



"THE BIOGEN SERIES," No. 2

THE DÆMON OF DARWIN

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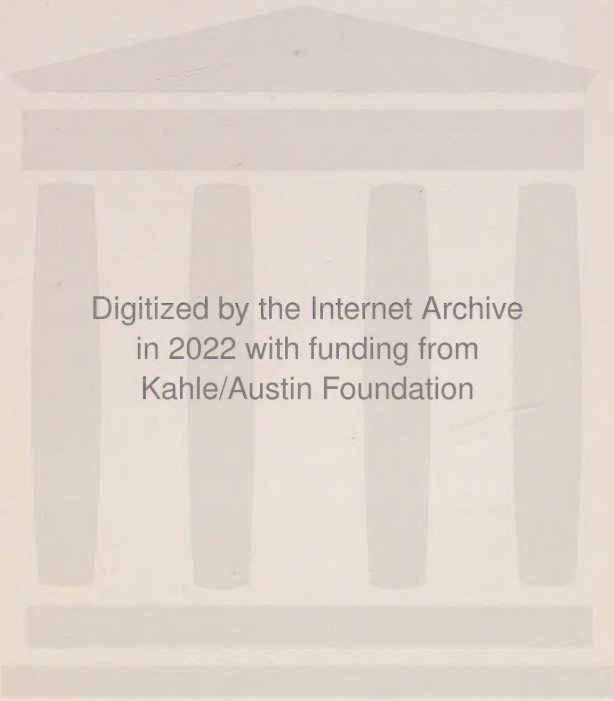
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THE DÆMON OF DARWIN.







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PUBLISHERS' NOTICE.

The undersigned will publish from time to time a collection of books entitled THE BIOGEN SERIES, of which "**Biogen: A Speculation on the Origin and Nature of Life,**" now in its third edition, was the first. The present volume, "**The Dæmon of Darwin,**" is the second of this series. A third, in press, and to appear at once, is "**A Buddhist Catechism.**" The series will consist of concise essays on live questions of the day or of historical research in Religion, Science, and Philosophy, prepared by writers of the most eminent ability, and will be under the editorial direction of Dr. COUES.

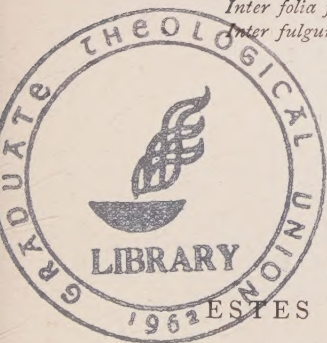
ESTES & LAURIAT.

THE
DÆMON OF DARWIN.

BY THE AUTHOR OF "BIOGEN."

[Elliott Combs]

*Inter folia fructus, inter flores crux;
Inter fulgura luctus, post nubila lux.*



BOSTON:
ESTES AND LAURIAT.

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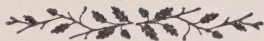
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TO THE
PRESIDENT, COUNCIL, AND MEMBERS
OF THE
BIOLOGICAL SOCIETY OF WASHINGTON,
These Anagogs,
VEILING FROM THE UNWISE THE
FIRST PRINCIPLES OF BIOLOGY,
ARE INSCRIBED BY
A BIOLOGIST.



1762



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P R E F A C E .



S A I D EMERSON, crystal-sighted, truth-voiced, ending an essay on the Understanding : “ The gods shall settle their own quarrels. But I cannot recite, even thus rudely, laws of the intellect, without remembering that lofty and sequestered class of men who have been its prophets and oracles, — the high priesthood of the pure reason, the Trismegisti, the expounders of the principles of thought from age to age. When, at long intervals, we turn over their abstruse pages, wonderful seems the calm and grand air of these few, these great spiritual lords, who have walked in the world, — these of the old religion, dwelling in a worship which makes the sanctities of Christianity look parvenu and popular ; for ‘ persuasion is in soul, but necessity is in intellect.’ This band of grantees, — Hermes, Heraclitus, Empedocles, Plato, Plotinus, Olympiodorus, Proclus, Synesius, and the rest, — have somewhat so vast in their logic, so primary in their thinking, that it seems antecedent to all the ordinary distinctions of rhetoric and literature, and to be at once poetry and music and dancing and astronomy and mathematics. I am present at the sowing of the seed of the world.

With a geometry of sunbeams, the soul lays the foundations of Nature. The truth and grandeur of their thought are proven by its scope and applicability, for it commands the entire schedule and inventory of things for its illustration. But what marks its elevation, and has even a comic look to us, is the innocent serenity with which these babe-like Jupiters sit in their clouds, and from age to age prattle to each other, but to no contemporary. Well assured that their speech is intelligible, and the most natural thing in the world, they add thesis to thesis, without a moment's heed of the universal astonishment of the human race below, who do not comprehend their plainest argument ; nor do they ever relent so much as to insert a popular or explaining sentence, nor testify the least displeasure or petulance at the dulness of their amazed auditory. The angels are so enamored of the language that is spoken in heaven, that they will not distort their lips with the hissing and unmusical dialects of men, but speak their own, whether there be any who understand it or not."





THE DÆMON OF DARWIN.

PART FIRST.

THE LAST OF EARTH.—THE DEATH AND BURIAL OF DARWIN.

PROÆMIUM.

HARK ! The brazen-throated bells are tolling — their merciless tongues are loosed, and their clangor falls with deadening force on the heart of the world intellectual.

Bolts forged on Olympus, compelled from the clouds by the sovereign will of man, are ticking a death-watch through the shivering wires the globe around.

The imprisoned soul of the water, bursting her fluidic bonds, impels the ponderous mechanism till the fair white face of modern papyrus grows dark with the symbols of mourning.

The pinions of Rumor and Echo are spread, and humanity pauses to hear the stroke of invisible wings as the sisters pursue their fateful course dirge-laden.

It is night-time with the flowers, whose heads are bowed, whose foliage breathes not; while the earth-worm writhes in the mould of her own creation, with eager maw for the mortal dust returning.

So comes the summons from the spheres above, so answers Nature's threnody; and there, from the earth that falls away, through the darkness rises a gleaming star!

WESTMINSTER ABBEY.

Now magnify this lecture-hall¹ a thousand-fold. Let walls recede, the ceiling rise, square yield to cross, whose foot is planted in the West, whose head is turned to the light of Orient, whose arms outstretch toward the poles of the earth. Bid arise in mind one of Art's grandest pictures, one of Memory's mightiest possessions, — a matchless structure that all the world holds high among the fanes that point skyward. This is the hoary abbey church, the Minster of the West, that, forefounded by

¹ The "Dæmon" was originally prepared as a memorial address to be delivered from the Chair of Anatomy of the National Medical College at Washington, at the opening of the session, Oct. 2, 1882, and is now printed without material modification.

Saxon Sebert in the misty past, became the lofty realization of the visions of saintly Edward the Confessor, and stands a wondrous witness and reminder of the changes of a thousand years, echoing *Te Deums* of conquests and coronations, voicing dirges when ruling hands laid by the sceptre, when Genius stayed her hand upon the fairy looms of thought. Down by the turbid waters of the Thames, the while they mingled with the bravest blood of Southron and of Northron, and upheld the keels of navies, turning nations' fates, the Minster grew, — mighty, glorious, fameful, a Pantheon for a nation's *Dii Majores*, a monument greater than Mount Athos, whereon the spirit of each passing century should leave the impress ineffaceable of its most regal features ; where yet the spirit of an age full-crowned with progress weaves about the sculptured arch and dome and deep embrasure a deathless, breathless beauty, — the frozen music of the warrior's march of glory, the statesman's tones of eloquence, the light and shadow of the poet's divinest visions, forever linking heaven with earth in points where immortality touches with a time-defying touch the sacred stones that rise above a sacred dust.

We enter this mausoleum, peerless in the Western world. This is the nave and transept ; here is the choir ; these the aisles and the chapels of sovereigns ; this is the poets' corner. Behold the shades of powers, who, while centuries have rolled since

Sebert raised the cross upon the spot where incense had arisen from sacrificial altars with their human victims, have shaped the drama of humanity and colored history. From niche and nave, from crypt and cenotaph, stand forth the forms once focusses of earthly homage. Clad with shadowy splendors, all their pomps restored by some mysterious phylactery, come to view the undying ones of centuries past to greet the great of this. With globe and crown, with shield and sword, with tablet, scroll, and pen; with brush and chisel; with ermine robe and snowy stole; with mail of steel and jewelled raiment: a various throng are these, — the clear-eyed Saxon and the warlike Norman; the proud Plantagenet and haughty, cruel Tudor; mercurial Stuart and heavy Hanoverian: all these with trophies proudly borne, — the lilies of St. Louis, eagles of Germany, leopards of England, lions of Bohemia and of the doomed old King of Scotland.

The bonnie yellow broom waves over the tall form of Edward I., the greatest of Plantagenets, with mien still martial, with the conquests of Wales and Scotland and the blood of Wallace and Llewellyn making light and shadow in his heart. The triple ostrich-plume of Bohemia and the princely motto, long inherited, rise above the light blue eyes and stalwart shoulders of the Black Prince Edward, as the battle-smoke of Cressy wreathes again around the early fated form of that young

Mars of England. Still gazing down the centuries through an endless line stands Edward III. There is the sinister shade of Henry III.; there the form of second Richard, rigid with magnificence still; there is Henry V., forever young in Shakspeare's gay Prince Hal, yet a double shade, standing side by side with the high-souled victor of Agincourt. See the fifth Edward and his royal brother, — a piteous pair, whose fate outwears the sympathies of centuries. Banners bright of the Stuarts, on which the soft mist of the Highland heather overlies the gorgeous hues of England's roses, bend with courteous fronts till their folds fade into pictures of defeat, of exile, and of death. See the Lancasters and Yorks, the royal standards with the roses red and white, and the swift-footed greyhounds of a kindred race, upheld by those whose pulse was ever stirred to valor by women great of heart, — Margaret of Richmond, Catherine of Valois, Eleanor *pia et misericors*, followed by that gentle Mary, sister of King Harry, widowed Queen of France, who, won back to love, became the grand-dame of that fairest scholar, poet, wife, whose head was bereft of a nine-days' crown, who brought her learning and her loveliness to the headsman's block. There is another Mary, not beloved, with narrow vision and vindictive glance, sullen of mien and jealous, bloody, full of horror as the solemn shades from Tower Hill glide noiselessly to intercept her path. Elizabeth again is imperatrix absolute,

heavy-crowned with pearls from Spanish seas, her gray eyes fixed on Essex, and her train upborne by Dudley, Sydney, Raleigh. And, oh! that richest blossom of a triple royalty! that fairest, noblest presence of a queen by right of birth, of beauty, and of suffering!—a Mary on whose life the thistle and the rose alike left fatal thorns where lilies had impressed their early charm; a Queen of Scots still halo-crowned with fealty and homage as immortal as her graces and her woes.

But not alone are kings and queens and courtiers in their regal state; for now, with tread more lofty, come those immortal by divinest right of all, — that gift which holds the keys of all knowledge, all progress, all accomplishment, over-crowning all royalty, over-ruling all powers; eternity's beacons, opening rifts in mysterious realms of truth, showing the face of God to up-looking men. Above them float images and scenes forever joys! In mist and steam are white-sailed barques and floating palaces on watery ways; a fairy arch spans eddying waters of deep straits, connecting shore with shore. A Watt, a Stephenson, attest their deeds. Under bright banners of S. P. Q. R. old Tiber rolls, and heroes tread their steps to glory to the measures of Macaulay's verse. A phantom ship, a motionless sea, an albatross with unwavering wing, a palace full of wild music, illuminate the name of Coleridge; while the splendors of the acropolis, of all the kings that cast their gaze from Sala-

mis, with many a deathless group, rise vivid from the tomb of the great Philhellene poet; and last, while all the moon-lit beauty of St. Agnes' Eve fades out, the nightingale, not born to die, seems still to charm some magic casements, and in the gilded rays of everlasting morning the sky-lark soaring sings, and singing soars, its wing unfaltering lost in that great centre of eternal light which received within its awful glories the matchless genius of a Keats, a Shelley.

A mellow light streams in through tinted windows, and illumines these historic pages. Column after column, span upon span, arch over arch, rise in the long perspective; monuments and grave-slabs, tablets, statuary, effigies, inscriptions, trophies of victorious war, emblems of gentle peace, the trace of the statesman's craft, the sign of the poet's art, of the orator's fiery eloquence; the square and compass and globe of science, the crown of state, the cross of the church, — all, all is here: a thousand years of human life above, around; below, the pitiful husks, the mouldering cerements, the busy worm, his trophies clutched in the ashy hand of Death. The eye grows dim in Westminster Abbey. There, crystal thoughts dissolve in fluent reverie.

What! Is there room for another? Ay, for a worthy one, in this silent city that always grows. Just over here, by the dust of Isaac Newton. The Abbey opens her ample arms, and

gathers the illustrious dead to her restful bosom. Those bells again! Oh! hear the deep-mouthed pealing! See the long procession come into the sacred edifice, — the waving of sable plumes, the bowed heads, and the hush of a mighty multitude! The great life of a nation is confronted and stilled by the calm white face of a world's great dead, — they on this side, he on that, an open grave between; across it the hands of Religion and Science are clasped in the name of God and humanity. The proudest thoughts of British glory — the pride of peers, of statesmen, warriors, divines; of poets, of philosophers, of friends — keep time to the measure of a single heart-beat. The organ sounds a requiem; the appointed voice pronounces dust to dust; the Abbey, fruitful mother, receives her youngest son: and this is the last of earth.

THE VERDICT OF SCIENCE.

It is morning in the great metropolis of London, — in the busy, thronging street, by the home fire-side, in the study, the office, the club, the work-shop; and everywhere rings a clear and certain tone from the mouth-piece of science: —

*Huxley (loq.):*¹ “Very few, even among those who have taken the keenest interest in the progress of the revolution in

¹ In “Nature,” April, 1882, — here quoted almost verbatim.

natural knowledge set on foot by the publication of the 'Origin of Species,' and who have watched, not without astonishment, the rapid and complete change which has been effected, both inside and outside the boundaries of the scientific world, in the attitude of men's minds towards the doctrines which are expounded in that great work, can have been prepared for the extraordinary manifestation of affectionate regard for the man, and of profound reverence for the philosopher, which followed the announcement of the death of Mr. Darwin.

“Not only in these islands, where so many have felt the fascination of personal contact with an intellect which had no superior, and with a character which was even nobler than the intellect, but in all parts of the civilized world, it would seem that those whose business it is to feel the pulse of nations, and know what interests the masses of mankind, were well aware that thousands of their readers would think the world the poorer for Darwin's death, and dwell with eager interest upon every incident of his history. In France, in Germany, in Austro-Hungary, in Italy, in the United States, writers of every shade of opinion, for once unanimous, have paid a willing tribute to the worth of our great countryman,—ignored in life by the official representatives of the kingdom, but laid in death among his peers in Westminster Abbey, by the will of the intelligence of the nation.

“ Acute as were his reasoning powers, vast as was his knowledge, marvellous as was his tenacious industry under physical difficulties which would have converted most men into aimless invalids, — it was not these qualities, great as they were, which impressed those who were admitted to his intimacy with involuntary veneration, but a certain intense and almost passionate honesty, by which all his thoughts and actions were irradiated as by a central fire. It was this rarest and greatest of endowments which kept his vivid imagination and great speculative powers within due bounds, and compelled him to undertake prodigious labors.

“ One could not converse with Darwin without being reminded of Socrates. There was the same desire to find some one wiser than himself; the same belief in the sovereignty of reason; the same ready humor; the same sympathetic interest in all the ways and works of men. He found a great truth trodden under foot, reviled by bigots, and ridiculed by all the world: he lived long enough to see it, chiefly by his own efforts, established in science, inseparably incorporated with the common thoughts of men, and only hated and feared by those who would revile, but dared not. What shall a man desire more than this?

“ Once more the image of Socrates rises unbidden; and the noble peroration of the ‘Apology’ rings in our ears as if it

were Charles Darwin's farewell : 'But now the hour of departure has arrived. It is right that we should betake ourselves to our respective offices, — you to live, and I to die. But whether you or I go on the better expedition is known of God alone.' ”

So lived and thought and wrought Charles Darwin. Such verdict of science attends the last of earth.

To die? To leave the womb of the world through the jaws of the grave. Death? Decorous scythe that severs the useless flesh from the vivid substance, O new-born man !

A more than human being pauses upon the threshold of very life. His idle balance-wheel of time is disengaged, and quickened revolutions of the greater cycle bear him on the endless way.



PART SECOND.

THE UNDERWORLD. — DARWIN DESCENDS INTO HADES,
AND WITNESSES THE MANY TRANSFORMATIONS
OF MATTER.

THE DECREE OF FATE.

Now is the third night in the Abbey ; for the law is written, “Thrice shall the sun descend upon the body newly laid away ere the trembling soul that lingers by its cell shall know itself a prisoner released, — lest it be dazzled with the light of Life, and affrighted, seek again the arms of Death.”

It is midnight. The stillness of the grave is brooding in the darkness. The murkiness of earth strives silently to quench the astral light that flows invisible through the stained windows. A fresh, cool breath of upper air steals past with dewy fragrance. A flash ! — the arches of the gothic roof are stirred ; they waver, oscillate, and rise to span the heavens. Tongues of fire leap

along the fluted columns : the pillars tremble in their misty line ; they separate, recede, and vanish. Angular mosaic pavement is lapped up ; it turns to scrolls, and undulates in rhythmic ebb and flow. A flood of finest ether streams upon each gross material configuration, bathing all forms in instant light, melting in luminous substance every earthy particle, dissolving shapes and shadows of the world in subtile essence.

Oh precious hour, when graves like these give up their dead ! when the souls of those whose fatal dust is garnered in the Abbey are assembled, rehabilitated, visibly to re-enact a splendid pageant of their lives on earth ! A glorious harvest that, which, sown in time and ripened in eternity, gleams in the light of the spirit ! And yet another sheaf is added ! Let the newest one now know and be known of all.

Dim and misty forms — no, shadowy shapes no longer ! — see the shining throng assemble. An endless procession, all sandalled in silence, comes on toward the coronation chair. Majesty leads the way with queenly consort. Jewels flash on crimson velvet and snowy ermine robes of state. Chivalry attends, in mail of mediæval knighthood. The grisly form of warfare grasps the sword, and wears the iron spur. Mitre and crozier and the holy book are borne by the church. The royal seal is set on statesmanship. The fluent pen, the pliant brush, the sturdy chisel, the quivering chord, the histrionic mask, are

wreathed with laurel. The square crosses the compass, whose points impinge upon the globe of science.

The concourse pauses. A deep hush falls upon the multitude. A troop of airy figures hover overhead.

Chorus of Invisibles :—

“Crown him ! crown him ! Child of Nature,
Kingly now in form and feature !
His the sceptre, his the throne,
Now that earth and death are done.

Crown him ! Crown the priest of Nature,
Interpreter to man, the creature,
That whoso solves the human mind
Shall the Creator’s secret find.

Crown him ! Pontifex of matter,
Builder of the truths that scatter
False religions to the wind,
And light the way for all mankind.”

Demoniac Laughter : “Ha ! ha ! ha ! He sleeps well ! A
monkey made man ! Ha ! ha !”

Voices : “See his natal star descending !”

The spirit of a little child descends from the upper air, and hovers over the grave of Darwin in the form of a bright star. He remembers ; he stirs ; he arises ; but he sees nothing, for his soul is so clogged with gross particles that it cannot vibrate in harmony with the æthereal scintillations. Good and evil spirits contend. Fate interposes.

Nemesis : “ I am thy fate, O man ! All things are mine ; they move me not. There is no God but me. I alone was from the beginning. All time is nought to me. Space is filled with my word. Motion is but my breath. In me was engendered matter, — my child, my sport, in every shape it wears. Thyself art mine ; for what is man but matter moved in time and space by my inexorable decree ? ”

Darwin : “ I fear thee not, though I perish.”

Nemesis : “ An atom, blinder than blind force, clashing with thy like ; a particle, propelled by chance ; a molecule that moves, not knowing whence nor whither.”

Darwin : “ There in the grave is all of thine, O Fate ! My soul is not that thing of which thou speakest.”

Nemesis : “ Rash soul, defying Fate ! Then perish ! ”

[Darwin falls into the abyss.]

Chorus of Invisibles : —

“ In the crucible of Nature,
 ’Midst the elemental strife,
 Shall he stand, divine, immortal,

Witness of the dawn of Life.
In the labyrinth of matter,
Shifting since the world began,
Hand in hand with starry genius,
Shall he prove the birth of man.
Guide him, keep him, friendly Dæmon,
To the truths he pondered well ;
Disclose the stately march of Being
Heavenward through the gates of hell."

[The Abbey resumes its wonted aspect.]

THE TRANSFORMATIONS OF MATTER FROM MONER TO MAN ;
BEING THE EVOLUTION OF THE HUMAN BODY.

This is the era azoic. A lifeless globe, shot from the central luminary, wends her elliptic way through space, and measures in her orbit earthly time, divided as she rolls in day and night ; she nods, and seasons of the year attend her onward course. Nebulous atoms, chilled and out of breath in headlong myriad career, losing their radiant energy, slow their vibratory rates till they sink asleep in every various attitude of gross telluric matter, to dream those dreams of chemistry in which all shapes are possible, but realized are none. The mighty incubus of gravitation weighs them down. The most

gross concentrations form a solid crust, congealed like the film of the crucible, about the waning central fires of earth. It is land that is founded; while neutral, uncertain combinations ebb and flow, and the bounds of the sea are set. Buoyant, unstable concourse of the atoms atmospheric waver over all, vainly essaying to blend again with the æther serene, whence they were so lately precipitated.

Well, that Chaos is conquered; well, that Gigantes, the earth-born, are in chains, and the forces of Nature marshalled in cosmic order under the Reign of Law. That is but coherency. What of the greater mystery? What sequence of events which men call law, what causal counteraction, shall effect the restitution, particle by particle, atom by atom, of inert matter to its forfeited estate of radiance?

Older and wiser planets round the fulness of their periods with that majestic sorrow which comes of knowledge only, touched to see a fair young earth take place in the pitiless cycles. "Poor sister!" they seem to say, as they pass in turn; "and is thine too the burden?" For the sleepless Light is streaming forth from an immeasurable focus, and well know they the meaning of his vigilance.

This lifeless globe of particles in patient, orderly array floats on through space, — no void nor vacuous extension, but a shoreless ocean of æther. The subtile energizing fluid penetrates the

sphere of its voracity. Keen currents of terrestrial magnetism flux the mass of stubborn particles. Responsive earth is a mighty magnet now; terrestrial matter thrills to the touch electric, and a gravid matrix throbs with the promise and potency of Life. The Demiurge descends; the Logos broods upon the face of the waters; the seeds of Life are sown in fine invisible fire. A sob, a cry, and Matter is locked fast in the embrace of Spirit, never to be released till the eternal Will is done. And the first-fruit of Earth is Pain. In Pain all living things are embodied to visible shape. When Pain shall be no more, the Forms of Life will vanish.

God geometrizes in the astral light, and mathematics is true,—so true that its truth cannot be expressed in terms of matter. Mechanics is that Titan who wrestled with matter in chaos; but he is in chains below, for a truth not true enough to be trusted at large among men. Chemistry, like Jove, is truer and more cosmic, but neither a first nor a final truth; deal it never so gently with the least atom of matter, the taint is there. Avatars these both, perhaps, to a world in aphelion; neither prophet nor savior to a world rounding the course of *that which is*. Arm them with the sword of Orion, yet shall the belt be loosed by kindlier stars' sweet influence.

Beneficent Pain! What marvellous transfiguration of the face of Nature when the vital principle establishes the new order!

The soul-stuff, shining with fiery spirit, flies along like a tongue of flame, and laps up its myriad earthy particles, that leap with it into new-born combinations as they receive their life. Gravitational modes of motion, relieved of the incubus, waken into alchemic affinities, quicken to vibrations of vitality. Sound-waves are sluggish; light-waves are coarse: only the spirit of fire is quick and fine enough; for see with what unstable equilibrium, in what inæquipoise of untried aggregations, living matter mantles the earth!

It moves in visible mass, a quivering sheet of protoplasm. Its promise is fulfilled; its potency is realized. The physical basis of life is assured. The process of evolution is established. The possibilities of organism dawn upon a world: its realities who shall foretell? Such protoplasmic, such first-formative material, may leaven the whole mass, like a ferment compelling the trial of novel sentient states of being. Chemical elements and compounds are absorbed in new molecular modes of motion, betraying their vitality in the action. Strange modes of growth and repair result in stranger waste and decay; and Death — that strangest of expedients, that happy after-thought of Nature — is the second fruit of Earth. A kind of sense, a dimly-glimmering germ of thought, foretells a state of consciousness, as the spark that flies from steel and stone betokens a hidden life, or witnesses the struggle for release of the spirit drugged with

matter. That spirit sensitizes matter ; it feels, as it flows in the stream of life, the reflex of the throes of Earth's primordial generation. To move, to grow, to feel, is to be alive for every particle of the mass ; it is convulsed at the thought ; it breaks into a myriad pieces ; and, lo ! the earth is peopled with a myriad separate independent beings, — prototypes of all that are to come after. The last law of living being has come into operation : individuation and reproduction of individuals are established. The microcosmic Moner is born : out of this are the issues of life, even the life of human souls ; for the Moners are seeds of the Knowledge of Good and Evil.

This is the dawn of Life, — the first frail tremulous incarnation of individual spirit. The tiny globules are each and every one an arena of warfare perpetual, incessant, between opposite irreconcilable forces of Nature, — the centrifugal, the radiant, the spiritual, and the centripetal, concentrative, physical. Life is not that which energizes, but the index of the energizing tension of inter-atomic repulsion and attraction. The one is within : it is the life-principle, the vital energy, the *vis viva*, the efficient cause, which would drive the atoms apart, dissolve every organism, destroy a world, were not such radiant energy counteracted and held in quivering æquiposes by that which is without, — exterior physical and chemical resistances, which press the particles into closer union, and, like the balance-

wheel of a mechanism, slow the vibrations of the atoms to a rate compatible with vital processes. Living matter, thus impelled by its animation to seek the stars whence flows its inspiration, thus aspirant to the vibratory rate which the keener substance of spirit maintains, is clogged, impeded, retarded at every turn, and moulded into a thousand shifting shapes. Form is born.

Form, — that wondrous expression of reactionary forces within and without the organism! Form, — far more inscrutable than formlessness; for formless beings know all things. Yet are all things possible to Form, — that universal expression and interpreter of existence; for the resultants of modes of motion which Form embodies are incalculable, infinite. Every new form is a new factor in the equation of force: the combinations are endless; their resolution is infinity. There is no spirit without motion: there is no motion if something be not moved. There is then no life without matter; no living being without embodiment; no embodiment without form; no form without substance; no substance without spirit. So rounds a circle whose centre and circumference are one, — that circle of infinitude, an arc of which, subtended by the eye, is seen; an arc of which, subtended by the ear, is heard; an arc of which, subtended by the touch, is felt; the square of which is the difference between human knowledge and divine wisdom.

So the microscopic Moners — symbol and type of all forms — begin their endless journey of being, with life, in pain, by form, to death, held by the jealous spirit within to their appointed goal, but the sport and the prey of the mordant forces which encompass them about. Nature is ruthless, remorseless, lavish ; so careful only of the type, reckless of individual fate. Seed is sown broadcast ; but only the fittest survive. The way is a ceaseless struggle for existence, marked with the milestones of wrecked forms. Protestation is futile : only those forms survive which agree to their conditions of environment ; all others must meet their fate, and perish to realize the decree of Nemesis. Such stern course of Nature is the order of Evolution,¹ — self-

¹ *Postscriptum.* — Legem primam biogeneseos proposuit Haeckelius morphologicus doctissimus ; h. e., “ontogenesis summarium vel recapitulatio est phylogeneseos, tanto integrius, quanto hereditate palingenesis conservatur, tanto minus integrum, quanto adaptatione kenogenesis introducitur ;” testibus moneribus, amœbis, gastræadis, archelminthibus, acranibus, amphibibus, promammalibus, simiis, alalis ; quibus factis, factum genus humanum.

Quo doctiuscule agnostice dicto, gnostice rejicitur : In infimis sicut in supremis ; etiamque de profundis respondet theosophia summa : tam ontogenesis, quam phylogenesis, sive regnum Naturæ naturantis, summarium vel recapitulatio est spiritûs, tanto integrius quanto animâ mundi palingenesis conservatur, tanto minus integrum quanto corporibus animalium kenogenesis introducitur ; testibus et spiritu et Natura naturata ; quibus cognitio, exortum non solum genus humanum, sive divinum larvale, sed natus est homo sapiens, imago.

established, self-mandatory, self-executive ; by which all matter, through countless forms, with endless effort, shall rise to the sublimity of self-consciousness ; and every gross telluric particle, spurning the physical plane, shall thrill with the knowledge of spiritual substance.

So pondered the wisest of the Moners, sitting in his solitary cell, taking counsel with his soul as to the best means of averting impending annihilation ; and the plastidule soul of the Moner said :—

“ Order is heaven’s first law. There is harmony in heaven. Harken to the ringing of the bells of hydrogen ; and hear the music of the light that tinkles through the rainbow prism. Obey thou then in every motion of thy material particles the harmonic law of being, and thou shalt surely triumph over death. Yield fearlessly thy clay to the potter’s hand, surrender thy form to fire and water, and thy transfiguration shall be effected. But hold me fast, surrender me never, for I am the Will of Ego.”

And the moner-cell was melted at these words. It became a shapeless mass, pulsating, plastic, amorphous, amœbiform, groping in darkness, a promise of every form, attainment of none,— a crawling, curdling thing, reaching out in every direction, engulfing the weak as its prey, recoiling from the refuse, parting in two, in four, subdividing and coalescing, waxing apace, bursting and scattering spores in the water broadcast.

Innumerable hosts of amœbas enliven the depths of the sea ; the nursery teems with the studious throng of single-celled plants and animals, learning life's alphabet quickly, in form and in feature, as letter after letter is read of that mysterious abracadabra. Animalcule or plantlet, desmid or diatom, ciliate infusorian or flagellate, swimming free and singly, fixed in spongy masses to the ocean-bed, wreathing in chains, clustered in pendants, sleeping and waking, working and playing, — what elfish elementaries are these that swarm in the protozoan spheres of life ! The nursery no longer holds them back. Fleets of venturesome rhizopods, sailing in ships so cunningly fashioned of sand and lime, may founder at sea, and make up the bed of the ocean, in numberlessness no less than the laughter of waves that alter the coast-line of continents with the wrecks of stranded flotillas. But what of that, since the children of Mother Earth are so many that they cover her face and change her very form ? Examples of death are the earliest lessons of life, by which its alphabet is learned that the swarming things may leap into the combinations of more meaning words.

Thoughtless, insignificant, amœbiform no longer, together come these creatures, individual still, yet social, co-operating, organizing, deciphering a magic formula to find its key to be that every one shall die in turn to save the life of all the rest. A little differentiation of the cells to suit each other's needs ; a

special fitting of the form of each to the useful purposes of all ; adjustment of an egoistic will to altruistic ends, — renunciation proves the paradox ; and Christ or Buddha is in embryo when laws of Protozoa yield to Metazoan law. For what are Metazoan, if not the kingdom of after-life ?

There are no single solitary cells ! Life currents are not pent in each. The conditions and conditions current sweep, with manifold force through batteries of myriad cells. And novel forms result ; the persistence of the war old forms is justified in the scheme of organization. — Crude, lowly, shifting shapes of things are caught and moulded in a thousand expressions of plants and animals, whereas the hard, last geometrical lines and angles of the crystal minerals are fashioned into curves of living beauty.

Reign of the Plant in vegetative kingdom, — Nature verdant, vivified, as matter hastens in each life course over the face of the earth, seeking nourishment from fertile soil, then looking up to foliage, influence, and frostily. — Plant life exhalates from the ocean's bed, and great frocks dreamily away to the ebbing and flowing of waters. — Plant life creeps out of solid rock, and leaves fog close to the rugged surface ; it seeps from the ooze of the spring and the stream, the ferns and the mosses make tapestry there. The mantle of green trails over the ground ; the grasses wave

and rustle ; the flowers nod and whisper and blush in beauty ; the great trees rear their heads in the pride of their vigorous arborescence.

Every leaf and petal thrills with a great secret : their mission is blessed atonement ; for the spirit of evil had wrought with the ancestors even of these, before the higher law of organization evolved from the misrule of a celdom that strewed the air with germs of disease and decay. But nobler forms of plant-life are triumphant in the office of purification. Their ceaseless, silent chemistry provides a subtle interchange of elements. Guided by the light, the foliage absorbs the noxious vapors, transforms and fixes them innocuous, exhaling all the while a vital, perfumed breath. Nor is the heart of vegetation idle ; for with its every pulse the atoms of minerals catch a rhythm before unheard, and answering leap to their cycle of life in the veins of the fecund plant. The lustre of the diamond does not match in brilliancy the record of such lives, though few the jewels be of those who furnish "human nature's daily food ;" whom all the elements obey, who hold all things in trust that they be true to their appointed course.

Wonderful workshop, wherein elements of earth and air and water, from inert stone to most attenuate fluidic things, are taken, interchanged, transformed, elaborated, given up again ! For what this mystery of mediation — this wayside resting place ;

this house half way to the stars ; this plant-world, aspirant, inexorably earth-bound ; these flowers, so gladly heliotropic, so sadly geocentric, blooming but to perish with the shifting seasons? What recompense is their's for life-work done? Let the winged seed answer, sinking back to earth : —

“ By our fruits shall we be known. We are but a promise half fulfilled. We go before to prepare the way. We die that others may live. We yield up our life but to live again in other forms on a higher plane. The sacrifice is well.”

It is the same wise Moner who spoke before, now answering from thistle-down, the cycle of his plant-quickenning run to find but earth again. Yet nothing lives in vain.

Back now again to the ocean, — for all things are fashioned first in fluidic media ; and the “ water of life ” is not an idle formula. The bed of the sea is bedecked with countless forms of living matter ; its surface is spangled with myriad light-bearing creatures. A strange significance there is in all these early things, so newly shaping, investing, restraining the streaming soul-stuff locked in clay ; for Radiates embody natal stars, in microcosmic symbolism, as every vaporous breath of the earth, congealed from the clouds in the snowflake, teaches astrology too. What shall we call these radiant mimicries, whose symmetries are those of stars? Are they Actinozoa, and real star-animals? Or water-

babies, these Hydrozoa? Or Phytozoa and Anthozoa, these flowering plant-animals, whose every form is a dream of the leaf, of calyx, of corolla, like a vision of Flora to a sleeping Faun? What animal after-thoughts of flowers may not there be since Heliozoa, the sun-animalcules, have gone before, with Actinosphærium, Actinophryidæ? Lilies have been, and turned to stone, to encrinites; pond-lilies there are, and sea-lilies too, like feathery stars, Comatula. The palms have waved on the land; and gorgons are waving the sea-fans below. No sea-pen may write the whole story to come, when the wheel-animalcules, industrious, tireless, spin out the threads in rapid rotation; when mosses that slept on the rocks awaken as Bryozoa, and moss-animalcules are countless Polyzoa. Far from the slopes of Mount Ida a mystic Eleusis is building below the waves: Demeter has been. The loose-zoned tosses her girdle aside; and there, where Aphrodite rose, the Cestum Veneris floats.

Twin Eleusinian mysteries, by land and sea! Here rises the coralline forest, — “let there be land,” though ships go down on the reef, — while from every chink of the coralline substance curious wondering faces of the little things peep out, who build and inhabit an arborescent world beneath the waters: a world of water-babies, now toying idly with coral cups, now hearing in wonder the strains of unknown organ pipes, now tickling the brain of a dull giant, whose name is Meandrina, set to watch

them. Sea-anemones sit securely on the branches lazily waving their petals with the tide, and star-fishes creep through the foliage, carefully picking their way, and brittle-stars rest on the ooze below, lest a touch too rude should shiver them like glass. Medusas transparent as jelly float idly in shoals, with gently undulating motion of their mantling parachutes, their tiny cordage coiled, the anchors dragging after. Fleets of Noctilucas ride at ease, and their signalling lights the face of the deep with the gleam of a vital phosphorescence, — pyrotechnics of the carnival in this city of the sea, where matter masquerades to do King Proteus homage with wilder notes of acclamation than ever the Grecian God of the Trident blew on the shells of his sounding dominion. Shells that are scattered everywhere, of every hue and tint, investing shapeless pulpy tenants with the clean-chiselled lines of geometric exactitude, in exquisite sculpture of scroll and spiral and helicoid curvation ; of winding stairway, dome, and cupola ; of valvular doors and patulous vestibule ; of plinth, shaft, and capital, — all polished within to a nacreous iris, rough-ribbed and bossed without ; while over them all the pearly Nautilus, the argus-eyed, sets sail for the unknown haven of a Molluscan world.

“ Ah ! the water is rich and sweet,” said the Moner ; “ but it presses hard and cold, and this infinite argosy seeks no sky. The wind blows the teeming sea hither and thither, never to

rest. I am but the sport of the waves. Let me sleep again in the arms of the mother, for the dream of my life is ended."

Down by the bank of the river, under the roots of the waving ferns, in the slime of the sphagnous mosses, jointed tubular things are stealthily worming their way. The earth is their fatness and riot; all things in their path are devoured. They crawl over plants of the land and water, eating their way through the foliage, tracing the figures of mouldiness, — death's puppets wearing the mask of life. Repletion overcomes the worm at length, and the caterpillar can respire no longer. A stillness, a dreamless sleep — death is brooding deep — but a pang, a reawakening — there lies the empty earthly hall of revelry deserted, the casement rifted! Psyche rises from the ruins of her house, — a butterfly airing and drying her tremulous wings, and pluming herself for flight; a dragon-fly poisoning with lace-like silvery pinions above the whispering reeds. Together they course through the buoyant air, and everywhere the train increases, till the hum of an Insect world drones on the loitering sunshine. From earth to air at a bound, with marvellous metamorphosis, the gauzy creatures come to revel in new-born existences. The flowers receive their guests, and all the plant-world rejoices; there is milk and honey in the land, and sheen of silk and gossamer. Apis and Arachne, Libellula, Formica, Papilio, Cicada, airy spirits all and singular, the

legion followers of Psyche, hold the court of their queen in the hour of joyous deliverance.

“The air is bright and warm,” said the Moner; “but what of the night-time and winter? Ephemerae live but a day, the playthings of sun-beams, the baubles of every zephyr. Can it be for this that I fell asleep?”

This is the spot where the air and the sea and the land are met; the shore-line, the ebb and the flow of the tide. A waif from far away, of parentage long since in oblivion, silently hugs himself. His mantle is drawn over his face; he is absorbed in meditation. The slave of all the elements, rooted to the ground, daily dashed by the waves, daily withered in the wind, what course of life shall come to such as he, — deformed, defenseless, tunicate? Dare he aspire to higher things — to mastery?

“Know,” said the Moner, “that the aspiration of the earthly is answered by inspiration from that which is not of earth. Be not deformed; conform the self; self-conquest is the mastery of all things else.”

It was only an Ascidian that arose and went his way, thrilling at the words. But his mantle fell away, revealing his face, and his seed sowed the world with creatures of heart and brain, true to the type foreshadowed when the coral massed its cerebral volutions.

Flushed with red blood and quivering in nervous tissues, Life urges onward in a mighty leap, and with accelerated impetus the crowding shapes assemble. All that went before are shadows, simulacra, eidolons tossed off in sport, misfit patterns cast aside, things that served in making but to point mistakes. The model that was from all time is disclosed. The lathe of the great artificer turns true at last through all the tracery ; a Vertebrate comes to his kingdom.

There a school of fishes swim the sea, grotesque or graceful, swift, voracious, spawning. Here the scaly lizard glitters with chameleon colors and basilisk eye ; there writhes the lithe and sinuous serpent, distilling his venom. Here broods a bird her callow young ; there rises her mate on joyous wing, and the air resounds with melody. All Nature exults, exuberant ; her breasts are overflowing. Form after form is released from her bosom to speed the appointed way. She is changed in every thing ; transfigured, translated with new meaning, in her life ; for the transformations of matter are accomplished, and the chain of being is perfected to its last link. The end is well, and her labor is ended.

Ended not only in the outward visible shapes of living matter, descended thus in no equivocal generation from the archetype, but also finished in the qualitative substance of the creatures thus engendered through the operation of the universal law

which holds the balance true between the radiant force within each organism and the outward power concentrative which moulds its course. Endless this antinomy, in which the vital principle resides, — an interaction which results in all phenomena of life. For the purpose of the evolutionary process is elaboration of all matter to the highest state of radiant energy compatible with vital modes of motion in telluric states. The automatic action of evolutionary force is that differentiation of the structure of any organism and that specialization of the functions of its several parts which gives the living battery such power that the finest cells themselves respond to the magnetic current, vibrating themselves in unison with the movements of the magnetic streams. As in the physical world without, the elements dispose themselves according to their density, according to the vibratory rates of the atoms of which they are composed, so in the bodily world within, the elements are graded from the grossest to the finest, from the slowest to the quickest modes of molecular activity, — from solid inert earthiness of bony tissue, to the contractility of flesh, the quivering of nerve, the oscillations of the fluids and vibrations of the spirits of the animal. And when the evolutionary process has effected such a masterpiece, so fine as this a fabric in its form, its function, and its substances, — to what expression of what higher purposes, to what sensation of yet other vibratory rates, to what new

knowledge of the alchemy of atoms, may not the fitting willing instrument be brought?

So the Moner pondered. But vain of hope and void of promise all his long experience, his deepest cogitations come to nought. He had seen the setting follow ever after rising of the sun of each new day; each new creature quick with life to slow again and turn to dust, vanishing the very form of clay it wore, — Chronos insatiable, devouring his offspring; Nemesis inexorable, creating to destroy.

“The end is come upon me. I share my life with the beasts of the field, and with them I perish. Nay, I am less than they, — naked, defenceless, with neither their strength nor their swiftness nor their keenness of the senses. Why do I march with the knuckles downward to the ground, with this half-clad half-prone body, this grisly visage, this gibberish inarticulate when I would utter thoughts in words, — the sport and the companion of the great-eyed lemurs who mock me in the darkness, of satyrs and simians impudently insilient upon my shoulders! The body of this death is upon me; the bondage of matter is my eternal heritage.”

And the Moner was moved in his most intimate fluidic particles. The Will of Ego gathered strength from the troubled waters. Like an echo of the words once spoken to the lowly Ascidian came inspiration responsive to aspiration. A finer

than Promethean fire rained down in atoms seminal, tumultuous, irradiant. And a voice was heard, saying, —

“As thou art fitted to receive it, so shall the light be given thee. Yield yet once again thy clay to the potter’s hand, but hold fast me who am greater than the will of Ego. I am the soul’s self-consciousness, which knoweth good and evil. Look within !”

And the Moner saw it was well. Possessing his rational soul, he stood erect, and walked with the spirit imperishable of human being, perfected Man.

THE TRANSUBSTANTIATION OF MATTER FROM THE CORPOREAL
TO THE SPIRITUAL STATE ; BEING THE EVOLUTION OF THE
HUMAN SOUL.

The Dæmon (speaks) : Darwin !

Darwin : Who speaks ?

Dæmon : The same who showed the permutations of matter from Moner to Man. I am thy Dæmon, who was with thee in the crucible, in the labyrinth, through all the march of matter heavenward.

Darwin : I see nothing.

Dæmon : The astral light is in vibration too intense. But thou canst catch the slower undulation of the astral sound-wave ?

Darwin: I do; but this is very strange,—the color of this sound.

Dæmon: Modes of motion of matter in this æthereal state may interchange their qualities,—be heard as color, or be seen as sound, according to the soul's perceptive faculty. The character of objectivity is nothing, everything, it is conceived to be by him whom it impresses and affects. But by my magic I will change the vibratory rate of this æthereal medium about us until it move in ratio harmonizing with the motion of thy very inmost particles, that thou mayst see, as in a mirror, a reflection of the nature of a human soul. Apply thy science, wisest child of earth, and tell me what is visible. When this is rightly viewed, the astral light shall be revealed.

Darwin (gazing in the mirror of his soul): This is passing strange! This is a human form,—a man like me,—all bathed in light, with an inward glow, a sparkling of exceeding brilliancy, which seemingly irradiates the figure from the central fire. I do not understand,—this fire seems to be the love of truth! This cannot be; for who shall see the love of truth expressed in shape, in substance, in the motions of a thing? Love is a passion, an emotion; truth is an ideal abstraction— What! here as modes of motion of a human soul? It seems impossible.

Dæmon : There is no thing impossible, except untruth : the truth is that which is. How can emotion be without three things, — the mover and the motion and the object moved? These are love or hate, as may be. And what abstract ideas are those which men call truth or error, if they flow not from a like eternal trinity, — the thinker and the thinking and the thought? Look once again.

Darwin : I do. The view is clearer now. Why not such things, expressed in modes of motion of the soul, the body spiritual, if (as I taught) all earthly passions and emotions — hopes and fears, will, memory, understanding, consciousness — are modes of motion of the molecules that build the body physical, — gross particles of matter jarred through senses corporate? And now I see another movement of the ambient light which bathes this human figure. It seems to be attracted by some subtile magnetism flowing in a current toward the central spark. Is love of truth magnetic, then, — a force attractive of the light of truth? Stay! is this color now, or sound, — this harmony? It searches out the central spark : two flames are blended, and the union is a thought — a human thought — possessing substance, motion, form, and color, — a scintillation of the shining soul-stuff! I see the central fire growing larger, stronger, brighter; more and more of the outer light streams in among the finest particles all

through the figure with exceeding great velocity, feeding the inner fire till they are one with it in perfect harmony of their vibration. The casing of the mirror falls away: a figure stands itself informed, instinct with light and life, — a human form divine!

Dæmon: Then know thyself! Look there no more. Canst thou not see another now?

Darwin: Socrates?

Dæmon (Socrates): Who else should greet thee here than he whose spirit guided thee thine earth-life through? Thou knewst it not; but all men saw thy method was Socratic. Thy natal star was mine that beamed upon thee in the Abbey church. Thy Nemesis and I are one. 'Twas my familiar spirit speaking through the course of Nature's evolution from the moner to the man, pointing the way of truth through mundane matter to the substance of soul that clothes thy spirit now in brightness. This, thy Dæmon, is the Love of Truth.





PART THIRD.

THE OVERWORLD.—A DIALOGUE TESTING THE DARWINIAN THEORY OF EVOLUTION BY THE SOCRATIC METHOD.

Socrates : Hast thou a mind for converse on philosophy? I have somewhat to say, and would in turn hear thee.

Darwin : With all my heart. Long have I sought the goddess Wisdom, and would sit at feet of her high-priest, Athene's votary. Yet much I fear dispute with one whom never Gnostic, Sophist, Epicurean resisted. Let me attend, not answer.

Socrates : We have no disputation, — rather computation of the truths we learned our several ways. Shall we converse in form of words or color of the thoughts?

Darwin : I do not fully understand, perhaps.

Socrates : That is quite simple, rightly viewed. In this life, as thou mayst already see, thinking is very plain. Gross par-

ticles no longer jar upon the senses, pelting in storms of atmospheric sound-waves on the ear, or putting out the eye with coarse and gritty sunbeams. Thought is free,—vibration of the sentient substance of the soul, quite like the light-waves of the underworld, but finer. Luminiferous æther is the coarsest and the slowest thing we can perceive, and its solidity is painful to the touch. We may attend with ease now to the motion of our sentient substance, either as to its vibratory rates, computing time, or as to the lengths of the vibrations, measuring space. In the former case, assent accelerates the vibratory rates, giving a very pretty play of various colors; while dissent, in differing degree, retards vibrations, interrupts our spectra with dark lines, or, by some interference of the rays, results in total darkness. Plato and I prefer this readiest method, to which our conversation is accustomed. But when he speaks, as is his daily wont, to those who throng his ambulacra, he oftenest selects mere forms of spiritual speech, and matches length of sound-waves with his pupils,—a slower process, but quite apt and sure. With what form then, what words, shall our converse be glossed?

Darwin: I only use the tongue of modern science.

Socrates: And that is only Greek to me,—my mother tongue, a little turned to modern ears in course of evolution. So we shall match our lengths quite understandingly. But

tell me, — well thou knowst my interrogatory way, — tell me what methods of philosophy are left upon the earth. I hear the underworld is very wise in this last generation. Doth science teach the earth is round, or flat?

Darwin : The former, certainly.

Socrates : Like Thales, of Miletus ; Pythagoras, of Crotona ; Parmenides, of Elis ; and Anaximander : an orb, revolving like the other cosmic bodies. We used to hear about the motion of the earth and other planets in elliptic orbits, with eclipses, solstices, and equinoxes. How is it said the earth acquired its spheric form?

Darwin : The nebular hypothesis is the received belief, since late discoveries of the world's astronomers.

Socrates : As of the early ones of physicists before my time. Condensation of nebulous substance, — a ball of sky-dust. But what of the nature of that matter, — what kind of sweepings is it found to be?

Darwin : Atomic. The atomic theory prevails. They teach the indestructibility of atoms, their modes of combination in mechanical and chemical relations, in molecular and molar masses, and the transformations of the particles in vital modes of motion.

Socrates : It seems to me we used to hear those things. Some said they were Egyptian teachings ; some, Phœnician ;

some, that they came from India. But what may atoms have been found to be, — what of their sizes, shapes, and densities, and distances apart? Are they alike? And do things only differ in the way the atoms are compounded, and the way they move? Or are the atoms unlike one another?

Darwin: That is not quite clear as yet. Atoms, indeed, are hypothetical. We think there are such things because it helps us think about some other things called molecules, made up of atoms, two or more; and then, a mass made up of molecules we cannot separate in atoms is an element.

Socrates: Atoms still hypothetical? That is strange. They were so when Leucippus and Democritus, with Anaxagoras, established rival schools of Greek philosophy; and Plato used to say the truth was hard to find between the two. He never liked Democritus, and would have upheld Anaxagoras rather, had he wisely not preferred his own ideas to any kind of atoms. How say they now of solar light and heat?

Darwin: The theory corpuscular has given place to that of undulations of an æther luminiferous, — an all-pervading, tenuous, elastic, supersensible, imponderable substance all through interstellar space, the medium recognized of force-transference everywhere. Light, heat, and electricity are modes of motion each of this æthereal matter, convertible in protoplasm into vital action, — into life.

Socrates: Phœbus Apollo rehabilitated! a modern scientific sun-god! That is well. And so the world doth still possess its soul — I trust — in peace. We used to talk about that world-soul. Some said it was a piece of Jewish superstition that the Kabbalists pretended Hermes had invented to deceive the people; some, that it came from Persia or Chaldea, or was a part of Hindu speculation. *Anima mundi* is it not called now?

Darwin: Nothing is known of that. Such supersensuous phenomena come not within the scope of mundane inquiry. The subject is too large, and insusceptible of proof or demonstration. Exactitude is requisite in scientific methods. Plastidule souls, however, some say they find in particles of protoplasm smaller than ordinary moners, — quite beyond the microscope turned either way. They teach, therefore, that states of matter and its modes of motion are the scientific province; that matter generates its force; its properties are adequate to every exhibition of the chemical, mechanical, and vital powers of Nature. Matter is fixed in atoms, and in molecules, but not in masses; in unstablest aggregations it is protoplasmic, sarcodous, biogenetic, whence all forms of living beings are evolved.

Socrates: Including man?

Darwin: Including man.

Socrates : They reason well, those modern scientists, — like Anaximenes, an early evolutionist, who some centuries before my earthly day expounded the Chaldean doctrines of evolution of the human kind from other animals, and these from lowly-organized amphibians. I never could endure mechanics. Who would not be rather with that other old philosopher who viewed the nature of the universe delighting to alter all things, — to evolve them one from another at her will from plastic substances? Now she makes a flower, now a bird; from the bird some other animal, — and is pleased with her performances. Hermes Trismegistus, a pious evolutionist, it was who wrote: “When God had filled his powerful hands with all those things which are in Nature, he said, ‘Receive from me, O Holy Earth, ordained to be the mother of all,’ and poured everything necessary to the constitution of things; and so was primordial matter filled with the promise and the potency of every form of life.” Hast thou discovered any other origin of species? Hast thou no news, my brother?

Darwin : I fear me not — for the father of the highest Greek philosophy. But men now say such words as thou hast used belong to poets, not to scientists, — expressions all of the imagination, not the reason; foreshadowings of truth, not its substantial acquisition. And such are dualistic views, opposing true monistic and mechanical conceptions.

Socrates: 'T is I am monist: all are monists after death. The dualists are only those to whom half-truths seem whole. The truth is one, eternal, indestructible. Consider now the shifting shapes assumed in its development, — from faint foreshadowings in the dimly-lighted minds of men to its full form and feature in the noon-day sun of reason. What if a thought—a human thought—informed with seeds of truth, implanted in the fertile soil of human minds, should blossom forth and fructify! What *form* should such a thought assume in coming to maturity?

Darwin: That would depend upon conditions of environment affecting evolutionary processes in struggling for existence. With germ and substance always one, the shapes would be as various as the minds of men in which it grew, and manifold expressions of one thought would find their day.

Socrates: Well said! Trace now the evolution of a single thought, — the oldest, youngest, offspring of the human brain, child of the poet's dreams, outcome alike of reason's sternest processes; a thought born in the labor of self-consciousness, in ceaseless struggle for existence midst conditions of environment perpetually testified by human observation and experience. Is there a vital principle in such a thought?

Darwin: There is; it should survive by natural selection.

Socrates: There is a principle, a power, a vital force causative, efficient, energizing, — Nature's mode of motion in the essence, by men interpreted in diverse ways, invested with expression in as many forms. In Oriental language this is *akasa* of ancient Aryan philosophy, the sacred Zoroastrian fire of Persian magic. In Hebrew legend this is flame of burning bush, and Pentecostal tongue, and pillar of fire by night or cloud by day; in my mythology, the Greek Archæus, Zeus Catabætes; in thine, the Word that was from the beginning. So everywhere the Hermes and the Elmes fire burns, — in lightning of Cybele, torch of Apollo; in flame of the altar of Pan, of the Vestal temple; in vapor of the Delphic oracle, in astral, in sidereal light. Have such as these survived or perished in the late learned underworld?

Darwin: Men change their heavens, not their minds, who cross the sea of centuries. Galvani rediscovered *akasa* in subtle, nervous fluid, æther, aura, spirits of the animal, flowing in magnetic currents like the od of Reichenbach, a psychic or ectenic force of animated nature.

Socrates: Then this mysterious, all-pervading vital principle, this Magus, holds accustomed place in minds of men?

Darwin: Assuredly it does.

Socrates: And what the modern formula for such a life of such a thought?

Darwin : My words are, "the survival of the fittest."

Socrates : And which is fittest to survive, — the truth, or error?

Darwin : The truth, assuredly.

Socrates : Assuredly. So on thy theory these things are true. Then by what processes, what active operations, agencies, or laws of natural causality, shall truth survive the struggle for existence, as best fitting all conditions of environment, while error perisheth?

Darwin : That would be by natural selection.

Socrates : Do these words mean some mechanism, or a power purposive, discriminating truth and error, — hence intelligent?

Darwin : Plan, purpose, method, order and design, and perfect adaptation of all means to ends mark every operation of a natural law. Force may be blind, but does not work by chance.

Socrates : Say no more ; not even in the overworld is more than this revealed, nor shall be till the final consummation. Nature and Supernature have a single soul, whose final cause is one unknowable. But since there is a modern scientific Demiurge who made and rules the underworld, — a pretty piece of mechanism, invested with a protoplasmic potency of life, — how fares religion there? Is matter deified, personified, and wor-

shipped with appropriate rites? Have they temples of the Golden Calf, or churches of the Holy Molecule? Are scientists then priests?

Darwin: No more than priests are scientists, O Socrates! These thousand years make little alteration in such things. Shouldst thou descend, an apparition visible, and walk with men, and speak with voice of thy familiar Dæmon in words of inspiration,—first would be said: “This cannot be,” by those who know all Nature’s laws; and then, “Corruption of the youth!” would be the cry of those whose wedded idol is an unknown God oracular. Truth only comes to those who, seeking it, are fitted to receive.

Socrates: Was such thy lot?

Darwin: A bitter hemlock—not to death, indeed; but the rabble hooted, while homuncular vibratiunculations seized the church.

Socrates: Homuncular vibratiunculations?

Darwin: Those little creeps that little men mistake for true religion.

Socrates: Not spoken with thy wonted suavity, O Darwin! But be consoled; compare thy fate with mine. Xantippe—

Darwin: Let us resume philosophy.

Socrates: And when confronted with the judges and accusers, thy apology?

Darwin : Time, and the truth. The sequel showed how ripe the time for truth.

Socrates : Ripe, too, for broken images. And in their places what?

Darwin : A living truth ! And he who fears, may ignorantly worship ; he who knows and wills, make wise interrogation : Nature unveiled !

Socrates : A noble open page ! I would interrogate, — thou knowst my way, — and thou wilt answer?

Darwin : As I am able.

Socrates : Not from this vantage-ground of after-death, — for this proves all, — but from the stand-point of the underworld.

Darwin : As I remember it, before the earthly shackles loosed and fell away.

Socrates : I would inquire the final outcome of thy forms of thought, and evolutionary system. What philosophy applies to man, explaining what — when my Familiar whispered things to me, and Plato taught his human constitution — was miracle, but what thou sayest is now explained in all the schools another way. Are miracle and evolution one?

Darwin : They are, except in point of time : the latter the solution of the former. Evolutionary processes compressed in time would be miraculous as loaves and fishes. Refer all knowable phenomena to timely action of efficient causes, not an un-

known fiat. There is no thaumaturgic, wonder-working "Let there be!"—no miracle, but natural cause, whose working nor in time nor space has science fully comprehended yet. The laws of matter and the laws of mind are one in origin least understood, diverging far apart in manifest results,—results that are but different modes of motion of substantial atoms which compose the human body. Thought is molecular activity of certain parts, as muscular contractions are of other parts; mentality a function of the brain; the final issue, highest power of the corporeal instrument,—something mechanically moving.

Socrates: I take thee at thy word. But see: as nought there is in man but matter moving, then is the human soul material, substantial, having motion most appropriate to the nature of its particles. A modern Psyche, named as such in terms of modern science!

Darwin: I do not speak of Psyche.

Socrates: But Plato doth,—of Psyche, that irrational soul engendered in the body with its life, a perquisite substantial shared by man with all things animate. Inform me now,—are all the atoms of the body one?

Darwin: Ask that philosopher Democritus. Nothing more is known of atoms than their imperishable existence. But the grosser particles—the molecules of physics, and their chemical and vital compounds—are dissimilar.

Socrates : How different then?

Darwin : In modes of aggregation, modes of motion too, and all their varying consequent activities.

Socrates : And what the limit of the difference in modes of motion, aggregation, and the qualities dependent?

Darwin : Narrow indeed to scrutiny of human sense, — such limit as there is between the densest bony matter and the nervous tissue. Thus far does science go, whatever else may be the states of living substance.

Socrates : Does evolution fix a limit to the states to which the substance of the body may be brought through vital processes?

Darwin : My theory is silent on that score ; moreover is the substance of the body quite unknown to any one, — is an hypothesis unverifiable by sense.

Socrates : As is the substance of the mind, — both hypothetical alike. Soma and Psyche — body and soul — alike hang on a single thread of theory, subjects alike of curious speculation. Body and soul both hypothetical by thy confession, — one known no better than the other ! What shall direct our further speculation, lest now it come to nought?

Darwin : The reason — human understanding — is the only guide to knowledge.

Socrates : So rounds the course of human speculation ! Con-

fessed is by thee the Nous of Plato, rising ever like the sun to light the way. This is the Rational Soul of Greek philosophy again, in modern drapery. Thy theory of evolution rediscov-ereth spirit and the soul in human constitution ; Nous, Psyche, Soma, — trinity of single being ! Again I ask, Hast thou no news, my brother ?

Darwin : I am but human, — not infallible, omniscient.

Socrates : None is more than human, that summation of the natural. But having found the Nous, may not that rationality divine apply itself to contemplation of the other two with which it hath its sojourn ? Do thy disciples search a Psyche in the body ? Do they think of man's undying destiny ?

Darwin : Do they not, they miss the spirit of my teachings ; and the laws of Nature, couched in all phenomena of life, have no significance for them. There must have been the time, the place, where Being from Not-being came, — a circumstance inscrutable, unknowable. There must have been the origin of life, in time and place alike unknown. To this, not science nor philosophy apply, but idle speculation drifting unintelligent, or reverent faith as futile. Nor am I one with those who, bringing all things out of nothing, would discourse too knowingly of Deity ; nor yet with those who, fatuous, would bring all things to nought by stripping them of meaning. But, given cosmic continuity of Being, I would seek the processes by which a

something is evolved from something antecedent, and the orderly unfolding of embodied life from simplest animated particles to bodies most complex, — to man. This method of creation is a proper study, meet to exercise the human understanding. Life is there, — a Psyche, soul of matter, everywhere evolved from every form that matter takes ; a Mind in Nature, duplicate substantial of the shapes she wears. And as the end of evolutionary process is not yet, science will wisely set no limit to the possible, presuming not to say what form and substance Psyche may assume in future states of being, — what Logos Nous may execute.

Socrates: Darwin, “Thou reasonest well.” The terms of Greek philosophy sound stronger with the meaning after-centuries have found, since mind has been applied so close to nature that the two seem one possessor of each other’s mystery. Let me in turn select the phrases of a later day, to indicate the subtile chemistry by which that “duplicate substantial” thou hast named, that spiritual body, is evolved by natural selection from the grosser states of matter which compose the earthly body, and thus fitted to survive. Such is the human soul, investiture of spirit, which configures spirit in the overworld as is itself configured by the body in the underworld. No thaumaturgy this, the growth of soul, but natural law, which operates on matter to a defined result, yielding soul-

substance in the process : matter still, but altered in the aggregation of the atoms and their modes of motion, sensed by the rational soul in terms of thought. So doth thy new philosophy confirm the old ; so mayst thou, from thy lofty station with the stars, disseminate thy fruitful spirit everywhere, that earth-born man, his feet the solid ground of Nature treading, firmly may cross the threshold of the unseen world, to view eternal verities.



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