

## ARTICLE IV.

## SCIENCE AND PRAYER.

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## III.

WE now come to the third general division of our theme, that God not only can effectively interfere, either by direct or indirect methods, without working any disorder, abrogating any law, or destroying any force; and that he not only has, in fact, thus interfered again and again in all ages and in countless matters of moment, but, further, that it is not only not presumptuous, but most natural and reasonable, for us to expect that he will interfere for us individually, however insignificant we may at present seem to be.

It is claimed by those who controvert this position, that God has, as we have already remarked, adopted broad, comprehensive plans, in which he has regard to general interests, and not to exceptional cases; that in these plans he is as unyielding as granite; that his interferences have been in the nature of creative fiat, simply for completing these wide-reaching original designs; that he has no time or thought for individual cases; and that, if any one of us would secure any of the benefits of the present order, we must make these plans a careful study, and adjust ourselves to them as best we can, and not expect their author to break in upon them and give his personal attention to our private, insignificant interests. In other words, we must rely on our own exertions for any modifications of our environment, must master the secrets of nature, comply with her laws, if

we would make her forces our servitors and become masters of our circumstances.

There is apparent warrant for such a view. It would seem as if the individual were indeed lost sight of,—everything is on so vast a scale, every part of this wonderful mechanism of a world is so far reaching in its results. The earth's whirl on its axis brings day and night for all; the inclination of its axis to the plane of its orbit and its circuit round the sun determine the change of seasons, the rise and fall of tides, the width of zones, the force and direction of the great trade-winds, the character and limitations of vegetable growths, the nature and habitat of the fishes, the birds, and the beasts. The sun ceaselessly pours out in every direction that mysterious influence which we call light. It indifferently enters hovels and marble halls. It comes through every open doorway, every uncurtained window, every crack and crevice. It purples the velvet petal of the violet and fills it with fragrance, and afterward, with seemingly heartless haste, rots that same petal to shapeless, colorless, odorless dust again. It kisses the sheltered valley into waving harvests, and at the same time, with other of its rays, scorches the sand wastes with death's desolation and silence. At one time it darts in through the pupil of the eye, and with exquisite art transfers to the retina the outer glory and thrills the soul with strange rapture; at another, when the delicate nerves are aflame with fever, it tortures with its touch, and blisters and blackens that very same canvas it had with its swift pencil painted with splendor. An atmos-

it, as all substances, fluids and solids, have their every particle encased in air. What interminable leagues of tossing billows, with their glistening foam-caps breaking over the white-winged sea-gulls of commerce as they hasten on venturesome errands over the treacherous depths, some to reach safe shelter, it may be, in distant ports, some to fly wildly before an angry storm and sink into the opening jaws of a hungry sea! Fire, though not actually, yet potentially, is also omnipresent. Even the ingredients of water itself will burn, and in the fierce flame which their chemical union kindles, the metals and the earths, even fire-clay itself, will be consumed to ashes. Forests, grasses, and peat-bogs, underlying beds of coal, countless reservoirs of oil, are ready for the torch. Angels and demons of combustion are all about us. They stand in waiting on every hand, ready with their ruddy faces to beam kindliest cheer from our furnaces and chimney corners and swinging chandeliers or to blaze in mad fury amid the crumbling walls and rafters of our homes. They will cook for our tables, smelt our ores, draw our trains of trade, turn the wheels in our workshops, multiply our comforts a thousand-fold, or, if we are not aware, will, as very fiends in their wild work of a night, turn our proud Chicagos into smoldering ruins. In some far past the whole earth was but a burning ball, and lava streams and earthquakes and smoking craters tell us that the primal fires still rage within. This elemental force has been provided on a grand scale. The economic scheme of which it forms a part embraces the farthest fixed star in its infinitude of thought.

Electricity, the latest utilized force of nature, has been found to bear the same stamp of universality and to stand toward us in this same twofold relationship. It falls from the clouds in death-dealing thunder-bolts; it also with deft fingers renders invaluable service in the civilizing arts of life. It becomes the winged Mercury of the mind, carrying

thought-messages across continents and under seas with well-nigh the swiftness of light.

As we thus study nature force by force, attribute by attribute, and note this feature of universality pervading all, and this dual relationship which each sustains of blessing or cursing, as angel or devil, how powerful and painful the questioning, whether, after all, it is not too true that exceptional cases, or individuals during exceptional crises, have failed to enter as factors into the thought of God in the dispensations of his providence; whether individuals have not been placed in the midst of the same possibilities; and whether it does not rest with each to bravely make the best of his environment, and trust to his own right arm and stout heart to carry him through! And, besides, is not God's universe so wide, are not his cares so multitudinous and complex, that he has time to make only general classifications, establish wide-reaching laws, delegate great secondary causes, arrange his forces on a scale graduated with mathematical precision, and set them at work in grooves unalterably fixed? Is he not necessitated to take simply a sweeping glance, contemplate in the mass the swarming myriads of beings evolved from the dust as the grand processes of life go on? Has he not thought it sufficient to establish the great dynasties of organized living creatures that through the ages have seemed to rise and sink with the regularity of the tides of the sea? We cannot even number the massive worlds which he has set whirling through illimitable space, and which must demand at least his general supervision and require his constantly sustaining power.

At first glance we are apt to conclude, viewing the subject from this standpoint, that there is indeed no individualizing in God's providences, no attention paid to detail, no more note taken of the units that make up the mass than the farmer takes of the separate kernels of wheat which he harvests from his fields. Here moves by a cloud of locusts dense

enough to darken the sun ; an east wind rises and greedy ocean-billows swallow them up. A volcano bursts, and a Herculaneum with its thronging human life is swiftly buried in a grave of ashes. There comes an earthquake shock, and a Sodom sinks into the sea ; a steamboat disaster, a railroad accident, a visitation of cholera, a breaking out of fire, a caving in of a colliery, a whirl of a cyclone, and scores and hundreds of human lives perish in an hour. Is it probable that the individual arrests the attention of the Almighty in the great ongoings of his providence? Have you and I, in our little corner, ever attracted his attention, much more excited his interest? Has his great heart ever beat in love for each one of us? Has he ever called us by some dear name and watched with tender solicitude the unfolding of our powers, entered into sympathy when our hearts have bled with bereavement, or been crushed with failure, or made desolate by estrangement or unfeeling neglect? How many hours in the life history of every one of us are darkened by a sense of utter loneliness! How many times our hearts cry out for the appreciative sympathy of a divine companionship! Oh for that comforting assurance which blessed Christ's sorrow-wrung heart when he said, "And yet I am not alone, for the Father is with me"! Is it presumptuous for us to think that that assurance may also be ours? That it is not, I believe to be the unmistakable teachings, not only of the Sacred Scriptures, but of all animate and inanimate nature and of all sound philosophy.

The Scriptures are full of this consoling revelation. There is rarely a page not illumined by it. To teach it was one of

sleepless watch over them. Even the hairs of their heads, he confidently assured them, were all numbered.

Such like disclosures, so many and so explicit, throughout the books of the Bible, find most abundant confirmation in the facts of science. The geologist and the chemist, the botanist and the naturalist, have in their separate departments found phenomena which the Christian philosopher may boldly claim as incontestable evidences of God's sympathetic presence with his children. The more deeply nature is searched, the more convincing the proofs of God's infinite painstaking for his creatures. His plans to these ends have evidently been thought out to their minutest details. We are overwhelmed with astonishment as we see into what small concerns he has suffered his thoughts to enter, and out of them by an ingenuity of contriving possible only to a creator of limitless resources has wrought results of far-reaching import. No candid student of nature can fail of becoming profoundly convinced that there is absolutely nothing, however inconspicuous, that does not only embody a divine thought, but in some way plays a part in carrying out the promptings of a divine love.

If any one in his hours of depression is haunted with the feeling that he is too insignificant to attract God's personal attention, much more be the object of his constant loving care, he will find himself wonderfully reassured if he will lay down the telescope and take up the microscope, for he will soon see that the fault is all in himself, in that he has had a far too meagre conception of God's thought-range and

precision of touch to fashion the finely reticulated wing of the ephemeron. The same art-conception and marvellous skill that paint the sunset and bend the rainbow have touched with most brilliant pigment each feather in the plumage of the fly. The same musician who has conceived the grand organ harmonies of ocean-billow and thunder-burst, has also adjusted, part to part, with loving care, that sweetest of musical instruments, the throat of the sky-lark, whose wild rapture of song so thrilled the ethereally gifted Shelley that he immortalized it in verse as the blithe spirit-voice of the air.

God apparently shows not only the same infinitude of care, but the same keen personal delight, in his works in the domain of the minute as in that of the vast and the mighty. Look deeply as we may into nature with our most powerful artificial lenses, even to the very microscope-limit, we can detect no hasty oversight, no cold indifférence, but exhaustlessness of patience and lavishment of thought, and in every detail of each work an absolute faultlessness of finish. Illustrations of these comforting truths abound all about us. The world is full of them, but I have time to cite only two or three.

There is a class of microscopic animals, the Diatomaceae, which have existed in such vast numbers that entire mountains have been found composed of their remains. The forms of their infinitesimal shells when magnified are discovered to be of most exquisite beauty and of every conceivable pattern. "In the same drop of moisture there may be some dozen or twenty forms, each with its own distinctive pattern, all as constant as they are distinctive, yet all having apparently the same habits and without any perceptible difference of function." Neither sexual nor natural selection has, as far as we can discover, any governing influence here. In these varied beauties are there not evidences, which scientific theorists have so far

failed successfully to controvert, of God's giving his personal attention to the adornment of the minutest of his creatures, to his conceiving and embodying in innumerable faultless forms and pleasing combinations of tints his conceptions of beauty? How this infinite painstaking has benefited these mysterious specks of life, we have no means of determining. Perhaps they come and go without having the faintest intimation of the symmetries and colorings which the Divine Architect and Artist has, by the interposition of direct will power, introduced into their calcareous palace-homes. We cannot prove that it was for their especial benefit these patterns and paintings were designed. Perhaps the ultimate purpose was the aesthetic culture of inquiring human souls, or it may be that other and even higher ends will come to light in some after age. Certain it is such painstaking implies a purpose, and whether we can discover it or not, the fact brings with it, to every thoughtful mind, with overwhelmingly convincing force, that God is personally conversant with, and has taken an active personal interest in, the life-furnishings of creatures so minute that their individual forms are to us absolutely invisible without the aid of the microscope, and so low in the scale of being that naturalists are still divided in opinion as to whether they are animals or plants.

The inorganic world equally abounds in illustrative proofs of this same comforting truth. I will select a single one. The luminous flame that has brightened human homes through all civilized centuries is an aeriform chemical combination of hydrogen with oxygen and carbon. The difference in the degree of inflammability of the first two gases is the cause of all the illuminating properties of the flame, and yet that difference is so slight that the times of their ignition are separated by a period absolutely imperceptible to our unaided senses. The hydrogen takes fire a

unites with the oxygen of the air it lets go its chemical hold on the carbon, which the instant it is thus released changes from a gas to a solid, so that into the colorless flame of hydrogen is constantly being showered the finest carbonic dust. These minute particles become little glowing coals emitting a brilliant light just for an instant, and then, like the hydrogen, spring into the chemical embrace of the all-devouring oxygen. The infinite painstaking here displayed, the delicate nicety of adjustment, the critical attention to the minutest details, are no less astounding than the world-embracing beneficence of the results.

The case of the little brown water-spider, to which brief allusion has already been made, is the only other illustration I shall have space to give of God's personal, painstaking care over the minutest matters in his kingdom. In common with the numerous species of this order of articulates which abound in all parts of the world, this diminutive creature has had given to it four pair of seven-jointed legs, the last joint armed with two hooks toothed like a comb, frontal poison-fed claws, eight eyes and a multitude of spinnerets from whose infinitesimal openings issues a glutinous liquid which the instant the air strikes it hardens into threads invisible from their fineness until they are massed together into a single, strong, elastic cable. But it has furnishings and instinctive impulses peculiarly its own. Its body has a thick covering of hair which it has been taught to most curiously utilize. Strange to say, this air-breathing animal is prompted to build its home and rear its little ones on the beds of streams, and the devices by which it has been enabled to surmount what to us would seem insuperable obstacles may well fill us with admiring wonder. It weaves a diving-bell, air-tight, mouth downward, and ties it tightly to the bottom. Then coming to the surface it covers its hairy abdomen with fine web, lies on its back until all the interstices between the hairs and the meshes of web are filled with air, swims under

the bell, presses out into it the entangled air, comes again to the surface, and repeats the process, until all the water at first in the bell has been displaced, and the bell made habitable.

In all this procedure the spider has unquestionably been guided by Him who equipped it. No candid and appreciative observer can fail to note this, for what, can it be imagined, first determined it, supposing it to be following out its own thinking, thus to locate its nest under water, for it has no gills fitting it for such a habitat, or how did it study out so ingenious a method for making such an undertaking possible? The inventor of this bell must have known that air is lighter than water, that it can be mechanically retained in fine fabrics, and that when introduced into an inverted receiver it will crowd out the water, instead of being absorbed by it. Has this spider been so close a student of nature as to have discovered these laws of physics, and is it so gifted an inventor as thus ingeniously to have applied its knowledge, without either instruction or experience? This daintiest of palaces must have been thought out in all its details before the spider began spinning its first thread, for the weaver shows no hesitancy and makes no mistake. It must also have been the work of a single mind, for its parts are so intimately correlated that the absence of a single one would not simply obscure the conception, it would totally destroy it. There must be either perfection or flat failure. This alternative was presented to the first spider of the species. I would like to show, had I time, how this little creature is also equally blessed with divine guidance as to how and where it shall deposit its eggs, how enwrap them in clusters with silken cocoons for protection and warmth, when and how to release the tiny babies from their coverings and transport and feed them when first they come, as they are sure to do, in swarming and hungry companies.

The equally marvellous prescience and skill displayed by

all instinct guided creatures and their equally marvellous equipment for their work, afford us illustrative proofs without number of God's most intimate acquaintance with, and loving care for, the momentary interests of earth's speechless, soulless, perishing myriads. Neither their implements nor their skill can be accounted for as the slow outcome of stern experience, for their instinctive promptings are followed blindly, and their wisdom and skill antedate experience, and are independent of the aids of instruction or of any working model. To the progenitors at least of every animal species, there has come a direct divine impressment and informing. New wants with correspondingly new implements and new instinctive impulses issued from the creative will of the Almighty. Provision was doubtless made at the incoming of each species for the transmission, through laws of heredity, of such traits as should constitute its distinctive endowment, and thus a general supervision over each species instituted.

But still more specific provision seems to have been made to cover exceptional necessities, to answer the demands of exceptional crises in the individual lives of the seemingly most insignificant. There appears to have been left a certain latitude of modification and amendment of instinctive promptings. As I have already remarked, animals unquestionably possess, in common with us, not only blindly followed instincts, but sense-perception, association of objects and ideas, automatic attention, involuntary memory, indeliberate volition, reproductive imagination, sympathetic emotion, and emotional expression. Though the phenomena of their thought-life may be classed under these lower forms of mentality, though they may never rise to deliberative, abstract, introvertive thinking, may never attain to self-consciousness,

general provision through instinct could be secured. This clearly evidences to us that God's providential care, even over the lowliest, extends beyond the segregated mass that constitutes the species to each separate individual in it, and even to that individual's exceptional needs. The thinking here displayed, though outside the circle of instinct proper, will still be found, on final analysis, to be God's, and not theirs.

To receive the full force of this comforting truth, we must keep in mind that all this loving care is taken for creatures of a day, who are here hemmed in by simple sense, and who have promise of no to-morrow; and we must also keep in mind, what science has not only conclusively demonstrated, but illumined and glorified by its extensive researches, that man is a microcosm, the crown of creation, the consummate flower of all the ages, that it was for him this world was provided with its mineral deposits, rock-quarries, and coal beds, with its vast reservoirs of oil, its dense forests and waving grains and grasses, with its flocks and herds, with its mighty elemental forces, with its flower-petals, its arching rainbows, and its painted skies.

It was to secure for him, Nature's sceptred king, a fitting environment, that all the mighty processes of evolution had been carried on through all the untold geologic eons of forgotten time, and it was for him earth was fitted up, not as a permanent home, as the all-in-all of his existence, but simply as a first year's training school for powers which, though barely budding now, have in them the promise and the potency of an endless life and of a divine likeness. A single deathless human soul outweighs in worth ten thousand worlds of lower sentient life.

Having described at some length the general character of the

ple statement that the more profoundly phenomena have been studied by scientists and scientific philosophers, the more clearly and gloriously have shone out the truths to which I have just alluded; that God has been busied through untold ages in preparing for man's advent, that man has been the grand goal of his endeavor, the *ultima Thule* of his creative thought on this planet; that all this prolonged preparation could not have been merely to render comfortable a short-lived and low-planned animal existence, that this patient approach could not have been to a consummation so inconsequential and unworthy, but that he for whom the centuries have been so long waiting and to whose coming they have been pointing with prophetic finger, who fulfils the types, completes the prophecies, wears the crown, surely was not born to die; and that he who has proved himself capable of unravelling the intricacies and following the vast sweep of the divine thought as is evidenced by his discoveries in science, his classifications of knowledge, his advancement in the arts, his rapidly approaching universal mastery and ingenious utilization of nature's forces, his unconscious duplicating of God's thought-processes as incorporated in the lives of the world's silent, instinct-guided workers and in the mechanism of their bodies; he who has proved himself capable of so apprehending the spirit of God's vast creative plans as to be able to become his sub-creator, noticeably multiplying and improving the products of vegetable and animal life, making the waters swarm, turning deserts into gardens, developing the crude possibilities of untamed nature; he whose whole being can thrill with harmonies of sound, of form, and of color, and who has not only reproduced them but carried them to grand exaltations in oratorio

the thought-life of God ; and, finally, he who has had entrusted to him, what far transcend everything beside, the responsible gifts of moral discernment and liberty of choice, out of which alone character can come, surely must have reached, in point of privilege, the very top of being, and must possess in living germ the very attributes of God himself, with all the golden possibilities of growth in God's eternal years.

When we thus attempt to measure the worth and dignity of man, we must also keep in mind that each individual soul comes fresh from the Creator, and is not simply the product of processes of evolution begun in some far age and perpetuated by secondary causes which God has long since ceased to superintend and to whose general outcome alone he has ever directed attention. The soul's environment, its body and its wider surroundings, is indeed the result of such processes, but each soul is in itself a unique spiritual entity, bearing the imprint of a distinct personal purpose, and constituting the embodiment of some cherished ideal, some fond anticipation, some sacred love, right out of the very throbbing heart of God.

The drift of the centuries has been to an ever more complete development of individuality; it has been a progress from homogeneity to heterogeneity; such has been the history of evolution from the dawn of time, as Spencer, Huxley, and thinkers of that school have, through learned and brilliant treatises, informed the world.

It is not the great mass as such that excites God's loving interest, but the individualized units in it. It was not the creating and provisioning of a mighty human race simply as such that was the *ultima Thule* of his thought, but the developing of the distinctive personal traits of individual souls, and the establishing with them at the last, after discipline has done its work, intimate and eternal companionship. To think that God ever purposed to stop short of this would be to belittle his plan, belie the teachings of all sound science

and philosophy, leave the grand scheme of evolution incomplete, and judge of God as being coldly self-contained, craving no sympathy, contentedly sitting apart in eternal isolation, wholly unresponsive to the tender pleadings of his children.

When we discover that God has given his personal attention and poured out a wealth of inventive thought on every particle of dust, on every minutest fibre of every leaflet, on every organ of every infinitesimal creature, we can no longer reasonably withhold our faith in his sympathetic presence with the humblest of his human children. And so science will eventually forever silence the fear of the self-depreciating, who, in their discouragement, are tempted to doubt whether the great God of the universe has ever in the vast multiplicity of his affairs particularly noticed them, much more kept loving and tireless watch over their personal destiny, or ever sought for their confidence and the outpouring of their longing and their love.

But science has not only convinced us that we have no valid reason for questioning God's sympathetic presence, but furnished the strongest possible grounds for resting our full faith upon it, and making it the delight and inspiration of our burdened souls. Those grounds it furnished the moment it published its discovery that every form of vegetative and animal life demanded an environment, that it has no resources in itself for self-maintenance, and that also within its reach it invariably found that on which it was fitted to feed. Plants have required soils and sunlight and distilling dews, and they have found them. Though almost countless the peculiarities of need, no species has appeared for which provision has not been made awaiting its advent. The seaweed found its ocean bed and salted surf; the cactus, its parched sand plain; the lichen, its rock; the edelweiss, its Alpine height; the gills and fins of fish, oceans of water; the wings and lungs of birds, oceans of air. Our eyes have

found objects without to be painted on their retinæ within and artist-sunbeams to paint them; our olfactories, the air loaded with odorous exhalations; our nerves of taste, a wide variety of flavors to select and enjoy; our ears, all nature vocal with a grand concert of song. Not only are our bodies constituted to touch and take in an environment and find one wondrously suited to every need, but the same is true of both our intellectual and emotional capacities. All nature abounds with suggestive thought. It is full of mental stimulant. It is a book in which every grade of intellect finds passages of absorbing interest and deepest import. Its leaves are turned eagerly by prattling children, gray-haired savants, matter-of-fact men of affairs, dream-enamored poets, and system-building philosophers. Its lore is still unexhausted, though the human race for scores of centuries has sought to master it. It has depths of meaning which human insight has not yet fathomed: heights of sublime exaltation to which not even the most spiritually gifted have yet attained. It is full of open letters to every son and daughter of earth with every sentence penned by a divine hand. Our longings for intellectual and sympathetic interchange with our fellows have been met through literature and arts and architecture, through family ties and ever widening social circles. But with this almost infinite painstaking to provide a fitting environment for man, there is a want which in all the fulness of God's works there is absolutely nothing suited to satisfy. Man in his higher nature craves a sympathy which no creature can give. Unless these spiritual aspirations and deep longings, the sure tokens not only of his divine sonship but of his divine likeness, can find a divine environment of companionship, of interchange of thought and affection, all that is God-like within him will languish and die and he sink to brute life or below it. National and individual history, wherever people have self-exiled themselves from the Father, has furnished sad cumulative proofs

of this. Is it reasonable to suppose that a plan so wonderful in its elaborate painstaking and masterful achievements, exhibiting such seeming exhaustlessness of inventive resource, would fail just where a failure must prove so disastrous? Is it reasonable to suppose that God would create man with a capacity and a longing for his own sympathetic presence, indeed make that presence necessary to his well-being, and then withhold it? that he would give him spiritual lungs on whose respiration of an atmosphere of divine loving recognition his spiritual life depended, and then leave him to pant and die in a vacuum? These questions carry with them their own emphatic denial. To proclaim this grand fact of God's sympathetic presence and to embody it in a life was the glory of Christ's mission to this sin-cursed and sorrow-burdened world. He even sealed it with his blood.

Thus from nature, philosophy, and the revealed word there comes to this life-giving fact a threefold confirmation.

In our lonely hours, in hours of desperate battling with temptation, of bitter bereavement, of perplexed and care-cumbered thought, at times when our hearts bleed with poignant regret or through unjust accusation, when friends on whom we have leaned or in whom we have confided the sacred secrets of our inner selves have become estranged, through the long days of languishment on sick beds, in moments when with streaming eyes and trembling lips we bid good-by to loved ones, in every hour of need, we are privileged to say, as did the Saviour when the dark clouds gathered about him, "And yet I am not alone, for the Father is with me."

Out from God's sympathetic presence into the chill night of an endless death the insupportably wicked finally go out