voyager has often seen the monsters of the deep eagerly practising around his vessel, and you have nearly completed the history of their simple lives. And it testifies, in every page, that their existence is a scene of gratification but little interrupted.

To the condition of the world of quadrupeds, similar remarks are equally applicable. To gratify their appetite for food, which to them is savory, and which they procure in abundance, to indulge in their loves which are ardent and engrossing, to rear and educate their young, an employment which evidently affords them the liveliest pleasure, and to luxuriate, by sprightly and sportive action, in the bounding joys of healthful existence, bestows on that class of beings a life of delight, counterbalanced by *nothing of real sorrow*, and by but momentary sensations of actual pain.

Might we, from their movements and sports, pronounce on the feelings of a large portion of the insect tribes, we would say that their lives seem to consist in little else than an intoxicated riot of rapturous enjoyment. And transient as is the period of individual being among them, from the immensity of their numbers and the rapidity of their increase, they constitute no inconsiderable proportion of terrestrial existence. However brief the span of individual life among them, their race is perpetual.

But, in this survey, which is necessarily in a high degree brief and imperfect, the joys and felicities of the feathered race most forcibly attract us. Of that class of being, the entire life seems a carnival of delight. To this effect, the warmth and fidelity of their loves, the strength of their social attachments, their affection towards their young, the sprightliness of their movements, and the cheerfulness of their notes, conclusively testify. Compared with the entire amount of their pleasures, the momentary pains they may occasionally suffer, are but a drop to the ocean—a speck on the brightness of the meridian sun.

With the sensitive nature of frogs and reptiles, our acquaintance is very limited. But the knowledge we possess on the subject is sufficient to convince us, that the sum of their enjoyment is, in a high degree, paramount to that of their suffering.

Shall I be told that the wars of animals constitute a fearful drawback on their pleasures; and that the death which awaits them, is a full counterbalance to their preceding felicities?

I answer, that this view of the subject is altogether unfounded, and arises from a very defective knowledge of the premises. Had

leisure to discuss the topic, it were easy to demonstrate, that, to the animal kingdom, war and death by violence *are not evils*. On the contrary, they prevent suffering, infinite in amount beyond what they inflict. They are dispensations, therefore, not of cruelty, but of kindness; not of resentment, in the Ruler of the universe, but of mercy and love.

Unless the entire economy of the globe, including, of course, their own economy, were altered to suit it, a state of *peace* and *immortality* among animals on earth, connected with the power of indefinite propagation, would necessarily prove the source of a scene of suffering, that no language can describe, and no imagination conceive. I may safely add, that unless the change in the general economy of things were previously or cotemporaneously effected, such a state would be impossible.

This remark applies to man, as forcibly as to animals of the inferior orders. On this globe, as well as on every other, where the condition of things is similar, death is the indispensable condition of existence, and is a part of the dispensation essential to happiness. Abrogate the condition, and misery will be the issue.

Nor do earthquakes and tempests, inundations, pestilence and famine, on the frightful ravages of which those who differ from me in sentiment, dwell so emphatically in support of their opinions, constitute an objection, in any degree valid, to the fundamental principle for which I am contending. It would be no paradox in me to assert, because both history and philosophy sustain the assertion, that the occurrences referred to, tend to amplify human existence, and, therefore, to augment the amount of human happiness, rather than to diminish the one, or detract from the other. If death forms a necessary part in the optimism of the economy of this earth, so do the physical causes, by which it is produced. At any rate, so limited in compass, and so rare in occurrence, are the events alluded to, that, when considered on a general scale, as well in extent as in duration, they can have no appreciable effect in reducing the sum of the happiness of being. They only *seem* to have such an effect to those individuals, who, examining creation with "a microscopic eye," behold a part and not the whole. In the estimation of the catholic philosopher, their influence is lost.

But, dropping this *general* view of things, which is by far too extensive and multifarious, to be competently considered, in a discourse like the present, let us briefly examine the condition of man, in his present state of existence, and as an inhabitant of this earth. If I am not greatly mistaken, we shall find subsisting between him and all things with which he is connected, such an entire consonancy and perfect aptitude, both physical and moral, as will convince us, that, far from being, as many have pronounced him, an anomaly, or a contradiction in creation, he constitutes, in his character and situation, one of the most beautiful harmonies that nature exhibits.

In his general configuration of body, as well as in the structure of particular parts of it, man is what he ought to be. After either

of them, and you deteriorate his nature, and detract from his efficiencies. And in the most perfect accordance whith these, is the character of his intellect. Change that again, and you again diminish his powers and excellences.

That man is to be lord of terrestrial creation, would seem to be the express ordination of Heaven. And for the functions and responsibilities of that station, are his aptitudes, both corporeal and intellectual, as perfect as they can be rendered.

On the superior beauty and symmetry of his figure, his majectic port, his lofty bearing and dignified movement, his countenance beaming with intelligence and energy, and his general aspect and attitude of command—On these attributes, to which even the inferior animals pay observance and homage, I forbear to dwell. Yet they enter, most obviously, as legitimate elements, into his general fitness for the station he occupies. Deprive him of any of them, and you lessen that fitness.

Nor do I mean to insist on that peculiar hardihood and pliability of constitution, which on him alone, of all terrestrial beings, bestow the capability to become an inhabitant of every climate Yet without this, his aptitude for his lofty destination would be incomplete.

To enumerate among his peculiar fitnesses, as some have done, his strength, his swiftness, and the excellency of his external senses, would be an error. In these respects, he is surpassed not a little, by many of the animals that are subject to his control.

But although inferior to many other animals, in swiftness, strength, and acuteness of sense, he surpasses them all, in an immeasurable degree, in his powers of *invention* and *reason*, and in the *extent*, *variety*, *complexity*, and *delicacy*, of his *corporeal movements* And from the union of these, arises his fitness for authority and command—from the capacity of his intellect to *devise* and *direct*, and the promptness of his hand to obey, and its adroitness to execute. Remove these, and you disqualify him to rule. Alter them, and he must rule, if at all, in another sphere.

To be more specific. Intellect is superior to brute strength, and is intended, in the ordinations of nature, to govern it. That, in part, therefore, man maintains his ascendency over other animals by virtue of his intellect, particularly by that compound intellectual process, invention and reason, is universally acknowledged. But the part which his corporeal capacities achieve, in the establishment and maintenance of his lordly ascendency, is not, perhaps, so clearly understood, nor so generally recognized. Yet extinguish his corporeal capacities, and the influence of his unassisted intellect over the brute creation, will dwindle to a *name*. Scarcely, indeed, will the very terms that express it, be retained in our language.

I repeat, that the corporeal efficiencies of man, subservient to his power and authority as a ruler, consist in the boundless extent, variety, and complexity, and the almost inconceivable velocity of

the movements he is qualified to perform. These movements are the result chiefly of the peculiarity of his osseous and muscular structure. And, in proportion as any of the inferior animals resemble him in this, do they resemble him also in their capacity for motion, and efficient action.

The chief corporeal instruments of man, in the performance of the movements to which I allude, are his hand and arm. These are the executive officers of his intellect, excited to action in obedience to his will. By these does he construct the bow, the net, the hook, the line, the trap, the knife, the ship, the boat, the harpoon, the gun, the chain, the hatchet and the sword, and all the other varied machinery he employs in his functions of rule, and which render his power irresistable and absolute.

By these also does he cultivate his field, erect his dwelling, pursue his arts and manufactures in all their variety, and procure for himself whatever he enjoys, of necessity or comfort, luxury or elegance. By them also does he first prepare the pen, the paper, and the press, by whose instrumentality he communicates to distant countries, and transmits to future ages, his feelings and his thoughts. In a word, to their executive efficiency are to be attributed all the architectural magnificency, the monumental splendour, and the whole pride of art, and permanency of record, that unfold to us the glory of other times, that constitute our own glory, and can alone transmit it to future ages.

Were I interrogated, then, as to the organs or parts of the body, which contribute most essentially and immediately to qualify man for the elevated station of *terrestrial lord*, I would reply decidedly, the *cerebral apparatus*, the *arm*, and the *hand*. Without the union and co-operation of these, he would be impotent; with them, he is all but omnipotent on earth. As a being destined for terrestrial sovereignty, they are alike essential to him; to be deprived of either of them, would equally disqualify him for his high destination; and when harmoniously united, and aided by the co-operation of his other organs, they constitute an adaptation to his standing and functions, which, in exquisiteness and perfection, nothing can surpass.

Another fertile source of man's aptitude to rule, is his knowledge of fire, and his power of employing it in manufactures and arts.

To this he is indebted exclusively for the uses of iron, gunpowder and steam, three agents, whose joint and irresistable influence is alone sufficient, to confer on him dominion over all things terrestrial.

Take from him, in particular, the command of iron, on which he is dependent for the other two, and you render him, at once, comparatively feeble. To be thoroughly convinced of the truth of this, only cast your eyes around you, wherever you may be situated, and see how few there are of those immediate means, which give to man the necessities and comforts, the elegances and efficiencies of life, that are not, directly or indirectly, derived from that metal.

Were there time to dwell on the subject, it would be easy to prove, that to the knowledge and command of iron is to be attributed chiefly the superiority not only of man over the animal kingdom, but of one nation over another, and even of the modern over the ancient world. Take from any nation, even now the most powerful, the advantages of the employment of that metal, and you annihilate its standing.

This source of knowledge and efficiency, then, constitutes, in human nature, one of its paramount qualifications for control.

The last aptitude of man, in his capacity of ruler, which I shall here specify, is his *courage and firmness*. Without these, he could never employ, with the requisite effect, against inferior, but formidable animals, his other faculties. Without them, far from subduing and controling those animals, he would fly from them, or tremble in their presence, and become their prey.

As regards their influence in giving a fitness to rule, whether it be over men or inferior animals, I do apprehend, that, in the analysis of the subject, the faculties of *courage* and *firmness* rarely receive the consideration they deserve. They are no less essential than *invention* itself. They are necessary to the efficient application of the fruits of invention. In various degrees, corresponding to their grades of discernment, all animals, possessed of intellect, recognise their influence, and submit to their sway.

Approach, with intrepidity and firmness, even man who is your enemy, and you *may* subdue and govern him. Meet him under the withering spell of timidity, and you will fall under his assault, or become his prisoner.

The horse is conscious of the boldness of the rider, and submits to the rein; while the timid horseman rarely escapes mortification or disaster.

The enraged or insolent dog shrinks and retreats from those who defy him, and convince him, by their manner, that they are not afraid; and even the lion, powerful as he *is*, and courageous as he is *esteemed*, is cautious of attack, when the individual threatened boldly confronts him. Animals of the cat kind generally make their attack by stealth; and most of them may be more or less overawed by the fearless approach and unwavering countenance of man. Under such circumstances, even the tiger has declined to make his fatal spring.

Hence, to fit him the more perfectly for the high prerogative of dominion, man is unquestionably the *boldest of all the inhabitants of earth*. He alone, perhaps, when not impelled by anger or necessity, but actuated solely by the love of battle and the glory of conquest, engages in a doubtful and perilous combat, with a perfect knowledge of the danger incurred.

Other animals do not, deliberately and cheerfully, meet in conflict with their equals or superiors; but man engages, of choice, in the strife of death, when the odds against him are as a hundred to one.

Other animals fight to give vent to their rage, to master and destroy a victim for the gratification of their hunger, in self-defence, in defence of their young, or from some other interested and powerful propensity. But man fights for pastime, from a love of conquest, to gratify his love of battle, or merely to show that he is not afraid. He is the only hero on earth. Even the boasted courage of the lion, as instances innumerable might be adduced to testify, is greatly inferior to human courage.

As well, therefore, from his pre-eminence in courage, as from all his other exalted prerogatives and efficiences, man is specifically adapted to the station he holds, in the government and control of terrestrial beings. And when engaged in the exercise of this control, his enjoyment is *pleasurable*, because it is *natural*. He feels that he is moving in the sphere which was assigned to him, in that arrangement of divine wisdom, which located every thing according to its endowments, and thus established the harmony of creation. Degrade him from it, placing him in subordination to the inferior animals, his aptitudes will be subverted, his situation unnatural, his feelings painful, and his condition miserable.

But man possesses other feelings, passions, and faculties, besides a love of dominion and rule. The gratification of these contributes to his happiness, while an entire frustration of them would render him wretched. Nor is this all. The temperate indulgence of them not only confers on him legitimate pleasure, but preserves his health, extends his usefulness, and strengthens his virtue.

In relation to him, therefore, a system of perfect optimism requires, that he should possess opportunities for the exercise and due gratification of all the faculties appertaining to his nature. A state of things prohibitory of this, would be inconsistent alike with *wisdom* and *benevolence;* not to say with *justice* itself.

Let us briefly, then, analyse the intellect of man, take a view of the faculties of which it is composed, and, examining their relation to nature around him, ascertain the opportunities of enjoyment he possesses. If optimism prevail, the reciprocal adaptations between him and all the objects on which he necessarily acts, or which necessarily act on him, will be found to be perfect. But if it be wanting, a want of fitness in the relations specified, and a prevalence of discord, will testify to the fact.

At the *basis* of the intellectual being of man, because they are most essential to his individual existence, lie the *love of existence in the abstract*, without any reference to the means of maintaining it, the instinct or desire to breathe, and the appetites of *hunger* and *thirst*. These propensities are wisely implanted in him, to remind him of his exigencies and constitutional wants, and urge him to minister to his personal subsistence. Did he eat and drink and respire only in obedience to reason, the pressure of business and of other engrossing engagements and occupations, would often create in him forgetfulness and neglect, to the injury of his health,

and the diminution of his usefulness, if not to the actual destruction of his life

To place this indispensable duty, therefore, under the watchful monitory of acute sensations and powerful propensities, was, as already suggested, an act at once of wisdom and goodness essential to existence. It was the best ordination that could be made on the subject. And the gratification of the propensities is amply secured, by the inexhaustible treasures of the atmosphere, and the abundance of suitable food and drink, which the earth, the air, and the waters afford to industry and enterprise. In reference to *them*, therefore, the aptitude is complete.

Next to hunger, thirst, and the respiratory instinct, whose object is the preservation of individual existence, would seem to lie the propensity of *physical love*, the function of which secures the preservation of the race. For the gratification of this, which constitutes no inconsiderable amount of the pleasures of existence, suitable and abundant provisions are made.

The *love of offspring*, which differs materially from every other description of love, constitutes another propensity, of equal interest and moment with the last. It co-operates with that in effecting the preservation and permanency of the human race; because without it, as a delightful and irresistable incentive to the arduous and incessant toils and duties of the parental relation, man would necessarily perish in his infancy. It finds its gratification in the possession and the care of offspring; and it not only augments the happiness, but contributes, in a high degree, to the activity, the energies, and the usefulness of man.

Another intellectual faculty of great importance, in the affairs of the human family, is the propensity of *adhesiveness*, or *general attachment*.

This constitutes the *social principle*, the great bond of union, which binds man to man, and holds the mass of society together. It is the centripetal force, which, in *morals*, serves the same purpose with the power of gravitation in the *physical world*. Modifications of it we find in sentiments of general sympathy, in particular friendship, and in attachments to domestic animals and inanimate objects. Without it, human society could not exist, but the family of man would be a disjointed chaos, that could never act in concert, and could never, therefore, achieve a national object. It is this propensity which renders gregarious certain descriptions of inferior animals. The means of its gratification, as must be obvious to every one, are suitable and abundant.

Two other faculties, which, although radically different, may be treated of together, are the two active propensities, to *combat* and to *destroy*. These are, and, in a world like this, *ought to be*, elementary parts of the human intellect. Properly trained and directed, they are essential to strength and efficiency of character. It is their excess and abuse only that lead to mischief.

When kept under due subordination and rule, the *spirit of combat* is only the spirit of self defence, and of resistance of aggression and wrong. Deprived of this, in the midst of a state of things, where aggression and wrong are perpetrated, the human character would be impotent and ineffective. Endowed with it, it possesses the requisite energy to encounter and subdue the multiplied evils and obstacles of life. Wherever such adverse and actively hostile occurrences exist, adaptation requires, that a propensity to combat them should also exist.

To attain and secure the end held in view, the combat must often be pushed to a *destructive issue*. Hence the necessity of the propensity to destroy

Nor is this all. Besides many *nuisances* which must be *destroyed*, on account of their evil tendencies, man must, with a view to his subsistence, take away the lives of inferior animals, before he feeds on them. He must also destroy whole families of noxious vegetables, to promote the growth, and improve the qualities of such as are useful. Deprived entirely of the destructive faculty, he would not only be a feeble member of society, but must, in a short time, be himself destroyed. If for no other reason, it is essential he should possess it, to make the requisite opposition to the same faculty in the inferior animals.

To *combat* or be *wronged*, perhaps *enslaved;* and to *destroy* or *be destroyed*, are alternatives of terrestrial existence, to which all men must submit.

Even those humane and conscientious votaries of religion, who, on account of the prohibition enjoined by their peculiar doctrines, abstain from the use of animal food, are compelled, notwithstanding, in self-defence, to destroy many noxious animals, and subsist almost entirely by the destruction of vegetable life.

Hence the aptitude between man's condition on earth, and his possession of the propensities to combat and destroy, is palpable and perfect.

Another component part of the human intellect, both important and striking, is the propensity *to construct*. This is the characteristic faculty of the mechanician. All men possess it, in a certain degree, and some pre-eminently.

It is manifested in the erection of houses, bridges, and architecture generally: in the productions of sculpture, engraving, and modeling, and in the construction of common mechanical instruments, and all the higher descriptions of machinery.

The invaluable adaptation constituted by man's possession of this propensity, is attested by the destitution and misery that would mark his condition, were he deprived of it. In that case, he would be unprovided alike with all the necessaries, comforts, and elegances of life.

He would want the monuments of the fine arts to gratify his taste, clothes to cover and to ornament him, houses to protect him, and all the implements and engines, that now minister to his wishes,

augment his powers, and render him, at once, formidable and happy. Admitting that, under such circumstances, he could subsist at all, his entire being would present the most deplorable example of imbecility and wretchedness.

While this faculty bestows on man inexpressible blessings, the means for its exercise and gratification are inexhaustible. In all respects, therefore, the adaptation is complete.

A further characteristic of the human intellect, of great moment, is the propensity *to acquire*. This is the source of *individual property*—the chief reason why every man feels inclined to assert his exclusive title to the product of his industry, and the issue of his good fortune, and to appropriate them to his own use.

Those who contend that a sense of property is the result of a compact or conventional arrangement, are mistaken. As well may it be contended, that the desire to eat, or drink, or resist aggression, and the feelings of friendship and enmity, are thus artificially produced.

The desire to accumulate property is an original, instinctive, and specific propensity, as every one must be convinced, who observes correctly, or faithfully consults his own feelings. If it were not so, it could never be implanted by conventional rules. Such rules or rather the practice of conforming to them, may strengthen existing propensities, but can never *create new ones*.

If the propensity *to acquire* were not specifically different from all others, it would not be productive of results specifically different.

That it is not the growth of any of the artificial arrangements of social life, appears from innumerable considerations that might be adduced.

Long before he feels the influence of such arrangements, the child contends for his right to his top, his marbles, and all his other instruments of amusement and play.

The dog fights for his bone, the house-martin for his box, the king-bird for his tree, and the stork, the hawk, and the eagle for their nests, not merely when they contain their eggs, or their young, but as their property in perpetuity.

In fact, the rule is a general one, that the inferior animals, especially those of the higher orders, manifest very decidedly, *a sense of property*.

The propensity *to acquire and accumulate*, then, is not only natural, but highly important to the welfare of man. Without it, his incentive to industry would be feeble, and his subsistence precarious, as he would be destitute of provisions for times of sickness, periods of scarcity, and other contingencies that he might have to encounter. But urged to exertion by the desire of possessions, his industry and perseverance enable him to attain them.

Hence, again, a twofold adaptation. One arising from man's endowment with the propensity we are considering; and the other, from the facility and certainty with which it can be gratified. By

the same individual arrangement of wisdom and benevolence, the possessor is, at once, delighted and benefitted—delighted with his success, and benefitted by the issue of it.

Another component part of our intellectual nature, is a propensity to *keep secret*—to conceal from others certain things which we know, or mean to perform.

Of the existence of this disposition, every one must be sensible, who faithfully examines his own feelings, or observes with accuracy the conduct of those, with whom he habitually and familiarly associates.

Nor is it more certain that we do possess this propensity, than that we ought to possess it. It not only contributes to our success and comfort in life, but is, on many occasions, essential to our safety and existence. Without it, in the hunting and fishing states of society, the life of man would be in perpetual jeopardy; and he would be unable to procure, by his labours, the means of subsistence.

Without it, in a pastoral state, he would not be a match for the subtleties of the fox, the wolf, the panther, and other animals that prey on his flocks.

When engaged in war, it is often, at once, his buckler, shield, and sword Without it there, he would be impotent. He could neither secure himself, nor advantageously attack his foe. It is the real spirit of stratagem. Hence the chieftain who possesses it, in the highest degree, is usually the most dangerous and successful warrior.

Nor, in civil and cultivated life, is this propensity less essential to the influence and efficiency of public characters.

Without a certain amount of concealment in those who administer them, the affairs of a state could never prosper. Were rulers and Statesmen always to publish to the world their projected measures, they would certainly be impeded, if not defeated, in the arrangement and execution of them But a spirit of secrecy, suitably regulated renders them secure.

The propensity to conceal, then, constitutes essentially a component part of that scheme of adaptations, with which man is connected. Remove this propensity, and the scheme will be defective.

I am aware that there are many prejudiced and mistaken, if not superficial thinkers, who pronounce several of the propensities here enumerated, to be *absolute blots* in the human character, whose natural tendency is to the inevitable perpetration of crime. They even refer to them as evidence, not to be refuted, of the moral corruption of man, and of his constitutional proneness to vice, rather than to virtue.

To an enlightened and liberal audience, particularly to such of them, as may have made the subject a matter of attentive consideration, I need scarcely observe, that these sentiments have not in truth a shadow of foundation. There is not belonging essentially

to man a single propensity, whose *natural* and *necessary* tendency is to crime

The *natural tendency* of the whole of them is *praiseworthy;* and their *natural effect, salutary.* It is the *unnatural* and *excessive* indulgence of them that runs into crime. Man, as will presently appear, possesses, constitutionally, the power and the means to avoid such indulgence. He is not, therefore, as a necessary result of the mere possession of the propensities, constitutionally prone to the perpetration of vice. In themselves, the propensities are *physical excellencies.* By *abuse alone* do they become criminal in their character, and blameworthy in their effects.

The same is true of every faculty of man whether moral, or more strictly intellectual. In itself it is an excellency. In its regulated exercise, it is useful and laudable. In its excess and abuse, it degenerates into crime; or, at least, becomes faulty. Even of the sentiments of *veneration* and *benevolence*, of which I shall have occasion to speak hereafter, *the excess ceases to be a virtue.* So true is the maxim, and so extensively applicable to every thing connected with human nature, "*Ibis tutissimus in medio*" Whether your voyage be moral or physical, on earth or through the heavens, *a middle course will prove the safest.*

From the physical propensities of man, all of which he possesses in common with the inferior animals, we shall proceed to an analytical view of his *moral sentiments*, which constitute a higher order of faculties, and several of which belong exclusively to himself.

The first of these I shall mention is *self-esteem*, which degenerates, when in excess, into *pride* and *haughtiness.*

This, which is necessarily a component part of the human intellect, when correctly regulated, is both honourable and useful The want of it would constitute a serious defect. It begets dignity of character and deportment, and maintains habitually a uniform sentiment of self-respect. By cherishing in man a practical feeling of his own rank and value, it elevates his views to the region they should occupy, aids him in the government of his animal propensities, and serves as a barrier against degradation and vice. While under the influence of *cultivated self esteem*, man cannot descend to grovelling practises or gross criminality. In the composition of the human intellect, therefore, the sentiment is not only valuable but necessary.

A second sentiment belonging to man, is *the love of approbation.*

This constitutes a lively and powerful incentive to honourable and praiseworthy actions. It calls into exercise all the other faculties of the intellect, with a view to the attainment, by meritorious performances, of the approbation so earnestly desired. The individual who possesses this sentiment in a high degree, is usually marked by industry, at least, if not by activity, energy, and perseverance. Provided, therefore, he makes a judicious selection of

the attainments or achievements, by means of which he would elicit admiration, he seldom fails to become respectable and useful.

As relates to lofty pursuits and great exploits, *love of approbation is love of fame*. While an excess of it is *vanity*, and exposes the possessor to ridicule, if not to something worse, an entire want of it would be a deep defect in the human character.

Another component part of the intellect, is the sentiment of *cautiousness*, or the impulse *to take care*.

This serves as an instinctive counterpoise to *imprudence* and *rashness*, even anteriorly to the warning of experience, and the admonition of judgment. .

To the youthful, it is an invaluable substitute for experience, and always coincides with the experience of age. Its excess is *timidity*, the effects of which are *doubt* and *vacillation*, *feebleness* and *inefficiency*. An entire want of it would entail on man an unbroken series of difficulties, dangers and sufferings.

When counterbalanced and directed by a suitable combination of the other faculties, it constitutes a chief ingredient in the virtue of prudence

A sentiment of *benevolence*, the necessity and importance of which no one will question; constitutes another component part of the human intellect. By this is to be understood, not only an instinctive kindness of feeling, but a native disposition to do kind actions, from the pleasure accompanying the performance of them—in one sense of the phrase, "to follow virtue, even for virtue's sake "

This sentiment constitutes a *moral want*, which nothing but acts of beneficence can satisfy. It is the living fountain of pity, charity, philanthropy, and general humanity. When strong, it seeks for objects on which to act, as hunger seeks for grateful food.

The indulgence of this sentiment in practical kindness is fraught with a twofold delight—to the *performer*, and the *recipient* of the beneficent act Without it the wealthy and the capable would be deprived of an abundant source of virtuous gratification, in conferring their favours, and the needy and feeble, of the support and protection their condition requires. It constitutes one of the most delightful bonds that connect together the *human family*. It renders that *great association*, in the most delightful sense of the expression, *a band of brothers* Eradicate it, and an entire class of the most amiable and estimable affections will disappear, and a very large amount of the pleasures of existence be irrevocably extinguished. An age of iron, more inexorable, fierce, and frightful, than any that poets have painted or imagined, will then, as a dismal reality, prevail.

Of a still higher order is the sentiment of *veneration*, which enters also, as a component part, into the human intellect. The direction of this most excellent of virtues, is *upward*. It points from the individual who entertains it, to some higher order of existence, from which benefit has been, or may be, received. The emotion of gratitude, therefore, constitutes a part of it.

In its most exalted modification, this sentiment points from *man* to the *Deity*, forming the natural and more immediate bond, that binds the *latter in feeling*, to the *former*. It is in this form that it receives more especially the denomination of piety in the abstract. Under another modification, its object is some human benefactor, of elevated standing Is it a parent? The sentiment is *filial* piety Is it a patriot and statesman, who has been the saviour of his country? It is public esteem, in the highest degree, and of the most sacred character—that esteem which springs at once from the judgment and the affections

That this sentiment constitutes a part of the human intellect, no one will deny, who has carefully examined his own feelings, or faithfully directed his attention to the manifestations of the feelings of others. Nor will its importance, as an ingredient in the character of man, be called into question.

It is the natural and genuine source of practical religion. Religious exercises spring from it, as beneficence does from the sentiment of *benevolence*, or an effort to please, from the *love of approbation*.

Here, as in every other case, practical effort is the necessary effect of desire But a feeling or sentiment ungratified, becomes a want; want is the immediate source of desire; and desire searches anxiously for the means of gratification.

In the present instance, the feeling we are considering, *is a sentiment of veneration*. That sentiment becomes a want of an object to venerate. That want awakens a desire, which goes immediately in search of the object to be venerated, with a solicitude as real, although not, perhaps, as painfully keen, as that which actuates the hungry in search of food, or the thirsty, of water.

Man, then, as at present composed, is *constitutionally religious*. He is as really inclined to a worship, of some kind, as he is to the gratification of any other instinctive desire. Entirely to prohibit him from worship, both *public* and *private*, *in sentiment* and *in act*, would render him miserable.

Nor, consistently with the aptitudes and harmonies of the universe, can the case be otherwise. As a Deity exists who *ought to be worshiped*, those aptitudes and harmonies positively require, that man should possess a *disposition* to worship. Extinguish that disposition, the harmony is destroyed, and no force of education will ever make him a *worshiping being*. Education can *improve*, but it cannot *create*. It can *cultivate*, but not *implant*.

Remove entirely from the human race, the appetites of hunger and thirst, and, notwithanding all that education can do, man will, in time, forget and cease to eat and drink. To render them efficient and useful, nature must be, in every instance, the foundation of *education* and *art*, in all their schemes and modifications. Remove this foundation, they pass into an empty name, and are useful no longer.

Nor to this does religion constitute an exception. Unless it be rooted in the *nature* of man, it can never flourish. As well may you attempt, by art, to make the blood circulate, or the nerves feel. As well attempt to implant religion in inanimate matter, as in an intellect that *has no appetency for it.* The one is as suitable a recipient for it, as the other.

In a word, to prove successful, every effort made to ameliorate the condition of man, must be made in conformity to the principles of his nature. All efforts, in opposition to these, or apart from them, must inevitably fail. Hence the fatal mistake of those, who represent every human propensity as essentially and radically at war with religion. The sentiment is injurious to the cause and the character of religion, and is a calumny on human nature. It pronounces religion to be an institution *perfectly factitious*—a mere *creation of art*, and, therefore, a *cheat.* For every thing unnatural *is false*; and, as far as it exercises an influence on man, *a cheat.*

The well known fact, that every nation, however ignorant, rude, and barbarious, believes in the existence of a *Great First Cause*, cherishes towards it a sentiment of veneration, and practises, publicly or privately, some form of adoration or worship, amounts to proof, that man is, *constitutionally* and *naturally*, a *religious being.* Of all the aptitudes, then, connected with human nature, the sentiment we are considering constitutes one of the most beautiful and important. Without it, a wide and deplorable chasm would prevail in creation—such a chasm, as the labours of education and art would be unable to close.

The character of the God that is worshiped, is derived from written Revelation, and the contemplation of the systematized universe.

The form of worship is altogether conventional. But *the abstract sentiment, to venerate* and *worship*, makes a part in the composition of the human intellect.

Another component part of the intellect is the sentiment of *hope.* This, like the sentiment of veneration, looks *forward* and *upward.* It contemplates, with a buoyancy bordering on confidence, the attainment, at a future period, of some good not now possessed, or the effecting of some amelioration of the present condition of being.

In the administration of human affairs, this sentiment is always important; and, on many occasions, *indispensable.* Without it, the spring of action would lose its elasticity, and cease to be efficient; and man would sink into *inaction* and *despair.*

In conjunctures of difficulty, darkness, and danger, the sentiment of hope, like the vestal fire, which was never extinguished, is the living spirit which sustains the soul, and the cheering radiance on the light-house ahead, that encourages to exertion, and indicates the way to safety and repose.

To its supporting and animating influence, all men owe much of their comfort and success. For while, by unfolding the gilded

prospect of future good, it confirms in the soul the resolution to attain it, it dispenses the boon of present enjoyment.

By its etherial influence, the discomfited chieftain, throwing off the incubus of mortification and misfortune, looks, with the eagerness and joy of expectancy, through the night of defeat, to a morning of victory, and braces his soul and prepares his means for the approaching conflict. Annihilate its agency, his expectancy and exertions are paralyzed together, and his ruin consummated.

Obedient to the same influence, the hero and the patriot perseveres in his toils, while the storms of adversity are thickening around him, and the hand of fate seems ready to arrest him, until he triumphs in the freedom and independence of his country. In confirmation of this, we may point to the conduct and glorious examples of an Alfred and a Bruce, a Bolivar and a Washington; names that will be themselves, hereafter, the bright stars of *hope* to those patriots and chieftains, who, in after times, shall embark in the godlike enterprise, of erecting the temples of freedom and justice on the ruins of tyranny and lawless oppression.

Nor must we forget the influence of this witching sentiment on the humbler but not less useful labours of the philosopher, the poet, and the votary of letters. In the retirement of their closets, hung around, perhaps, with cobwebs, chilled by penury, lighted only by a single and sickly taper, and rendered still more cheerless by the want of patrons, and the neglect of the world—even into these uncomfortable abodes, does hope find her way, and, with the benignity and solace of a ministering angel, encourages the occupants to perseverance in their toils, by pointing to independence and deathless reputation, as their glorious reward.

When we mean to represent the condition of human nature, or human affairs, as the worst that can be imagined—as ruined beyond the possibility of amendment, we call it *hopeless*—a sound at which the blood curdles, the heart sickens, and soul stands appalled.

At all times, and in all countries, this cheering and delightful sentiment has been held in the same exalted estimation, and considered the most unvarying attendant of human nature. Hence the beautiful Grecian allegory, in which *hope* alone is represented as retained in the fatal box, as a counterpoise to all the evils, physical and moral, that had been suffered to escape from it.

That the endowment of man with it, then, not only *comports* very perfectly with the general adaptations of nature in relation to him, but is *essential* to them, will not be doubted by any one who may faithfully examine the subject.

Another component part of the human intellect, of great excellency and an elevated order, is a *sentiment of conscientiousness*, or *abstract justice and right.*

As relates to the nature and extent of its functions, this sentiment *might* be denominated, the *Moral sense.* Although its more immediate object would seem to be the *merit* or *demerit* of the actions of

the possessor of it, it, notwithstanding, takes cognizance of the same qualities in the actions of others. It is a quick and instinctive perception, accompanied with an *approval* or *disapproval*, of justice or injustice, good or evil, virtue or vice, in the conduct of man. Although it acts often anteriorly to the decision of judgment and reason, it is always in accord with it, whether, in the abstract, it be right or wrong. It is greatly under the control of education and discipline.

The moral sense of the savage will approve, where that of the civilized man will disapprove. A similar difference, in the exercise of it, will occur, in the christian, the Hindoo, and the Mahometan.

But this argues no defect in the sentiment itself. Its function is, not to *acquire a knowledge* of what is either right or wrong; but to *approve* or *disapprove*, according to the knowledge already possessed. Knowledge is *received* through other channels which will be hereafter considered.

Like other instinctive faculties, then, the sentiment of conscientiousness is, in itself, perfect. In all its decisions, it is as true to its purposes, as gravitation to the center, or the needle to the pole. Reason and judgment often *err;* but it is never *corrupted* It never turns traitor to what the knowing and reflecting faculties present as *moral*

It may be put to silence, or its voice stifled, for a time, amidst the tumult of the propensities; but it can never be driven to a violation of its purity, by approving or disapproving, in opposition to its nature. Whatever may be the practice or vocation of the individual, robbery, murder, debauchery, or theft, *its* decision, when fairly given, will be in favour of virtue. The highwayman and the assassin may accomplish their purposes of cupidity and blood; but they can never accomplish the more arduous purpose, of securing the approbation of an offended conscience.

Notwithstanding, then, the prevalent doctrine of man's *depravity*, his imperfection lies much more in his *knowing and reasoning*, than in his *feeling* faculties He is much more frequently *deluded*, at least for the moment, than *corrupt*. I mean in his *moral faculty*. No one has ever yet loved vice for its own sake; or given his approbation and sanction to a vicious action, *because it was vicious*. As well, physically speaking, may you talk of loving natural *deformity*, *filth*, and *putridity*, *on account of their nauseous and revolting qualities*. For *vice*, and *moral corruption and deformity*, are the same You love what strikes you as *amiable*; and you approve of what you *believe to be virtuous*. The reverse of this never can occur.

If this view of the subject be correct, the question, so often agitated, of disinterested virtue, is easily solved.

It is often contended, that conscience is liable to be greatly modified by the influence of education.

This sentiment is correct. Education has no *direct* influence over conscience. It reaches it only through the medium of the

judgment. According to the character of our education, we judge differently of human actions But conscience never approbates what judgment represents as wrong, and never fails to approbate what it represents as right. It is strictly, therefore, a sense or sentiment delighted with morality and virtue, real or imagined, precisely as the sense of vision is delighted with harmonious colours, or that of hearing with agreeable sounds.

An individual who performs a beneficent, a just, a magnanimous, or any other kind of virtuous action, is so far interested in it, as to be gratified first, *in acting in conformity to a principle of his nature, and in afterwards receiving for the deed, when performed, the approbation of his sentiment of conscientiousness.* As respects the first of these sources of pleasure, he is interested in the same manner, as he is in the enjoyment of a *sweet* rather than of a *bitter* taste, of an *agreeable* rather than a *disagreeable* sound, and of a *fragrant* rather than an *offensive* odour. But in neither case is there a calculation of consequences, before the gratification is experienced; nor does the enjoyment arise, in any measure, from such calculation.

Nor does the individual act from any recollection or consciousness, at the moment, that the deed is to be grateful to him. He enjoys his reward of pleasure, *in the performance*, because he obeys an impulse of his nature Were he, under similar circumstances, to repeat the act a *hundred times*, he would never do it *once* from a remembrance of the gratification it had previously afforded him.

We are delighted with that which is sweet, or fragrant, or pleasant to the eye, because it is in harmony with an *external sense.* And we are delighted with virtuous actions, because they harmonize with an *internal sentiment.* As the sense, in one case, so does the sentiment, in the other, act independently of reason and judgment. Or, it ought rather to be said, that both the sense and the sentiment *are capable of judging, each for itself,* somewhat according to anterior education and discipline. For, in different states of society, among different races of men, and in different countries, we find prevailing as striking discrepancies, in relation to sources of physical beauty and delight, as in regard to objects of moral approbation.

The sentiment of conscientiousness, then, being pleasurable, in its exercise, and important in its result, and acting, in many cases, with a promptitude and celerity essential to the safety and benefit to be derived from it, where the tardy movements of reason and judgment would be inadequate to the attainment of the object contemplated—for these reasons, the sentiment is in perfect harmony with the condition of man. Extinguish it, and that harmony will be so far subverted.

We find, on examination, as another component part of the human intellect, *the sentiment of firmness.*

In modifying the conduct and character of man, the influence of this is eminently powerful. It gives to him that steadiness, perseverance, and inflexibility of purpose, without which no great object can ever be achieved. It is but another name for *moral courage*, which is as essential to the successful transaction of civil affairs, as physical courage is in conducting the affairs of war.

The sentiment of firmness is the foundation of the cardinal virtue of *fortitude*. Deprived of it, man would be, in adversity, indignified and pusillanimous; and, in every situation, mutable, vacillating, inefficient, and unsuccessful. Without it, no one has ever been illustrious; nor, in great affairs, and in pressing and perilous times, can reliance be placed on him who wants it. To the human intellect it is, in some measure, what the bones are to the human body. It gives it strength to stand erect, under the pressure of adversity, and to breast the current of trying events, and portentous and threatening affairs.

It is only of the individual, who participates largely of this sentiment, united with that of conscientiousness,, the "*Justum et tenacem propositi virum*," that it may be truly said, in the words of the favourite poet of Augustus;

" Si fractus illabitur orbis,
" Impavidum ferient ruinæ."

" Should the whole frame of nature round him break,
" In ruin and confusion hurled,
" He unconcerned would hear the mighty crack,
" And stand secure amidst a falling world."

To that system of aptitudes, then, intended and calculated to render man efficient and great, the sentiment of firmness essentially belongs.

But we have not yet completed our representation of the intellectual aptitudes of man Nor shall we, within the limits of the present address, be able to complete it, in that detail, and with those illustrations, which the subject requires.

We have hitherto spoken only of those faculties that belong to the class of *feelings*, whose functions are, to lead to action, and to suggest and recommend certain principles and modifications of action, but not to discover and unfold the various objects to which it ought to be directed, and the particular ends it should be calculated to attain.

The faculties we have enumerated are not the avenues through which is received a knowledge of the *external world;* I mean a knowledge of matter, its properties, relations, affections, and powers.

But that man, as lord of terrestrial creation, may be competent the performance of the duties of his station, such knowledge it essential he should possess. Nor is he unprovided with the means to acquire it.

It is to be distinctly understood, that in cultivating a knowledge the external world, the external senses are employed by the m

tellect as immediate and indispensable instruments. Without them, the intellect would be not only impotent, but an absolute blank.

But there are powers and affections of matter, which the external senses alone cannot compass. My reason for this assertion is, that the inferior animals possessing *all* those senses in nearly as high perfection as man, and *some* of them in much higher perfection, have no knowledge of them But this would not be the case, were the organs of external sense alone, competent to the attainment of this description of knowledge. Besides, all the attributes of matter are not objects of sense. Nor, as a general rule, are idiots at all defective in the external senses, although entirely destitute of intellectual powers.

The faculties of the intellect, whose end is *real knowledge*, are, like those of *feeling*, of which we have already spoken, divided into two families, the *knowing* and *reflecting*. And these, had we leisure to treat of them in detail, could be easily shown to constitute a part, essential and beautiful, of that great system of adaptation and harmony, that subsists between man, and creation around him.

The *knowing* faculties take cognizance of things, and pursue branches of knowledge, *as they are in themselves*, apart from each other; the *reflecting*, in their *relations*, *powers*, and *consequences*. To confer on man his present efficiency, I need scarcely add, that knowledge on all these topics is indispensable.

For the attainment of every *distinct* kind or description of knowledge, it is obvious that there must be appropriated a distinct faculty of the intellect; for, that the same faculty should perform two functions *specifically different from each other*, being in opposition to all we know of the established order of things, may be pronounced *impossible*. It is certainly *unnatural*, a term which, correctly interpreted, is tantamount to *impossible*. As well may the eye hear, taste, and smell, or the ear see, smell and taste. Each specific organ performs one specific function, and no more. Nor, without a radical change in the principles of nature, can it ever be otherwise.

Some of the affections or predicates of matter, and attributes of the external world, of which it is requisite that man should have a knowledge, are *form*, *space*, *resistance*, and *weight*, *colour*, *locality*, *order*, *duration*, *number*, *tune*, *individuality*, and *language*. Examine the subject deliberately and analyse it fairly, and you will satisfactorily perceive, that, without a knowledge of these things, he would not only be less powerful and efficient than he is, but that he would be utterly *impotent*.

Without a knowledge of *form*, where would be the sculptor, the architect, or the artist or mechanic of any description?—of space and colour, the landscape painter, or the painter of any kind?—of locality, the geographer, astronomer, or traveller?—of number, the accountant and the mathematician?—or of tune, the musician? Unless things were known in their individual character, they could never be compared or arranged; and without a knowledge of language, neither science, civil government, nor sound social order

could exist; but the world be a scene of intellectual barrenness, and lawless misrule.

For acquiring a knowledge of these several subjects, which are all specifically different from each other, we know that man is endowed with the requisite faculties; because, in reality he possesses the knowledge, which could not be the case, were the faculties wanting. Besides, for the Deity to have given existence to these *attributes of being*, and *buried them in darkness*, for want of corresponding faculties in some terrestrial inhabitant to take cognizance of them, would have been a work of supererogation, altogether inconsistent with his *wisdom* and *perfections*. But in those prerogatives of his nature, there is no defect. Hence, true to his scheme of aptitudes and optimism, as the attributes exist, there exist also, in man, intellectual faculties adapted to a knowledge of them.

To qualify him for an *acquaintance* with the relations and mutual influences of things, and, at the same time, for the proper application and use of it, he was endowed with the faculties of *comparison*, *causality*, *wit*, and *imitation*, and enabled to exercise his powers, in the process of reasoning. In this endowment, provision is made at once for his gratification and his interest Hence, in relation to him, the twofold adaptation of *present pleasure*, and *ultimate good*

But the lapse of time admonishes me to close this imperfect analysis. Permit me to hope, that, as far as I have pursued it, the system of adaptations which I intended to illustrate by it, has been fairly unfolded, and satisfactorily sustained. Had I leisure to pursue it through its ultimate details, and present to you a complete development of the entire human character, including person and intellect, in its constitution, powers, and relations, the issue would be an array of evidence, which nothing could resist, that, as relates to man, the scheme of optimism is, in all things, complete—that, as far as he is concerned, "all partial evil is universal good"—and that, with the poet, whose words have just been recited, we may legitimately ask, under a perfect confidence that to the question proposed no satisfactory answer can be rendered,

> "If storms and earthquakes break not Heaven's design,
> "Why, then, a Borgia or a Cataline?"

Is any one inclined to inquire into the *uses* of the study and contemplation of that magnificent scheme of aptitudes and optimism, which creation presents, and of which I have ventured very cursorily to speak?

I answer, they are in number almost infinite, and, in value, beyond price.

The entire science of *cause* and *effect*, whether *physical*, *moral*, or *intellectual*, consists exclusively in a *knowledge of aptitudes*. In every department of nature, the aptitude of things, in their relations to each other, is *their state and condition as they are*—the

fitness of the precedent to produce the consequent, and of all collateral or direct influences, to produce, each, its specific effect.

It is alone through the adaptations which every where prevail, that the resplendent orrery of creation revolves, and the magnificent scheme of the universe goes on. Chaos itself was nothing but matter *without its adaptations*. Nor was the calling of order out of chaos any thing but the establishment of universal aptitudes. Subvert those aptitudes, and chaos will return. Even the attributes of the MOST HIGH are but aptitudes in him for his post in the universe. Abrogate any one of them, and that post can be suitably filled by him no longer.

Is any one inclined to allege, that although the aptitudes here specified are objects of sublime and *delightful contemplation*, they are too abstract, elevated, and remote, to be practically useful?

I answer, that happiness, which is the legitimate end of our being, and the object of our daily exertions and toils, consists in nothing but sensations and emotions of *innocent and rational delight*. All, therefore, that contributes to these, is essentially useful; or happiness itself must cease to be prized.

But let us descend, for a moment, to the consideration of subjects, which, being much more familiar to us, their real utilities are more readily perceived, and more easily appreciated. We shall not, here, after the strictest search, be able to find, in a single instance, an existing utility of which we can avail ourselves, for which we are not indebted to a knowledge of aptitudes.

Examples and illustrations to this effect, may be derived, in abundance, from the mechanical arts. Let the process selected for our examination be the erection of a house, or the construction of a steam-boat, or a ship.

For the accomplishment, in either case, of the end in view, a regulated scheme of aptitudes is essential. And many of the adaptations, in relation to one of the structures, will be found to be the reverse, with regard to the others.

In point of position, the house must be adapted to stand on the ground, the ship and the boat, to float in the water. The two latter must be constituted of wood, while stone or brick is most suitable to the former. According to the different situations they are to occupy, and the different ends to which they are to be appropriated, their figure, structure, mode of connexion, and furniture must be different, each adapted to its character and uses. Of the instruments and engines employed in the construction of these fabricks, the figure, intention, and manner of operating of many are different, while the specific fitness of each to the purpose to be attained by it, is perfect.

In adaptation to these varieties in situation, material, structure, and instruments, there must be, in the mechanicians and workmen employed, corresponding differences in knowledge, training, and habits of action.

That practical chemistry may be successful and efficient, there must occur in it a like series of reciprocal aptitudes between the agents, the apparatus, the mode of using them, and the knowledge, dexterity, and skill of the experimenter.

The science and practice of theology, legislation, and law, consist entirely of so many intended schemes of moral and intellectual adaptations appropriate to each. And, as far as these adaptations are fallacious or violated, do error and injustice, with their abundant train of concomitant evils and incongruities prevail.

But if there be on earth a vocation, in which, more than in all others, a perfect knowledge of adaptation is indispensable, it is the profession of medicine. Without such knowledge here, all theory is error and all practice, mistake and mischief.

Health is the result of a state of perfect aptitude between the various agents that impress the living body, and the susceptibilities of the body to receive impression. Derange this aptitude, and disease must ensue.

And when the body is distempered, health can be restored only, by the influence of such remediate substances, as are in perfect harmony with the condition of the system. Administer articles which are not thus in harmony, and the complaint will be aggravated.

It is the indispensable duty, then, of every practitioner of the healing art, to study faithfully the multiplied harmonies that exist between man, both in health and disease, and creation around him. And it is the knowledge of nature thus acquired, that mainly distinguishes the educated, accomplished, and successful physician, from the technical formulist, and the empty pretender.

But the paramount advantage, to mankind at large, of habitually contemplating the harmonies of creation, consists, in a particular manner, in the moral effect it produces on the mind.

Human nature, being abundantly pliable, is susceptible of being modeled into a variety of shapes, according to the impressions to which it is subjected, and the training, which, from an early period, it receives. For evidence confirmatory of this, we need only look into the striking diversities presented by our race, in different ages, countries, states of society, and occupations in life.

By virtue of that invaluable principle, which confers on education its plastic influence, the intellect and character of man become assimilated to the theatre on which he acts, and the scenes that constitute the subject of his contemplation.

Is the scene irregular and rough, tempestuous and full of peril? Man, in adaptation to it, is bold, hardy, adventurous, and rugged. For facts conclusively in evidence of this, we have only to look into the sturdy characters of the hunter, the mariner, the bandit, and the soldier.

Is the scene placid and peaceful, harmonious and full of order? Analogous, in all respects, will be the characters of those, who are the perpetual actors in it. In confirmation of this, we might cite

the gentle habits of the shepherd, the husbandman, and all who live retired from the collisions of life. So powerful, moreover, is the influence of example, and the force of the imitative principle in man, that while vicious and profligate scenery demoralizes him, presentations of virtue and goodness improve him On this principle is founded the exhibition of painting and statuary in places of worship.

What, then, must be the effect, on his intellect and character, of contemplating creation, as a mighty mirror, in which he beholds, perpetually before him, the attributes of the CREATOR?—as an interminable scheme of optimism and perfection, in every portion of which are displayed as much of order and harmony, aptitude and co-operation of parts, as can prevail in the more immediate mansions of Heaven?—as a temple rich in every excellence and beauty, which the MOST HIGH himself erected and furnished, and in every compartment of which he makes his abode, thus proclaiming and rendering it worthy of his presence?—as an exhibition of all that is good and perfect, unalloyed by an example to the contrary?

What, I say, must be the effect of such a living and realized picture of nature as this (which is, in truth, the correct one) perpetually operating on the intellect of man? Must it not be to assimilate his intellect to itself?—to swell it to its own grandeur?—to infuse into it its own spirit of order and harmony?—and to impress on it generally its own excellencies? Must it not, on the well known principles of human nature, tend, in a very high degree, to affix on it the impress of its own qualities, and its own perfections?

If there be any force and efficacy in example, or influence in impressions to communicate to the thing impressed their own image—or if there exist between parent and offspring a hereditary resemblance, then must these questions be affirmatively answered. If, as we are given to believe, the spirits of the righteous improve in righteousness, by constantly dwelling on the perfections of the Deity, in his celestial abode, surely to contemplate the same perfections, in the scenery around us, which he condescends to make his earthly abode, cannot be otherwise than the richest source of earthly improvement.

Is it possible for an individual, who beholds in creation a scheme of optimism, to be so likely, by vicious conduct, to mar that scheme, or to render himself unworthy of it, as he would be, if his views, on the subject, were the reverse?—as if he beheld in it a scene of disorder and evil, both physical and moral? To this question both the feelings and the judgment of every one reply in the negative. What appears to us perfect and beautiful, we are reluctant to derange, or, in any way, deform. It is only where imperfections already prevail, that we feel at liberty and inclined to augment them.

Even in presence of the excellencies of our own race, the profligate are restrained, and the virtuous ameliorated. What, then, must be the necessary effect of the unceasing operation of the excellencies of Heaven! But, when contemplated in a becoming and liberalized spirit, it is from the mirror of nature that those excellencies are reflected.

Nor is this all. The belief that creation is a scheme of perfection, exalts, in a degree that is almost infinite, our estimation of its almighty author, augments our love and gratitude towards him, and adds not a little to our own happiness, by the joyous persuasion, that we live under the auspices of a paternal government, where every measure is benificent, and every arrangement perfect, and whose only end is the felicity of all. If the voice of nature and reason, which we are bound to reverence as the voice of God, openly proclaims to us, that the good of the governed is the only legitimate end of *human government*, surely the government of Heaven cannot be less just, less pure, or less benevolent.

To contend, as many do, that the Deity has framed and directs the scheme of the universe, with an exclusive view to his own glory and aggrandizement, regardless of the beings he has created, as a part of it, is virtual blasphemy. It is to rob him of every estimable attribute, and pronounce him the very essence of heartless selfishness

When, within the dominion of an earthly potentate, we find a defective and unwise system of laws, insufficient for the preservation of order, the suppression of crime, the encouragement of virtue, and the promotion and protection of the general welfare, we are compelled to believe that the supreme authority, by whatever title it may be known, is either ignorant, feeble, inattentive, or profligate But if, on the contrary, the laws are, in every instance, perfectly adapted to the wants of the subjects, and the exigency of occasions—if aptitude, order, and harmony every where prevail, we conceive of the lawgiver as equally perfect. And, in either case, the correctness of our decision is amply supported by reason and experience. Between the code of laws and the legislator, and the administration and the ruler, there must, in the nature of things, exist a resemblance.

Believing the Author and Ruler of the universe, then, to be, in all his attributes, without defect, whence are we so daring as to predicate *im*perfection of either the laws he has established, the administration he directs, or the subjects he has created to people his government? To say nothing of the fallacy, and, as relates to us, the gross irreverence and impiety of the imputations, which such sentiments attach to the Deity, they are self contradictory, and unworthy of the enlightened period and country, in which we reside.

As already intimated, every system of laws, government, and organization, whether divine or human, indicates, as certainly, the character of the lawgiver and governor, as the fruit does of the

tree that produces it, or the stream of the fountain from which it flows. If the source be pure and perfect, so must be the issue, or there is a dissolution of the established connexion between cause and effect, and chaos has returned. Unless he change his nature, it is not possible for the Deity to establish ought but a system of optimism. To deny this, is to slander Heaven. In human laws, imperfections prevail. But the ordinances of God are as perfect as himself. And those ordinances embrace the government no less of the *minutest earthly*, than of the grandest *heavenly things*.

It will be born in mind, that, in uttering these sentiments, I speak of things on a *general*, not a *partial* and *limited* scale. I allude to God's entire administration of the *universe*, embracing *all duration*, as well as all created being; not to *temporary appearances* in a mere *point* or *corner* of it.

To those who examine creation with microscopic eyes, I do not here address myself. My business is exclusively with liberal and wide-grasping theologians and real philosophers. And to such characters, of all times and all countries, I fearlessly appeal for opinions corroborative of those I have delivered.

A belief in optimism is enjoined alike by religion and philosophy, because it is a belief in the perfections of the Most High. And those perfections are equally proclaimed by the voice of written and of natural revelation.

As a body of youth, then, ambitious to become accomplished in the vocation you have selected, and to render yourselves worthy of the name of physician; and who are destined to be acting your parts (I trust distinguished ones) in the drama of life, when on the present corps of actors the curtain shall have fallen—as such a body, let me earnestly recommend to you the diligent study of those aptitudes and harmonies, which nature every where exhibits, in the correct knowledge and application of which consist the science and practice of the healing art, and without which you must submit to be regarded, by the truly enlightened, as sciolists in philosophy, and pretenders in medicine.

MEMOIR VI.

THOUGHTS ON THE TEACHING AND DIFFUSION OF THE

SCIENCE OF MEDICINE

IN WESTERN AMERICA,

BY CHARLES CALDWELL, M. D.

That remoteness of time and place magnifies greatly, in the estimation of the multitude, both men, institutions and events, is a truth which has long since passed into a proverb. Hence the unjustly elevated conceptions which the mass of the moderns forms of the ancients; and hence the extravagant and unfounded anticipations with which most of us deceive ourselves, in relation to distinguished men, establishments, and other objects, especially if they be in foreign countries, or in very distant parts of our own country, before we have approached them, and become familiar with them.

But no sooner have we thus approximated these objects of our veneration, and acquired of them a knowledge sufficiently intimate, than we find them on a level with, or perhaps inferior to, those in the midst of which we have ourselves been bred.

What youthful American has ever visited Europe, and been introduced to individuals whose fame had dazzled him in his native land, without experiencing a sentiment of disappointment?—without saying silently to himself, "Is this all!"—"has all the greatness of these far famed personages dwindled thus suddenly to so moderate a span!"

And could we be introduced into the society of the powerful and renowned of former days—the Philips, Alexanders, Aristotles, Epaminondases, Cæsars, Pompeys, and Ciceros, of the ancient world, our anticipations would be no less signally disappointed. We would find these idols of their own, and objects of the admiration of after-times, in no degree superior to numbers of our cotemporaries. On the contrary, we would not fail to discover them to be, in many respects, greatly inferior—inferior certainly in *acquired*, and not superior in *native* greatness.

This propensity to the admiration, and excessive estimation of remote things, growing perhaps out of the nature of man, is, as relates to certain topics, very strongly manifested by the people of these western states. Although it does not *peculiarly belong* to the inhabitants of a new country, there are reasons why it is *very powerfully*, not to say, *unusually operative* in them.

But, without too curiously analyzing this feature of the human intellect, it is my purpose, on the present occasion, cursorily to advert to some of its effects. And, to render this address the more suitable, these effects shall bear a relation to our own profession.

If not a general opinion, it is certainly one which is entertained by many, and often expressed, in the valley of the Mississippi, that, provided a medical education could be attained on as easy terms, in the Atlantic schools, or in those of Europe, it would be preferable to one received in a school of the west. And further, that our most valuable and important knowledge in medicine is to be derived from books written at a distance. To demonstrate the palpable fallacy, and the pernicious tendency of these opinions, constitutes one of the objects of the present discourse. Nor do I consider the task, although of no small importance, either intricate or weighty. On the contrary, it is so light and easy that a tyro might perform it. The youngest pupil within the reach of my voice, could scarcely fail in it were he to make the attempt. A very brief and simple exposition of the subject will prove the truth of this representation.

Considered on that ground, which, in most other instances, is regarded as constituting the relation of cause and effect, disease may be safely pronounced the production of the circumstances and agents in the midst of which it makes its appearance. If the circumstances be, in their nature, *common* and *general*, disease will be *common* and *general;* if they be peculiar, it will of necessity, correspond with them in its character. Resting on observation, and sanctioned by the recognized principles of etiology, this truth has grown into an axiom in medicine.

But so diversified is the condition of the globe we inhabit, that no two portions of it, especially if they be large and remote from each other, are precisely or even nearly alike. Peculiarities of situation, exposure, elevation, temperature, soil, vegetable and animal productions, prevailing winds, the nature and influence of adjacent tracts of country, the amount of rain that falls, or some other cause or combination of causes, confer on each portion a character of its own. Hence the multiplied varieties in the aspect of disease, which present themselves to the eye of the attentive observer, every section of country, of any extent, being marked with a modification peculiar to itself.

In different regions the diseases of autumn differ materially in their symptoms and character. So do those of the other seasons of the year.

The yellow fever of the United States and the pestilence of Asia are essentially the same disease. But local influences diversify, not a little, several phenomena which pertain to both, and add to each, symptoms that do not belong to the other. Hence many writers pronounce them to be different complaints.

The Mal d'Aleppo is so denominated, because it is peculiar to Aleppo, and a few districts of the surrounding country. In certain parts of Cochin China there prevails a disease of the *lower extremities*, not to be found in any other region. In the island of Barbadoes there also exists a very peculiar and obstinate affection of the same parts of the system, which some writers have denominated the *Barbadoes leg*.

But to dwell further on a detail of facts, to prove, that, like vegetables and animals, diseases are different in different places, would be a waste of time. The truth is already so conclusively attested, that it also must be received as a maxim.

Nor is it to be regarded as a truth that is merely *speculative;* if, indeed, any thing that is *true ought* to be so regarded. In *practical* no less than in *scientific* medicine, it is highly important, inasmuch as every peculiar modification of disease calls for a corresponding peculiarity of treatment.

Unless the treatment be thus skilfully varied, and accurately adapted to the character of the complaint, it is likely to prove injurious rather than salutary. For want of that aptitude which is, in all cases, essential to a successful result, it will certainly fail in the production of the contemplated effect. Hence physicians that have practised with distinguished and well deserved reputation, in one district of country, have been found, until taught by experience, not only much less successful, but even exceedingly unfortunate in their practice, when transferred to another, more especially to a distant and dissimilar one.

It is well known that the ablest physicians of Europe are ignorant of the treatment of the diseases of America. The most skilful of them, therefore, that have ever migrated to the United States, have proved, on their first arrival, very inefficient practitioners—novices comparatively in the management of our complaints. Native physicians greatly, perhaps, their inferiors in talent and attainment, have been not a little superior to them in successful practice. To render them competent to their duty, and equal to themselves, a further apprenticeship of some duration, to observation and experience, has been found essential.

Nor, as respects *country* practice, is this less palpably and proverbially true, with regard to members of the profession, who have been conversant only with the diseases of a large and populous city. However able, successful, and eminent they may be, within the sphere to which their practice has been confined, it is *there* alone that they are qualified to excel. Remove them to a distant tract of country, where they will have to encounter diseases of a different character, and, frustrated, or greatly embarrassed, in their

first efforts to restore health, they will soon discover, that to become again successful practitioners, and attain the rank they had antecedently held, they must, for the acquisition of the requisite knowledge, apply either to a new course of experience of their own, or to information communicated by the practitioners of the place, who have themselves derived their knowledge from experience. For matter abundantly confirmatory of these remarks, reference is confidently made to observation and reason, no less than to the records of the profession of medicine.

If, then, it is true, that the physicians of large and populous cities are not prepared to practise successfully themselves, in the prevailing diseases of the country, it follows, of course, that, as relates to the same complaints, they cannot be well prepared to communicate practical instruction to others. On the contrary, it is plain that they must be *signally unprepared*. Nor can the cause of this be hidden from the most superficial inquirer. They are totally destitute of the requisite experience, the only source of competent practice.

Versed in the treatment of all the modifications of city diseases, which, as well on account of the influence of peculiar external causes, as of the peculiar temperaments of those who are the subjects of them, are necessarily themselves peculiar in character, city physicians are and must be, in reference to them, the best qualified teachers. But, for reasons the very opposites of these, they cannot be well qualified and successful teachers, as respects the practice in diseases of the country. If, in the former case, a fulness of experience alone gives to them their competency, an entire want of it cannot fail to withhold it in the latter.

A city practitioner meditates to write and publish a treatise on the diseases that prevail in a distant tract of country. For the sake of example and illustration, let it be a physician of Philadelphia, New York, or Baltimore, who purposes thus to write on the diseases of the Western or Southern States. Provided he be enlightened, discreet, and conscientious, what are the means and measures by which he attempts to prepare himself for the task?

Does he, to obtain a competent knowledge of the subject which is to be considered, either draw on his own personal resources, or consult the medical writings of Europe, or of the middle and Northern Atlantic States? We know that he does not. He applies to practitioners of observation, experience, and talent residing in the region whose diseases he would describe. Or, if he be a public teacher of medicine, he applies to his pupils from that region, who have mingled in its diseases, and receives from them the materials of his book. Thus do remote practitioners, or pupils from a distance, teach him to teach others how to treat certain remote complaints, to which he is a stranger! Yet, as the world now goes, he is still the *reputed teacher*, and those who supply him with the elements of his knowledge, continue to be *the taught*.

In the words of the dramatist, "there is something more than natural in this, if our philosophy could find it out."

That this expedient has been often practised in the Atlantic cities, I know to be true. And I also know, that, in the further words of the author just quoted, "it is a custom much more honoured in the breach than the performance." It is not an honest mode of diffusing knowledge. No physician can, to any useful effect, write or lecture *practically* on a disease, unless he has been *practically* conversant with it—unless he has actually *grappled* with it, and learnt the mode of subduing it *by experience*. As well may a chemist attempt to describe and analyze, in imagination, a mineral, of which he has only *heard*, as a physician to treat *curatively* of an *unseen* complaint. Yet thus *necessarily blindfold* and *abortive* must be the labours of the physicians of our large northern and eastern cities, when they speak or write in relation to the diseases of the West and the South—when they treat of that which they have never seen, and with which it is impossible for them to be competently acquainted.

It will not be denied that his want of experience unfits a country practitioner to be an able, or even a commonly skilful teacher of medicine in a large city. And that such want would be urged as an objection against his appointment to such a station, cannot be doubted. For a reason perfectly similar, and no less conclusive, were city practitioners cannot be competent teachers in *remote* country diseases; nor ought they to be relied for that purpose. Other things being alike, those who have practised extensively in the country, must be most abundantly qualified as teachers for the country. It is the voice of common sense, as well as the result of all observation, that, as relates to medical instruction, this must be necessarily received as a maxim.

The general principles of medicine may be taught and learnt in any situation. But suitable adaptations of practice to peculiar modifications of disease can be learnt only by actual experience, in the treatment of such modifications, and efficiently taught by none but those who have thus acquired experience. To pretend to the acquisition of this knowledge in any other way is no better than imposture. No physician, then, whose sphere of observation has been confined exclusively to the large cities of the Atlantic states, more especially to those that lie northward from the Potowmac, has a competent knowledge of the peculiarities and treatment of the prevailing diseases of the West and the South.

Such, I repeat, is the fruit of observation, and the plain and positive dictate of reason and common sense; and all opinions and pretended arguments that may be arrayed in opposition to them, will be discovered, on examination, to be spurious and unfounded—the offspring of prejudice, interest, or want of information.

Between the prevailing diseases of Western America and those of the Atlantic states, southward of the Potowmac, the similarity is striking—so striking, that a physician possessed of a thorough

knowledge of the complaints of one of those sections of country, can soon render himself master of the complaints of the other.

It is not unknown to me, nor is it a fragment of knowledge of recent date, that, in opposition to the sentiments here set forth, it is openly contended by some, and believed, perhaps, by many, that medicine can be taught to good effect only in a large and populous city; and that, consequently, in no other place can a great and distinguished medical school be erected and maintained.

This dogma—for such is its only appropriate name—is much more the issue of the pride, pomp, and prejudice of a "large and populous city" than of either extensive reading, accurate observation, or deliberate reflection.

Faithful and accredited records, to which reference might be easily made, and which cannot fail to be within the knowledge of every one versed in the history of our profession, teach us, that in towns neither "large nor populous" very distinguished schools of medicine have existed, and do exist. Nor can one substantial reason be assigned, why such existence should not be permanent. But, were the present a suitable occasion to discuss the subject, reasons not to be subverted, might be readily adduced, why a large, populous, and commercial city is a much *less* suitable seat for either a school of medicine or any other school for the instruction of youth, than a town of a size and population greatly inferior.

In no other place but a crowded city, say some, can subjects be procured in sufficient abundance for all the forms of anatomical instruction.

This is a mistake, as the records of the school of Transylvania prove. This institution is now in the ninth year of its existence; and, notwithstanding the trembling apprehensions of its timid friends, and the evil bodings and calumnious misrepresentations of some of its enemies, it has never, *for a single hour*, been in want of a subject for the purposes of anatomy. On the contrary, that of Philadelphia, perhaps, excepted, it is confidently believed to have been more amply supplied, than any other school in the United States. Of this statement, contradiction is fearlessly set at defiance. Besides, the qualifications of its pupils, on their examination for degrees, abundantly show, that, in no other institution of our country are there found more thoroughly disciplined anatomists.

As respects anatomical instruction, another very injurious error prevails, even among those whose duty it is to be better informed.

Individuals who are either ignorant of the subject, or who think themselves likely to be in some way benefited by misrepresentation and deception, propagate the opinion, that, during their attendance on public lectures, medical pupils ought to engage extensively in anatomical dissection.

As relates to pupils who can afford to spend from four to six years, but not less, in the study of their profession, and to attend public lectures during each winter of the time, this opinion is cor-

rect. Such pupils, having a sufficiency of leisure to enable them to do it, without interfering with their other studies, ought to pursue anatomical dissection, as a part of their discipline.

But few students in any part of the United States, and scarcely one in Western America, are thus fortunate. In the latter section of our country a vast majority of pupils are obliged to rest content with *one* or *two* courses of public lectures, *one*, perhaps, in *fifty*, being able to attend *three*. And after having attended two courses, it is the wish and expectation of almost every one to receive a degree in medicine.

As our schools are now administered, a course of lectures occupies a period of four months. After *eight months* of public instruction, then, the pupil anticipates the honour of a doctorate in his profession.

To all who are acquainted with the great extent and multifarious character of the science of medicine, this statement, brief as it is, must carry conviction, that, during the very limited period in which he is engaged in the pursuit of public instruction, the western pupil has no leisure for anatomical dissection. Compelled to attend lectures from six to eight hours in the day, the remainder of his time is not sufficient to enable him to do more than reflect on, assort, and digest what he has thus received. He cannot, then, devote himself to dissection without neglecting almost entirely other modes of discipline, which are essential to the accomplishment of the end he has in view. That all this is true, appears alike as the issue of experience, and the declaration of common sense.

It is further asserted, with what spirit, and for what object, I neither know nor care, that without the resources of a large city, instruction in surgery cannot be imparted, with competent effect, to a medical class.

In refutation of this, I again fearlessly offer the example of Transylvania. Let the comparison be made, and it will be found, that in proportion to the size of its classes, this school has produced, since the date of its establishment, a greater number of surgeons, qualified to operate with respectability and success, than any other in the United States.

Should any one choose to cavil and find fault with this representation, and pronounce it vainglorious, as being uttered by a professor of Transylvania University, let him enjoy his fancied triumph, in the conceit that he has detected me proclaiming my own praises. But, to the enlightened and ingenuous, in whose estimation I am ambitious to stand well, it is permitted me to say, that I claim to *myself* no credit for the surgical instruction so abundantly imparted in this institution. The honour of that belongs to another. But it belongs to me, should any occasion occur to demand it, to assert and maintain, that the statement I have given is founded in truth. Nor need the friends of our school be under any apprehension, that I will either shrink from the task, or fail in its performance. And I will further state, on grounds which I am also prepa-

red to maintain, that by far the most respectable and successful young practitioners of the healing art, in all its branches, that have settled in the valley of the Mississippi, within the last seven or eight years, have been educated in Transylvania. When an alumnus of Transylvania, and one of any other school have cotemporarily commenced practice in the same town or neighborhood, the Transylvanian has uniformly taken the ascendency. To this rule I do not know a single exception.

Why should not the pupils of this institution be accomplished in surgery? The public instruction they receive by lecture is unsurpassed; and it will be found, on computation, that, for the last four or five years, the professor of that branch has performed before his class as many important surgical operations, as have been exhibited, during the same period, to any class in the United States. From the reports that have been communicated to me from other schools, I conscientiously believe that he has performed more. But be this as it may, it can be easily made appear, that by far the ablest and most successful young surgeons, that have settled in the valley of the Mississippi, since the year 1820, have been educated in Transylvania.

But I have not yet done with the reports that have been circulated, and the efforts that have been made to injure our school.

Large and well filled hospitals and infirmaries, which exist only in large cities, are asserted to be essential to the excellency and success of schools of medicine.

That such institutions have their uses, I am far from denying. On the contrary, I acknowledge, that, in some respects, those uses are signally great. But I do deny that they are either vitally or even highly important to schools of medicine, as they are now administered in the United States. Assertions the contrary of this, can be demonstrated to be impositions on the credulity of the public; calculated only to allure pupils to schools by promised advantages which they never receive.

Were the sessions of our medical colleges protracted throughout the year, or even for the term of eight or ten months, infirmaries and hospitals might be rendered useful to them. The pupils would then have leisure to visit, with regularity, and *as often as might be necessary*, interesting cases of disease, from their commencement to their close. Thus might they acquire a competent and practical acquaintance with their character and treatment. They might, moreover, under such regulations, attain, in the schools, *some* knowledge of the diseases of summer and autumn, by far the most important that present themselves to the physicians of the West and the South.

But under no arrangement that man can devise, will mere hospital or infirmary practice be ever rendered highly useful to physicians who pursue their profession in the country. Nor, to any one competently acquainted with the subject, can the reason of this be otherwise than obvious.

Both the subjects and diseases of a large hospital, in a large city, are essentially different from those with which a physician in the country is concerned. This truth is so palpable, and so generally known, that to dwell on it, either in illustration or proof, would be a waste of time. Nor, to physicians of intelligence, are the grounds and causes of it less familiar. To such physicians it is further known, that both hospital diseases and hospital practice are *altogether peculiar*—different alike from the common diseases which physicians encounter, and the usual practice they are obliged to pursue, both in cities and in the country. Hence there exists in *three* different situations a like number of striking and well defined modifications of disease and treatment; one in *hospitals*, another in *cities*, and the third in *country situations*. Nor does an experimental and practical acquaintance with one of these modifications, qualify the practitioner for success in the others. A competent knowledge of each he can acquire only by being conversant with each.

Administered as the schools of medicine in the United States now are, to none but *resident pupils* is the practice of their hospitals of the smallest service.

As already stated, the great body of their pupils attend but *four months* in the year, to receive instruction from *public lectures*, during the whole of which time they have no leisure for any thing else, except to read and study by candle light From such attendance on hospital practice as would be at all beneficial to them, their other and more important engagements absolutely prohibit them. Hence, during the entire session, the most industrious and best informed pupils rarely enter the wards of an infirmary

Nor is this all. The session is held during the *winter* months, that being the most suitable time for the teaching of anatomy.

The acute complaints of summer and autumn, the knowledge of which is by far the most important to the country practitioners of the West and South, have terminated; and the only diseases which the wards of the hospitals and infirmaries now present, are those of intemperate and debilitated paupers. They are such complicated chronic affections as but very rarely occur in country practice—In the practice of a great majority of physicians they never occur

Nor are they, for the most part, under the power of medicine. They present themselves only to baffle our art, because they exist in constitutions shattered by inveterate habits of irregularity. Could it even be attained, therefore, experience in the treatment of them would avail but little. As an acquaintance with transcendentalism teaches us what knowledge we have no powers to acquire, such experience would inform us of certain diseases which we cannot cure, and nothing further.

In proof that infirmary and hospital patients are utterly unsuitable, as subjects of experimental knowledge, to country practitioners, or indeed to practitioners of any description, the following

extract must be deemed conclusive. It is taken from Jackson's Clinical Reports, American Journal of Medical Science, No 1, p. 87.

"The Alms house of this city (Philadelphia) includes under the same roof, an infirmary or hospital for medical and surgical cases, a poor-house for indigent, and a work-house for vagabonds. This last circumstance gives to it somewhat of a disreputable character, and few who have remains of a sense of decency and self-respect, and desire to be esteemed respectable, will seek refuge in its wards unless compelled by absolute necessity. The majority of the patients are individuals of the very lowest orders of society, many of them the victims of the grossest habits of depravity, and nearly all suffering more or less from intemperance.

A large proportion of the diseases are chronic in character, the consequences of the abuse of ardent spirits, of exposure to the inclemencies of the seasons, of deficient or improper alementation, &c.

Acute diseases are rarely seen in the first week, more usually they are not brought into the house until the second, or third or fourth week from the commencement, and it is very seldom the patient has not, from his habits, more or less affected the integrity of his constitution. It frequently happens, that the patient on admission, both in acute and chronic diseases, has advanced into the last stage, is absolutely in a hopeless condition, disorganization of some of the tissues or organs has taken place, and often he is in articulo mortis. It is a common practice, but which merits severe reprehension, to send patients, as soon as they are despaired of, into the Alms house, there to die; and it has frequently happened that they have expired on the way, or before they could be got into the ward.

It has been an occurrence in one week, for three patients to be sent from an institution of this city into the Alms-house, of whom one died in the yard, another on the staircase, and a third in half an hour after being placed in a bed. *The Alms house infirmary can be regarded as little better than a hospital of the incurable and the dying.* It is uncommon for a week to pass without the admission of patients in the last extremity."

To render the matter still worse, when the hospital physician is walking his round of examination and prescription, the wards are usually so thronged by the class, and such a degree of disorder prevails, that nothing can be attended to with calmness or advantage. To observe accurately or think seriously, in the midst of such a bustle, is altogether impossible. Hence, as already mentioned, the most industrious and judicious pupils, finding that they can employ the hour to much more advantage in their private rooms, are rarely found in the jostling crowd. Such are the boasted advantages of hospital and infirmary practice to a large class in the medical school!

To show the light estimate set on such practice, under such disadvantages, by the pupils of schools of medicine in other countries, the following anecdote, which occurred some years ago, in one of the Edinburgh infirmaries, may not be altogether unworthy to be told.

The ward of the building was so crowded with pupils, that the great body of them not only could not approach the patients, to inquire into their cases, but could not even hear a single remark of the prescribing physician.

In this state of things, that some show of communicating information might be kept up, the class was marshaled, four or five abreast, in a column extending to such a distance, that, amidst the din of numbers, the professor's lungs could throw his voice along but a very small portion of it. To remedy this evil, tellers were stationed at suitable points of the column, whose business was to splice their voices to that of the professor, as a sailor ties one rope to the end of another, catch, as they flitted past them, his uttered remarks and prescriptions, and hand or rather tongue them along, with suitable gravity, to their more distant comrades. Things being thus arranged, and an attempt made to enforce order and attention, by a stentorian vociferation of the word "silence!" by the master teller, the curtain rose, and the farce began.

Professor "Patient no better,"
1st Teller. "Patient no better,"
2d Ditto "Patient no better,"
3d Ditto. "Patient no better," and so on to the end of the column.
Professor. "Pulse tense and quick,"
1st Teller. "Pulse tense and quick,"
2d Ditto. "Pulse tense and quick,"
3d Ditto. "Pulse tense and quick," and thus as before.
Professor. "Tongue furred,"
1st Teller. "Tongue furred,"
2d Ditto. "Tongue furred,"
3d Ditto. "Tongue furred," and so to the end.
Professor. "A pimple on the nose,"
1st Teller. "A pimple on the nose,"
2d Ditto. "A pimple on the nose."

But here a sad catastrophe occurred, which, ever since, the family of Esculapius have had reason to lament. The third teller happening to be a mirth-making and fun-loving young Virginian, and able to tolerate no longer a scene so ludicrous, exclaimed, in a deep and solemn tone, which shook at once the walls with its force, and his companions with laughter,

"A *pintle** on the nose,"

and thus interrupted the sage and momentous instructions of the morning. And I sincerely trust that there will never be wanting

*A vulgar *Scotch-Irish* term for *penis*.

some young American, of sufficient discernment and independence, thus to interrupt and treat as it deserves, every such scene of solemn mummery, wherever it may be presented.

For the substantial truth of this anecdote, I dare refer to a very distinguished professor in one of our Atlantic schools, whom I have heard narrating it with great good humour, and peculiar point, and who, I believe, was a member of the class in which the event occurred. And, what is more to my purpose, the professor used it in derision of the futility of hospital practice in a *large school* of medicine. Yet the school to which he is now an ornament, boasts of such practice.

That this representation of the utter uselessness of hospital practice to a large class is neither unfounded nor too highly coloured, is perfectly known to every pupil who has attempted a winter attendance in any of the infirmaries of the Atlantic cities. However curious or interesting the inexperienced pupil may deem the *reputed* instruction, when communicated to him by the physician in attendance, he finds it wholly unavailing in his future practice. No well trained practitioner, of the age of thirty, pursuing his profession in the country, ever remembers or attempts to remember ought that he had heard, in hospital prescriptions, at the age of twenty-one.

But there exist yet other reasons why an attendance on the practice of large hospitals and infirmaries cannot be useful to students of medicine destined to pursue their profession in the country.

Those institutions are furnished with a sufficient number of faithful and trust-worthy attendants, experienced nurses, and every other convenience that experience can indicate, invention devise, and money procure.

Hence modes of treating diseases are adopted in them, which, were they even proper and requisite, would be altogether impracticable in *country* situations, where no such supply of nurses, attendants, and conveniences exist. Instead of such modes, therefore, country practitioners are compelled to avail themseves of other expedients. And of those expedients which are practically efficient, a knowledge can be attained originally by experience alone; and taught only by those who have thus attained it.

To the truth of all this, physicians who have long resided and practised in the country, will abundantly testify.

In further corroboration of the sentiments here advanced, there are, at this moment, in the town of Lexington, letters from pupils in one of the Atlantic schools, setting forth, in the strongest terms, and with feelings of disappointment and dissatisfaction, the futility and uselessness of the much vaunted hospital practice of the institution.

The reason, then, why attendance on infirmary practice, by large classes, is still announced as highly important, and even essential, in a medical education, I leave to be rendered by others. A reluctance to offend forbids me to disclose it. For the credit of the

profession I ardently hope that the practice will be abandoned. Magnanimity and ingenuousness have no concern in it. And if it can be shown to be consistent with *honesty* and *truth*, the task of doing it is resigned to others. I shall not attempt it.

On this topic I shall only add, that wherever professors highly qualified unite in the project of erecting a distinguished school of medicine, with resolution, perseverance, and continued harmony, whether it be in a large or a small town, provided similar projects be not too numerous in the same region, the effort will be successful.

But if, on the contrary, the attempt be not thus made by able teachers, and perfect harmony be not thus maintained, though the seat of the school were London, Paris, Constantinople, or Peking, the effort will fail. So true is it, that powerful, discreet, and enterprizing individuals, and not large cities and crowded hospitals, constitute the soul of such institutions. But to return to the more immediate object of this address.*

In the diseases of the great valley of the Mississippi there is much that is peculiar, which can be learnt only by observation and experience. As yet a full and correct account of it makes no part of the records of medicine. Nor can it ever be reduced to a record form, except by the practical physicians of the place. On this subject, as on many others, Western America must instruct

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* Let no one, on account of the preceding sentiments, charge me with hostility to either *hospital practice* or *anatomical dissection*. The accusation, if made, will be malicious and groundless. *I am friendly to both.* But it is to both *under proper and favourable circumstances*. It is to the *reality* of both, and not to *empty pretension* in relation to them. I am friendly to such arrangements as will allow pupils actually to profit by dissection and an attendance on the practice of hospitals. But I am hostile, and will always so express myself and so act, to the alluring of students to schools by proffered advantages which can never be realized, and splendid promises known to be baseless, and which must, therefore, necessarily terminate in disappointment. I am, in fact, friendly to honesty and fair dealing in schools of medicine, as well as in other institutions, and inimical to the debasing of an honourable and elevated profession, by management and trick.

Let a general arrangement be set on foot, by which the term of medical pupilage will be necessarily extended, and ample time afforded for further attainment in anatomy, and all other branches of the profession, and I will not be either last or most lukewarm in recommending its adoption.

But while I have an intellect to think, a tongue to speak, or a hand to write, I will oppose, denounce, and, as far as possible, expose and defeat, every scheme of medical teaching, in which I recognize trickery and delusion, and where hollow pretension is given as a substitute for solid reality.

herself. From her sister of the East she can derive no assistance. The book of nature is her only resource; and that she finds written on every thing around her, in characters so plain and prominent, that she can easily decipher them. Nor, if she be true to herself, will she any longer allow the precious volume to remain unread.

A Journal of medicine and science is now established in this place, as a repository to receive, and a channel to communicate to the public, such interpretations of portions of the book of nature, as may be placed under the control of its editors, and as may be deemed by them worthy of preservation. And from the importance of the fountain which is thus opened, and the balmy and healing streams which will certainly issue from it, should the project prove successful, I cannot permit myself to doubt, for a moment, that the supplies they will receive to aid them, in their enterprise, will be valuable and abundant.

As from every point of the mighty valley, to which he has given his name, currents hasten to swell the treasures of our *prince of rivers*, I firmly trust, that, from every portion of the same region, where the wilderness has yielded to civilized man, currents of knowledge will ultimately flow, to fill the repository the editors have established for the benefit of a profession, the interests of which it is at once their duty and their ambition to promote. And to this effect my confidence is the stronger, inasmuch as all those on whom they rely for tribute will be equally interested in the enterprise with themselves—in whatever honours or more substantial benefactions it may eventually bestow on medicine in the West. For, of all the maxims that time has established, none is more true, and few more important, than that expressed in the three words "qui docet, discit"—he that teaches others, teaches himself.

Nor is this all. The common treasury being filled will throw back the influence of its aggregate wealth on each one whose tribute has aided in its augmentation.

In simpler language, I feel persuaded that the time has arrived when a Journal of medicine may be conducted and maintained with perfect facility, and rendered pre eminently useful, in this portion of Western America.

Through such a channel alone can the knowledge of important improvements and discoveries in the medical profession, whether made in Europe, or in the eastern section of the United States, be diffused with the requisite celerity, certainty, and ease, among the physicians of these extended and secluded regions of our country.

It is now known, by experience, that all other modes of communicating such information are too precarious, slow, and costly, to meet the exigencies, and subserve the interests of Western practitioners. To be circulated in so short a time, that, added to its truth, it may have the freshness and influence of novelty to recommend it, and to such an extent as may meet the demands and expectations of the profession, it must be committed to the pages of a western Journal.

Without the aid of such a medium it can reach but a small portion of the physicians of this great interior section of the Union. With such aid, it may be possessed by them all—a consideration that cannot be too highly prized by the votaries of science, and the friends of humanity; and for the accomplishment of which, all efficient and available means should be brought into action.

But, if competently conducted, as I feel confident it will be, its highest value will not be imparted to our Journal by filling its pages with matter derived from distant sources The medical profession of the West has knowledge of its own, which, if placed on record, and skilfully managed, is by far the most important for its own purposes. The physicians of the West are alone competent to the treatment of the diseases of the West. They are, therefore, alone competent to instruct themselves on sundry topics of the utmost moment, as relates to their profession.

Long experience has given to many of them an amount of science and practical knowledge, which, if diffused through the press, would be, in a high degree, honourable to themselves and useful to the public. It would convert into common property, cause to be circulated more widely, and render much more operative and beneficial, an abundant amount of intellectual capital which has been hitherto too much locked up in individual coffers. Of such a condition of things, the vast importance and felicitous consequences to the medical profession, in the regions of the Mississippi, are too obvious to need a recital.

But if, by entering into an energetic confederacy, the physicians of the West and South can be induced to throw into a common stock the information they possess on professional subjects, it is not themselves alone that will be benefitted by the measure. The aggregate blaze of knowledge which will be thus formed by the innumerable minor lights that will lend their radiance, will throw its lustre on the most distant portions, not only of our own, but of foreign countries. Thus will the West reciprocate with the East a share of the benefactions it has been so long deriving from that quarter, without having yet made any adequate return.

To a scheme of co operation like this, the physicians generally of Western America would seem to be invited by considerations which they ought not to resist.

A sentiment of gratitude for benefits received, a due regard for the honour and interests of their profession at large, but especially as confined to their own country and the region where they reside, feelings of local patriotism urging them to the aggrandizement of their native or adopted portion of our union, the welfare of the human family as connected with the preservation and the restoration of health, and the powerful incentive of personal reputation—such are the motives, which, added to their immediate interests, invite the physicians generally of the valley of the Mississippi to co-operate in the establishment of a Journal of medicine.

But to the numerous pupils, in particular, of the school of Transylvania, who are scattered over such an extensive portion of that valley, or residing elsewhere, I would venture to address myself on a different ground. By remembrances, and other considerations, which rarely fail to find their way to the hearts of the youthful, and even of those who are advanced in years, I would ask from them matter to enrich the pages of the work that is established at the place where they were educated.

United to other inducements to incline them to patronize it, a Journal so immediately associated with their alma mater, cannot easily, and, in public estimation, will not, be separated entirely from their own standing and character; and must, therefore, naturally and necessarily have a hold on their affections.

By the pledge, then, of those affections, called forth during the glow of the spring-time of life, when they were in quest of education, by the tender and high estimation and regard in which they hold that education, and by their attachment to the *fountain* from which it was derived—as they are anxious that the *former* be deemed efficient and valuable, and the *latter* maintain her honourable standing among the institutions of America, and continue to prove a blessing to the great community of the West and the South—By these considerations, I say, and such other kindred ones as may suggest themselves to their own intellect, I would solicit them to unite their labours with those of the Editors, to enrich and sustain a Journal, in the character and fate of which those several feelings and interests are deeply concerned.

Since the period at which many of them went forth from under the auspices of Transylvania, clothed in the honours that belong to their profession, sufficient time has elapsed to enable them to collect materials to illustrate and confirm the principles they imbibed during the course of their pupillage, to draw fresh and additional knowledge from the great store-house of nature, in the midst of which they dwell, and fully to mature it by experience and reflection. They are prepared, therefore, to send back to the source where they received the seed, some portion of the rare and ripened fruits they have been cultivating, to be publicly dispensed for the benefit of their race.

Nor do I permit myself to doubt, for a moment, either the correctness and warmth of their filial feelings, their resolution to maintain the honour of their education, or their ambition to contribute to the advancement of their profession, and to the amelioration of the condition of man. On their ready and energetic co operation, therefore, in the maintenance of the Journal, I calculate with a confidence, which nothing but actual disappointment can shake.

The distinguished and justly honoured efforts which some of the pupils of Transylvania have already made, for the advancement of the interests of medicine, and of the scientific reputation of Western America, while they can scarcely fail to serve as incentives to others, to engage in a career of laudable emulation, are

regarded as earnests of further and still richer contributions from the same quarters. Nor will the sons of Transylvania, wherever they may reside, fail to pour the riches of their intellect into the Transylvania Journal, in preference to any other that our country may present.

But although expectation points most naturally to the physicians of the West and the South, and hope reposes especially on their labours, there are other sources, whence valuable and abundant materials may be drawn. Under the able and liberal direction of its distinguished Editors, the Transylvania Journal, rising like a new and brilliant luminary in the West, will claim the attention of eastern writers, and become a point of occasional attraction for important communications from the most distant portions of the United States.