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## ART. IV. — PERPETUAL FORCES.

WE cannot afford to miss any advantage. Never was any man too strong for his proper work. Art is long, and life short, and he must supply this disproportion by borrowing and applying to his task the energies of Nature. Reinforce his self-respect, show him his means, his arsenal of forces, physical, metaphysical, immortal: —

“More servants wait on man  
Than he ’ll take notice of.”

Show him the riches of the poor, show him what mighty allies and helpers he has. And though King David had no good from making his census out of vainglory, yet I find it wholesome and invigorating to enumerate the resources we can command, to look a little into this arsenal, and see how many rounds of ammunition, what muskets, and how many arms better than Springfield muskets we can bring to bear.

The hero in the fairy tales has a servant who can eat granite rocks, another who can hear the grass grow, and a third who can run a hundred leagues in half an hour; so man in nature is surrounded by a gang of friendly giants who can accept harder stints than these, and help him in every kind. Each by itself has a certain omnipotence, but all, like contending kings and emperors, in the presence of each other are antagonized and kept polite, and own the balance of power.

There is no porter like gravitation, who will bring down any weight you cannot carry, and if he wants aid, knows how to find his fellow-laborers. Water works in masses, sets his irresistible shoulder to your mill or to your ships, or transports vast boulders of rock neatly packed in his iceberg a thousand miles. But its far greater power depends on its talent of becoming little, and entering the smallest holes and pores. By this agency, carrying in solution elements needful to every point, the vegetable world exists.

Who are the farmer’s servants? Who but geology, chemistry, the quarry of the air, the water of the brook, the lightning of the cloud, the plough of the frost? Before he was born into the field,

the sun of ages soaked it with light and heat, mellowed his land, decomposed the rocks, covered it with vegetable film, then with forests, and accumulated cubic acres of sphagnum whose decays make the peat of his meadow. The rocks crack like glass by inequality of contraction in heat and cold, and flakes fall constantly into the soil. The tree can draw on the whole air, the whole earth, on all the rolling main. The plant, the tree, is all suction-pipe, imbibing from the ground by its roots, from the air by its twigs with all its might. Take up a spadeful or a buck-load of loam; who can guess what it holds? But a gardener knows that it is full of peaches, full of oranges, and he drops in a few seeds by way of keys to unlock and combine its virtues, — lets it lie in sun and rain, and by and by it has lifted into the air its full weight in golden fruit.

What agencies of electricity, gravity, light, affinity, combine to make every plant what it is, and in a manner so quiet that the presence of these tremendous powers is not ordinarily suspected. Faraday said that "a grain of water is known to have electric relations equivalent to a very powerful flash of lightning." The ripe fruit is dropped at last without violence, but the lightning fell and the storm raged, and strata were deposited and upturned and bent back, and Chaos moved from beneath to create and flavor the fruit on your table to-day.

Go out of doors and get the air. Ah, if you knew what was in the air! See what your robust neighbor, who never feared to live in it, has got from it; strength, cheerfulness, power to convince, heartiness and equality to each event. As the sea is the receptacle of all rivers, so the air is the receptacle from which all things spring, and into which they all return; an immense distillery, a sharp solvent, drinking the oxygen from plants, carbon from animals, the essence and spirit of every solid on the globe; a menstruum which melts the mountains into it. All the earths are burnt metals. One half the avoirdupois of the rocks which compose the solid crust of the globe consists of oxygen. The adamant is always passing into smoke; Nature turns her capital day by day. All things are flowing, even those that seem immovable. The earth burns, the mountains burn, slower but as incessantly as wood in the fire. The marble column, the brazen statue, burn under the daylight, and would soon decompose, if their molec-

ular structure, disturbed by the raging sunlight, were not restored by the darkness of night. Plants and animals burn or perpetually exhale their own bodies into the air and earth again.

Whilst all thus burns, the universe in a blaze, kindled from the torch of the sun, it needs a perpetual tempering, a phlegm, a sleep, atmospheres of azote, deluges of water, to check the fury of the conflagration; a hoarding to check the spending, a centripetence to the centrifugence. And this is uniformly supplied. Nature is as subtle as she is strong, and like a cautious testator ties up her estate so as not to bestow it all on one generation, but has a fore-looking tenderness and equal regard to the next and the next and the fourth and the fortieth. The winds and the rains come back a thousand and a thousand times. The coal on your grate gives out in decomposing to-day exactly the same amount of light and heat which was taken from the sunshine in its formation in the leaves and boughs of the antediluvian tree.

The earliest hymns of the world were hymns to these natural forces. The Vedas of India, which have a date older than Homer, are hymns to the winds, to the clouds, and to fire.

They all have certain properties which adhere to them, such as conservation, persisting to be themselves, impossibility of being warped. The sun has lost no beams, the earth no elements; gravity is as adhesive, heat as expansive, light as joyful, air as virtuous, water as medicinal, as on the first day. There is no loss, only transference. When the heat is less here it is not lost, but more heat is there. When the rain exceeds on the coast, there is drought on the prairie. When the continent sinks, the opposite continent, that is to say, the opposite shore of the ocean, rises. When life is less here, it spawns there.

These forces are in an ascending series, but seem to leave no room for the individual; man or atom, he only shares them; he sails the way these irresistible winds blow. But behind all these are finer elements, the sources of them, and much more rapid and strong; a new style and series, the spiritual. Intellect and morals appear only the material forces on a higher plane. The laws of material nature run up into the invisible world of the mind, and hereby we acquire a key to those sublimities which skulk and hide in the caverns of human consciousness. And in the impenetrable mystery which hides — and hides through absolute trans-

parency — the mental nature, I await the insight which our advancing knowledge of material laws shall furnish.

But the laws of force apply to every form of it. The husbandry learned in the economy of heat or light or steam or muscular fibre applies precisely to the use of wit. What I have said of the inexorable persistence of every elemental force to remain itself, the impossibility of tampering with it or warping it, — the same rule applies again strictly to this force of intellect, — that it is perception, a seeing, not making, thoughts. The man must bend to the law, never the law to him.

The brain of man has methods and arrangements corresponding to these material powers, by which he can use them. See how trivial is the use of the world by any other of its creatures. Whilst these forces act on us from the outside, and we are not in their counsel, we call them Fate. The animal instincts guide the animal as gravity governs the stone; and in man that bias or direction of his constitution is often as tyrannical as gravity. We call it temperament, and it seems to be the remains of wolf, ape, and rattlesnake in him. While the reason is yet dormant, this rules; as the reflective faculties open, this subsides. We come to reason and knowledge; we see the causes of evils and learn to parry them and use them as instruments, — by knowledge being inside of them and dealing with them as the Creator does. It is curious to see how a creature so feeble and vulnerable as a man, who, unarmed, is no match for the wild beasts, tiger, or crocodile, none for the frost, none for the sea, none for a fog, or a damp air, or the feeble fork of a poor worm, — each of a thousand petty accidents put him to death every day, — is yet able to subdue to his will these terrific forces, and more than these. His whole frame is responsive to the world, part for part, every sense, every pore, to a new element, so that he seems to have as many talents as there are qualities in nature.

No force but is his force. He does not possess them; he is a pipe through which their currents flow. If a straw be held still in the direction of the ocean-current, the sea will pour through it as through Gibraltar. If he should measure strength with them, if he should fight the sea and the whirlwind with his ship, he would snap his spars, tear his sails, and swamp his bark; but by cunningly dividing the force, tapping the tempest for a little side-

wind, he uses the monsters, and they carry him where he would go. Look at him; you can give no guess at what power is in him. It never appears directly, but follow him and see his effects, see his productions. He is a planter, a miner, a shipbuilder, a machinist, a musician, a steam-engine, a geometer, an astronomer, a persuader of men, a lawgiver, a builder of towns,—and each of these by dint of a wonderful method or series that resides in him and enables him to work on the material elements.

We are surrounded by human thought and labor. Where are the farmer's days gone? See, they are hid in that stone-wall, in that excavated trench, in the harvest grown on what was shingle and pine-barren. He put his days into carting from the distant swamp the mountain of muck which has been trundled about until it now makes the cover of fruitful soil. Labor hides itself in every mode and form. It is massed and blocked away in that stone house for five hundred years. It is twisted and screwed into fragrant hay which fills the barn. It surprises in the perfect form and condition of trees clean of caterpillars and borers, rightly pruned, and loaded with grafted fruit. It is under the house in the well; it is over the house in slates and copper and water-spout; it grows in the corn; it delights us in the flower-bed; it keeps the cow out of the garden, the rain out of the library, the miasma out of the town. It is in dress, in pictures, in ships, in cannon, in every spectacle, in odors, in flavors, in sweet sounds, in works of safety, of delight, of wrath, of science.

These thoughts no man ever saw, but disorder becomes order where he goes; weakness becomes power; surprising and admirable effects follow him like a creator. All forces are his; as the wise merchant, by truth in his dealings, finds his credit unlimited,—he can use in turn, as he wants it, all the property in the world, and first or last vast amounts pass through his hands,—so a man draws on all the air for his occasions as if there were no other breather, on all the water as if there were no other sailor; he is warmed by the sun, and so of every element; he walks and works by the aid of gravitation; he draws on all knowledge as his province, on all beauty for his innocent delight, and first or last he exhausts by his use all the harvests, all the powers of the world. For man, the receiver of all, and depository of these volumes of power, I am to say that his ability and performance are according

to his reception of these various streams of force. We define Genius to be a sensibility to all the impressions of the outer world, a sensibility so equal that it receives accurately all impressions, and can truly report them without excess or loss as it received. It must not only receive all, but it must render all. And the health of man is an equality of inlet and outlet, gathering and giving. Any hoarding is tumor and disease.

If we were truly to take account of stock before the last Court of Appeals, that were an inventory! What are my resources? "Our stock in life, our real estate, is that amount of thought which we have had," and which we have applied, and so domesticated. The ground we have thus created is forever a fund for new thoughts. A few moral maxims confirmed by much experience would stand high on the list, constituting a supreme prudence. Then the knowledge unutterable of our private strength, of where it lies, of its accesses and facilitations, and of its obstructions. My conviction of principles, that is great part of my possessions. Certain thoughts, certain observations, long familiar to me in night-watches and daylights, would be my capital if I removed to Spain or China, or, by stranger translation, to the planet Jupiter or Mars, or to new spiritual societies.

Every valuable person who joins in any enterprise, is it a piece of industry, or the founding of a colony or a college, the reform of some public abuse, or some effort of patriotism, — what he chiefly brings, all he brings, is not his land or his money or body's strength, but his thoughts, his ways of classifying and seeing things, his method. And thus with every one a new power. In proportion to the depth of the insight is the power and reach of the kingdom he controls.

It would be easy to awake wonder by sketching the performance of each of these mental forces, as of the diving-bell of the Memory which descends into the deeps of our past and oldest experience, and brings up every lost jewel; or of the Fancy, which sends up its gay balloon aloft into the sky to catch every tint and gleam of romance; of the Imagination, which turns every dull fact into pictures and poetry, by making it an emblem of a thought. What a power, when, combined with the analyzing understanding, it makes Eloquence, the art of compelling belief, the art of making people's hearts dance to his pipe! And not less method, patience,

self-trust, perseverance, love, desire of knowledge, the passion for truth. These are the angels that take us by the hand, these our immortal, invulnerable guardians. By their strength we are strong, and on the signal occasions in our career their inspirations flow to us, and make the simple wise, the weak able, and the timid brave, make the selfish and protected and tenderly bred person strong for his duty, wise in counsel, skilful in action, competent to rule, willing to obey.

I delight in tracing these wonderful powers, the electricity and gravity of the human world. The power of persistence, of enduring defeat, and of gaining victory by defeats, is one of these forces which never loses its charm. The power of a man increases steadily by continuance in one direction. He becomes acquainted with the resistances, and with his own tools; increases his skill and strength, and learns the favorable moments and favorable accidents. He is his own apprentice, and more time gives a great addition of power, just as a falling body acquires momentum with every foot of the fall. How we prize a good continuer! I knew a manufacturer who found his property invested in chemical works, which were depreciating in value. He undertook the charge of them himself, began at the beginning, learned chemistry, and acquainted himself with all the conditions of the manufacture. His friends dissuaded him, advised him to give up the work, which was not suited to the country. Why throw good money after bad? But he persisted, and after many years succeeded in his production of the right article for commerce, brought up the stock of his mills to par, and then sold out his interest, having accomplished the reform that was required.

In each the talent is the perception of an order and series in that department he deals with,—of an order and series which pre-existed in nature, and which this mind sees and conforms to. The geometer shows us the true order in figures; the painter, in laws of color; the dancer, in grace. Bonaparte, with his celerity of combination, mute, unfathomable, reading the geography of Europe as if his eyes were telescopes; his will an immense battery, discharging irresistible volleys of power always at the right point in the right time.

There was a story in the journals of a poor prisoner in a Western police-court who was told he might be released if he would pay



his fine. He had no money, he had no friends, but he took his flute out of his pocket, and began to play, to the surprise and, as it proved, to the delight of all the company; the jurors waked up; the sheriff forgot his duty, the judge himself beat time, and the prisoner was by general consent of court and officers allowed to go his way without any money. And I suppose if he could have played loud enough we here should have beat time, and the whole population of the globe would beat time, and consent that he should go without his fine.

I knew a stupid young farmer, churlish, living only for his gains and with whom the only intercourse you could have was to buy what he had to sell. One day I found his little boy of four years dragging about after him the prettiest little wooden cart, so neatly built, and with decorations too, and learned that Papa had made it; that hidden deep in that thick skull was this gentle art and taste, which the little fingers and caresses of his son had the power to draw out into day; he was no peasant after all. So near to us is the flowering of fine art in the rudest population. See in a circle of school-girls one with no beauty, no special vivacity, but she can so recite her adventures that she is never alone, but at night or at morning, wherever she sits, the inevitable circle gathers round her, willing prisoners of that wonderful memory and fancy and spirit of life. Would you know where to find her? Listen for the laughter, follow the cheerful hum, see where is the rapt attention, and a pretty crowd all bright with one electricity; there in the centre of fellowship and joy is Scheherazade again.

See how rich life is; rich in private talents, each of which charms us in turn and seems the best. If we hear music, we give up all to that; if we fall in with a cricket-club, and see the game masterly played, the best player is the first of men; if we go to the regatta, we forget the bowler for the stroke oar; and when the soldier comes home from the fight, he fills all eyes. But the soldier has the same admiration of the great parliamentary debater. And poetry and literature are disdainful of all these claims beside their own. It seems as if the story were gospel truth, of the boy who thought in turn each one of the four seasons the best, and each of the three hundred and sixty-five days in the year the crowner.

The sensibility is all. Every one knows what are the effects of music to put people in gay or mournful or martial mood. But

these are effects on dull subjects, and only the hint of its power on a keener sense. It is a stroke on a loose or tense cord. The story of Orpheus, of Arion, of the Arabian minstrel, are not fables, but experiments on the same iron at white heat.

By this wondrous susceptibility to all the impressions of Nature the man finds himself the receptacle of celestial thoughts, of happy relations to all men. The imagination enriches him, as if there were no other; the memory opens all her cabinets and archives; Science her length and breadth, Poetry her splendor and joy, and the august circles of eternal Law.

These are means and stairs for new ascensions of the mind. But they are nowise impoverished for any other mind, not tarnished, not breathed upon, for the mighty Intellect did not stoop to him and become property, but he rose to it and followed its circuits. "It is ours while we use it, it is not ours when we do not use it."

And so, one step higher, when he comes into the realm of sentiment and will. He sees the grandeur of justice, the victory of love, the eternity that belongs to all moral nature. He does not then invent his sentiment or his act, but obeys a pre-existing right which he sees. We arrive at virtue by taking its direction instead of imposing ours.

The last revelation of intellect and of sentiment is that in a manner it severs the man from all other men, makes known to him that the spiritual powers are sufficient to him, if no other being existed; that he is to deal absolutely in the world, as if he alone were a system and a state, and though all should perish, could make all anew.

The forces are infinite. Every one has the might of all; for the secret of the world is that its energies are *solidaires*; that they work together on a system of mutual aid, all for each and each for all; that the strain made on one point bears on every arch and foundation of the structure. But if you wish to avail yourself of their might, and in like manner if you wish the force of the intellect and the force of the will, you must take their divine direction, not they yours. Obedience alone gives the right to command. It is like the village operator who taps the telegraph-wire and surprises the secrets of empires as they pass to the capital. So this child of the dust throws himself by obedience into the circuit of the heavenly wisdom, and shares the secret of God.

Thus is the world delivered into your hand, but on two conditions, — not for property, but for use; use according to the noble nature of the gifts, and not for toys, not for self-indulgence. Things work to their ends, not to yours, and will certainly defeat any adventurer who fights against this ordination.

The effort of men is to use them for purely private ends. They wish to pocket land and water and fire and air and all fruits of these for property, and would like to have Aladdin's lamp to compel darkness, and iron-bound doors, and hostile armies, and lions and serpents to serve them like footmen. And they wish the same service from the spiritual faculties. A man has a rare mathematical talent, inviting him to the beautiful secrets of geometry, and wishes to clap a patent on it, or has the fancy and invention of a poet, and says, "I will write a play that shall be repeated in London a hundred nights"; or a military genius, and, instead of using that to defend his country, he says, "I will fight the battle so as to give me place and political consideration"; or Canning or Thurlow has a genius of debate, and says, "I will know how with this weapon to defend the cause that will pay best and make me Chancellor or Foreign Secretary." But this perversion is punished with instant loss of true wisdom and real power.

I find the survey of these cosmical powers a doctrine of consolation in the dark hours of private or public fortune. It shows us the world alive, guided, incorruptible; that its cannon cannot be stolen, nor its virtues misapplied. It shows us the long Providence, the safeguards of rectitude. It animates exertion; it warns us out of that despair into which Saxon men are prone to fall, — out of an idolatry of forms, instead of working to simple ends, in the belief that Heaven always succors us in working for these. This world belongs to the energetical. It is a fagot of laws, and a true analysis of these laws, showing how immortal and how self-protecting they are, would be a wholesome lesson for every time and for this time. That band which ties them together is unity, is universal good, saturating all with one being and aim, so that each translates the other, is only the same spirit applied to new departments. Things are saturated with the moral law. There is no escape from it. Violets and grass preach it; rain and snow, wind and tides, every change, every cause in Nature is nothing but a disguised missionary.

All our political disasters grow as logically out of our attempts in the past to do without justice, as the sinking of some part of your house comes of defect in the foundation. One thing is plain ; a certain personal virtue is essential to freedom ; and it begins to be doubtful whether our corruption in this country has not gone a little over the mark of safety, so that when canvassed we shall be found to be made up of a majority of reckless self-seekers. The divine knowledge has ebbed out of us, and we do not know enough to be free.

I hope better of the state. Half a man's wisdom goes with his courage. A boy who knows that a bully lives round the corner which he must pass on his daily way to school is apt to take sinister views of streets and of school-education. And a sensitive politician suffers his ideas of the part New York or Pennsylvania or Ohio are to play in the future of the Union to be fashioned by the election of rogues in some counties. But we must not gratify the rogues so deeply. There is a speedy limit to profligate politics.

Fear disenchant life and the world. If I have not my own respect, I am an impostor, not entitled to other men's, and had better creep into my grave. I admire the sentiment of Thoreau, who said, "Nothing is so much to be feared as fear ; God himself likes atheism better." For the world is a battle-ground ; every principle is a war-note, and the most quiet and protected life is at any moment exposed to incidents which test your firmness. The illusion that strikes me as the masterpiece in that ring of illusions which our life is, is the timidity with which we assert our moral sentiment. We are made of it, the world is built by it, things endure as they share it ; all beauty, all health, all intelligence, exist by it ; yet we shrink to speak it or to range ourselves by its side. Nay, we presume strength of him or them who deny it. Cities go against it ; the college goes against it ; the courts snatch at any precedent, at any vicious form of law to rule it out ; legislatures listen with appetite to declamations against it and vote it down. Every new assertor of the right surprises us, like a man joining the church, and we hardly dare believe he is in earnest.

But what we do and suffer is in moments ; the cause of right for which we labor never dies, works in long periods, can afford many checks, gains by our defeats, and will know how to compensate our

extremest sacrifice. Wrath and petulance may have their short success, but they quickly reach their brief date and decompose, whilst the massive might of ideas is irresistible at last. Whence does this knowledge come? Where is the source of power? The soul of God is poured into the world through the thoughts of men. The world stands on ideas and not on iron or cotton; and the iron of iron, the fire of fire, the ether and source of all the elements is moral force.

As cloud on cloud, as snow on snow, as the bird on the air, and the planet rests on space in its flight, so do nations of men and their institutions rest on thoughts.

RALPH WALDO EMERSON.