



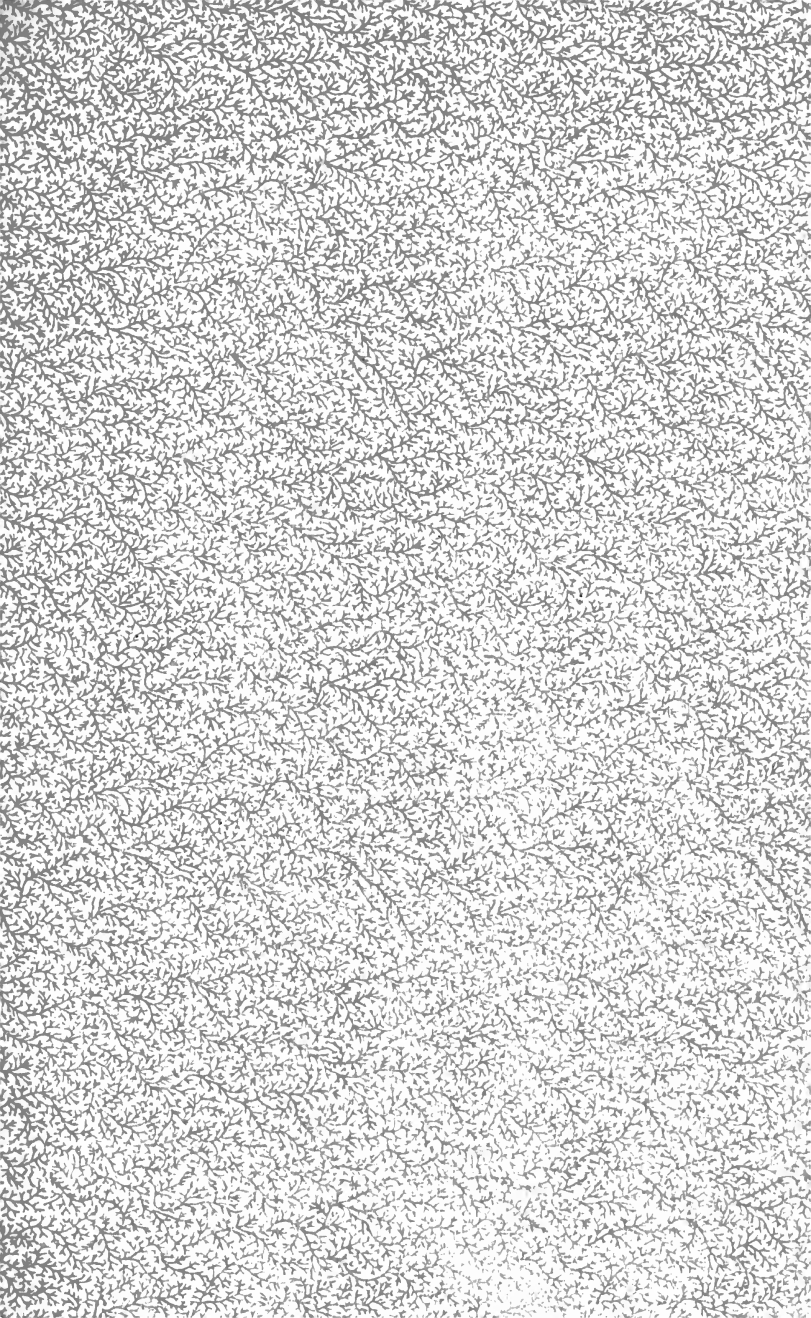
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March 22nd 1897.

The Incorporated Society of
Science, Letters & Art, of
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WILLIAM KENT, M. D.

SUBSTANTIAL
CHRISTIAN PHILOSOPHY;

OR,

TRUE SCIENCE IN HARMONY WITH NATURE, MAN,
AND REVELATION, SPECIALLY DESIGNED
FOR YOUNG PEOPLE.

COMPILED BY
WILLIAM KENT, M.D.

The Scientific portion is largely from the writings of A. Wilford Hall, Ph.D.,
LL.D., and his Distinguished Contributors in the *Scientific Arena* and
Microcosm, and carefully revised by Dr. Robert Rogers,
formerly associate editor of the *Microcosm*.

NEW YORK:
JOHN B. ALDEN, PUBLISHER.
1895.



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W M. KENT, M.D.

MR

TRUE SCIENCE THE HANDMAID OF REVELATION.

“For his unseen things, from a world’s creation are to be clearly seen, by the things made being perceived—both his eternal power and divinity (or divine nature), to the end they might be without excuse,” Rom. i. 20. Rotherham’s translation.

“By faith, we understand the ages to have been adjusted by declaration of God; to the end that, not out of appearances, should that which is seen have come into existence,” Heb. xi. 3.

The same Greek word *aion* rendered “ages,” is found in chapter i. 2; Eph. iii. 11; Matt. xi. 32.

“Great are the works of Jehovah, sought out by all desiring them,” Isa. iii. 2.—Young’s translation.

“Ye search the Scriptures, because ye think, in them, to have life age-abiding, and they are they which testify of me,” John. v. 39.—Rotherham.

“The declarations which I have spoken unto you are spirit and are life,” John vi. 63.—(*Ibid.*)

“If perchance any one be willing to do his will he shall understand about the teaching whether it is of God, or I from myself am talking,” John vii. 17.—(*Ibid.*).



HAVING BEEN

*Raised as it were from the brink of the grave, I feel doubly honored in
having permission to*

DEDICATE

This volume to the Great and Good

A. WILFORD HALL, PH.D., LL.D.,

The Distinguished Founder of the Substantial Philosophy, to whom I believe the Christian World is to-day more indebted than to any other [living person. When the whole intellectual heavens were covered with darkness, and the terrific storm of unbelief was sweeping over Christendom like a cyclone, he stood firm as a massive rock in mid-ocean, encompassed by the threatening angry billows of Evolution, Agnosticism, Materialism, Atheism, and, worse than all, Religionism. And to the noble band of distinguished men who rushed to his support, among whom must be numbered Drs. Mott, Kost, Swander, Hamlin, Lowber, and Crawford; Prof. Kephart and Capt. Kelso Carter; Elder Munnel, J. B. Hoffer, and Dr. G. A. Audsley, F. R. I. B. A., of London, England (now of New York).

I take an affectionate farewell of those honored men until we meet with our common Lord and see him as He is.

WM. KENT, M.D.

ACKNOWLEDGMENTS.

With respect to acknowledgments to the various contributors of the *Microcosm*, I have to say that when I began to epitomize I had no thought of publishing beyond the circle of our young people, and therefore deemed credit unnecessary, and especially as Dr. Hall had given a general permission. But when my views were changed with respect to the limit of the publication, I found it utterly impossible to give correct credit. Hence I concluded to throw myself on the generosity of all to whom I am indebted, by making one general acknowledgment, believing them equally generous with Dr. Hall, to whom I am more indebted than language can express.

With regard to the scientific department, I am much gratified in saying others have labored and I have entered into their labors, for the express purpose of extending the sphere of Christian Substantialism, in which we all are doubtless equally interested.



SUBSTANTIAL CHRISTIAN PHILOSOPHY.

CHAPTER I.

DEFINITION OF TERMS.

1. Attribute is a quality essential to the subject; as extension is an attribute of matter, weight of gold, intelligence of man.

2. Bioplast resembles a microscopic speck of jelly perpetually changing, yet always showing its identity. Not well understood.

3. Chemism, the cohesive force (hitherto known as chemical affinity), that causes the union between appropriate chemical elements.

4. Corporeal, having a material, organic body, and is opposed to spiritual, as the term bodily is opposed to mental.

5. Correlation of physical forces simply means that they sustain such mutual and intimate relations to each other, that under favorable conditions, and within certain limits, they are convertible one into the other, or have ability to exist under another form of force or energy.

6. Ego, the self-conscious subject, the I, the personal self.

7. Entity, something existing, as opposed to nothing; something real, as opposed to shadow. There are three classes of entities in the universe: matter, substance, spirit, to which everything in nature belongs.

8. Evolution in its correct sense is the act or process of unfolding or developing as the flower from the bud, or the adult from the child. But in a perverted sense the false theory that organic life has developed from simpler to more complex forms, as man from the monkey.

9. Homogeneous, of the same kind or nature; consisting of similar parts or elements of the like nature.

10. Impenetrability, that quality of matter by virtue of which it excludes all other matter from the space it occupies. It does not apply, so far as we have been able to determine, to immaterial substances.

11. Immaterial substance: by an immaterial entity is meant a substance of such a character as will, at least in some of its manifestations, act in defiance of material conditions, as light, heat, magnetism, sound, life, mind, etc.; these do not submit to gravital force; they can occupy the same space as matter at one and the same time, and are without weight, etc.

12. Imponderable, not having sensible weight, as light, heat, electricity, magnetism, sound, odor.

13. Inertia, matter destitute of self-motion, dead. When put in motion by an active substantial force, its motion ceases the instant the force is withdrawn.

14. Intangible, not perceptible to the touch.

15. Material, consisting of matter—corporeal. The physically tangible forms of substances of which there are a variety of grades of density and tenuity, from

platinum, the heaviest of known substances, up to odor, which is so nearly intangible that but for the olfactory nerve no scientific test could prove its existence.

16. Molecules are merely imaginary, as is the assumed ether in the undulatory light theory. Good common sense would say particles.

17. Matter, that which occupies space, or is perceptible to the senses. It includes everything of a gross nature which is tangible or acceptable to the five senses. What matter is in its ultimate analysis surpasses the power of the human mind to comprehend.

18. Matter and substance: all matter is substance, but all substance is not matter, no more than all metal is wire. Metal is the genus and wire the species. Magnetism is substantial, but it is not matter. Life is substantial, but it is not matter, for in its organic capacity it manipulates matter, as the potter molds the clay.

19. Motion, in and of itself is nothing—it is merely position in space changing. Force that causes motion is an entity; but motion is the effect or result of force, and always of force, and of force alone. It is no more an entity than a shadow.

20. Momentum, is simply energy in action utilizing stored-up mechanical force. It is the stored-up mechanical energy of the exploded powder that causes the cannon-ball to knock the tree to splinters.

21. Nonentity, non-existence, existing only in appearance; as a shadow, motion, space.

22. Personality: human personality implies and includes free will, intelligence, a consciousness of moral obligation, and personal identity. Feeling and thought precede volition, which is the direct energy of personality.

23. Property, the existence of a property as a condition or quality, or characteristic of a material body, is always the effect of one or more forms of substantial force, as hardness and softness are caused entirely by the action of the constructive cohesive force.

24. Potential, existing in possibility, not in act; latent in anything that may be possibly manifested, or made apparent.

25. Sound-pulse, is an emission of sound-force caused by a given stroke or vibration of the sonorous body, and just as often as the vibration takes place, just so often will a pulse of sound-force be sent off.

26. Time is duration in space changing; and time as persistent and passing is duration.

CHAPTER II.

EXPLANATION OF TERMS.

27. Attributes and Properties, and the Mental Process.

(1) **Specific Attributes:** Some attributes are called specific because they are always real qualities, essential and inherent, not only in the nature of the being or subject, but in the substance of the things. We cannot alter the qualities without altering the entire subject of the attributes; as, for example, extension of matter, weight of gold, magnetism of the magnet, rationality of man. The attributes of wisdom, love, mercy and perfection are essential to the Christian's God; take these away and he ceases to be the God of Revelation. Unity, identity and activity are attributes of the soul; for we cannot deny them without, at the same time, denying the existence of the soul itself. These are sometimes termed specific or essential attributes because the subjects in which they inhere cannot exist as such without them.

28. (2) Common Attributes: These are essential to the subject, but they belong also to other subjects. Thus it is an attribute of gold to be yellow. If a metal is not yellow, it is not gold. But other things are yellow besides gold. The color yellow is an attribute common to many subjects, and hence are often called properties.

29. (a) There are attributes of inanimate objects, as a tree, Dan. iv. 10-12; (b) of animals, as an eagle, Job xxxix. 57-60; (c) of a country, as Canaan, Deut. viii. 7-9; (d) of persons, as Paul, Acts xxii. 3; (e) of moral virtues, as divine wisdom, James iii. 17; hatred of sin and love of holiness are essential and distinguishing attributes of a true Christian, Psal. lxvii. 10; Eph. iv. 24; (f) of soul, as thought, unity, identity, immortality, etc.; (g) of spirit, as intelligence, activity, immateriality, indestructibility, etc.

PROPERTIES.

30. What is meant by the term Property, and how does it originate? This question leads us to one of the most profound and difficult fields of research and investigation in the entire domain of physical science.

31. We say, first, that, while a property of a body is not a force or any form of energy in the true sense of these terms, yet its existence as a condition, quality, or characteristic of a body is always an effect of one or more forms of substantial force.

32. Examples of Properties: Hardness, softness, transparency, opacity, brilliancy, roughness, smoothness, compressibility, impenetrability, elasticity, fusibility, porosity, density, weight, extension, inertia, form, color, combustibility, ductility, brittleness, malleability, stiffness, flexibility, etc.

33. Without these properties of matter human consciousness would be totally shut out from all relationship to the external or material world, and every physical law would be wiped out of existence. Yet not one of the properties named can be regarded as a form of natural force, or in a direct sense as a phenomena-producing cause.

34. As an illustrative example : Hardness and softness in a material body is caused entirely by the action of the “constructive” cohesive force in the manner in which it has arranged, and now holds, the material substance in contact with itself. This peculiar form of physical force has almost innumerable methods and processes of placing a given material substance together, by which a single substance may possess almost innumerable physical appearances of condition, called Properties.

35. As an illustration : A piece of glass may have form, color, weight, inertia, extension, hardness, brittleness, transparency, porosity, elasticity, fusibility, density, stiffness, flexibility, impenetrability, brilliancy, roughness, smoothness, and all of these be the direct result of the substantial force of cohesion in its multiform methods of arranging the infinitesimal particles of the substance of glass in their various relations to each other.

36. No man can look at a piece of glass with the intellect of a true physical philosopher, without believing in the existence of a Supreme Personal Intelligence, the Author of Nature, any more than he can look at the same piece of glass and intelligently account for the multiform properties named without acknowledging the presence and working of the reigning governing force of cohesion as their immediate cause.

37. Elasticity, the effect of force, is the name of a certain property of bodies which result chiefly from the form of force commonly known as cohesive attraction (better, “constructive force”) and by which the particles or smallest conceivable portions of a body are not only held together when united, but by which they

were originally placed together under certain laws and arrangements at present unknown to man. Without the original constructive energy of cohesive force in arranging the particles of the elastic body, and the continued static (in equilibrium) persistence of its energy in maintaining them, no such property as that of elasticity could exist in matter, nor could the opposite property of inelasticity exist either. All college text-books commit the radical error of giving elasticity as a force of nature, whereas it is really an effect of force.

38. Elasticity results from the peculiar arrangement of a given material substance by the constructive force of cohesion through which any distorting mechanical force could store itself up in the said body as a substantial but immaterial entity till, by its reaction, the elastic body, on account of this same stored-up energy, was again forced back to its original form. A bent spring does not come back of itself, nor does it come back by the so-called force of elasticity, but it is driven back to its previous shape by means of the substantial mechanical force which originally bent it, simply by this original force taking advantage of the property called elasticity, which property was due entirely to the peculiar manner in which the substantial force of cohesion had arranged and adjusted the substance of the spring in relation to itself.

39. The relation of properties to our sensuous consciousness through the governing life-force :

Sensation-producing causes in the natural realm may be both material and immaterial substances.

What cohesive force is with respect to giving to material bodies an easily perceptible and tangible exist-

ence in relation to the senses, so the life-force is with respect to giving to the mental consciousness a knowledge of the nature and qualities of the various substances that come into contact with the different sense organs, as the following examples will clearly show.

40. The difference in the qualities of taste, as a sensation, is due to the peculiar properties of the flavored substance which impresses the gustatory nerve. Thus we have bitter, sweet, sour, acrid, etc. But the contact is the same in every case, since it is manifest that no difference in the character or property of any substance touching the palate would be recognized at all unless life-force should convey such impression to the seat of mental consciousness. Thus, also, odor which simply consists of the infinitesimal material particles of the odorous body, may possess different properties, ranging from the most delicate perfumes emanating from the flower gardens, through a hundred gradations of fragrant quality down to the most disgusting, yet these diversified properties of odoriferous particles are only determined by conscious mentality, from precisely the same contacts of the material particles emanating from the different odorous bodies. These sensations are all due to the different properties of the material particles coming in contact with the appropriate sense organs, which are conveyed to the seat of consciousness in the brain by the life-force and there translated by the mind-force.

41. The same is true of the immaterial force of sound, whose property of pitch in our sensations is determined by the number of precisely similar external contacts per second of the immaterial sonorous force.

So with light ; its property of color is determined by the mind from the number of luminous contacts in a given time, all produced externally in precisely the same way—by the physical impingement of substantial but immaterial light-force.

42. Thus, also, we may touch with our fingers the surface of a material body which may have the property of smoothness, roughness, hardness, or softness, yet the contact or touch of our fingers alone, precisely similar in these four cases, will convey to our consciousness, when carried thither by this life-force messenger, four distinct mental impressions. This is the true solution of the difference between a force and a property of a given substance.

43. The diamond is composed of the same material chemical elements as a piece of soft carbon coal. Why is the one the most transparent as well as the hardest of all known bodies, while the other is soft and opaque ? Because the all-governing force of cohesion so re-arranges the particles of soft carbon in their transformation to diamond as to produce this property of the greatest hardness known to science, as well as the property of the most perfect transparency existing in any solid substance.

44. Another illustration of property is that of weight or ponderability in all material bodies, which, though not a force in any sense, is the effect of the action of two forces—gravity and cohesion, and may be affected by others. It is now demonstrated that weight is not at all in proportion to the amount of matter contained in a given body, as taught in all the colleges since the days of the great Newton. For example, a ball of glass contains more matter than a ball of gold of

the same bulk, simply because the glass is known to be less porous than the gold, though the latter outweighs the former many times.

45. The substantial philosophy first proved that all force is substantial, and that the true cause of the property of weight in bodies is the interaction of the immaterial forces alone, and so of every other property of matter. With the force of gravity acting on the material particles of all bodies by permission of the governing force of cohesion, and according to its arrangement of said particles, it is plain to see how this latter force could construct, arrange and maintain the particles of two bodies of precisely the same quantity of matter in such relationship that gravity or any other form of force would act effectively on one arrangement of particles rather than on the other.

46. Why is it that one form of force will neutralize—weaken or strengthen, as the case may be—the action of another form of force under certain different arrangements of the particles of a body? For example, cohesive force, as exercised among the particles of platinum, will resist any amount of ordinary heat before yielding sufficiently to permit the metal to fuse. But let us allow heat to co-operate with cohesive force, as it acts among particles of melted lead, by dipping the platinum into such liquid metal, and instantly the cohesive force in the platinum yields up its energy to the heat to the extent of allowing this most refractory metal to become as fusible as lead itself.

47. One more example will suffice to show that properties in bodies are the effect of one or more forms of substantial force.

The force of gravitation or weight is almost neu-

tralized on a piece of silver or copper when placed in an intense field of magnetic force, as between the poles of a powerful electro-magnet, while a piece of any other metal of the same size would show no loss of weight whatever.

CHAPTER III.

BIOPLAST OR PROTOPLAST.

48. The bioplast is said to be like a microscopic speck of jelly and to be composed of carbon, hydrogen, oxygen, nitrogen, sulphur and phosphorus. But no analysis of living bioplastic matter has or can be made. The living bioplast of the moneron is continually undergoing change—taking in new matter, decomposing it, adding such portions to itself as are necessary for development, and expelling the remainder—in fact, it is perpetually changing, yet always preserving its identity. The monera exist at the bottom of the ocean in enormous numbers, and are supposed to be the simplest and perhaps the most numerous of all living creatures. Bioplasts are visible under a powerful microscope. It is thought that there must be an infinite number of different kinds of bioplasts in the innumerable different plants and animals.

49. Corporeal means having a material, organic body, and is opposed to spiritual, as the term bodily is opposed to mental. The term corporeal is often used for animated substance in an extended sense. The corporeal or physical body is composed of brain, heart, lungs, muscles, bones, ligaments, etc. So the incorporeal organism in man is composed of different parts or essential divisions of that immaterial substance, called the “inner man,” Eph. iii. 16, and a “spirit-body” in

I Cor. xv. 44, all going to make up the one incorporeal counterpart of the material organism, life, mind, soul, and spirit—as well as the attributes of each—make up the one immaterial or incorporeal organic entity we call personality.

50. It is doubtless through the incorporeal organic being, which is clothed with a material body of flesh and blood, that inherited characters and qualities are entirely transmitted from parents to offspring. It is a fact that the human offspring as well as the offspring of all species of animals, high and low, partake equally of the peculiar characteristics of both father and mother, while more than one thousand times as much of the physical or material organism of the child is derived from the mother as from the father. Though the incorporeal life-germ, in which inheres personality, constitutes and makes up specific identity, comes equally from both parents. In the case of man the material or corporeal body is that through which the immaterial or incorporeal manifests its functions or activities. Hence the incorporeal—spirit entity—within is the former, builder, repairer, or modifier of the corporeal; this spirit entity is the anatomical architect of the body, and the life-force is the builder, and within given limits, the modifier of the organism. For it is a fact that the more depraved and abandoned to vice and crime a person becomes, the more does beauty of features, symmetry of form, and geniality of expression pass away. The corporeal images forth the alarming vicious change that has taken place in the soul, which has, by a continued process, conformed through the life-force the material body to the depraved moral state of the resident within. As the mother's prevailing

state of mind indelibly affects the unborn child, so does the state of the soul often modify the appearance of the house in which it lives. In many cases, a long continued course of vice and crime has so changed the human visage that it actually reminds us of some one or other of the lower brutes. Such is the influence of the incorporeal on the corporeal.

ENTITY.

51. The term entity is from the Latin word *ens*, *entis*, being, and is here used to express something existing, a real being, something real in contradistinction to nothing. There are entities, as light, heat sound, wood, iron, etc.; and there are nonentities, as darkness, the opposite of light; cold, the opposite of heat; silence, the opposite of sound; also space and motion.

52. Heat, light, magnetism, electricity, life, mind, soul, and spirit are real objective entities, substantial things, however much our senses may dispose us to doubt the fact.

53. Every natural force or phenomenon-producing cause, by which our consciousness is affected through our senses or our reason addressed, is and must in the nature of things be a substantial entity.

Entities are classified in three divisions on the ascending scale.

54. Matter: This class includes everything which occupies space, or which is ponderable, or which can be discovered by any test of physical or chemical science. Its characteristic or specific property by which it is distinguished from immaterial substance is impenetrability. Examples of material entities: Platinum, diamond,

gold, silver, copper, iron, rock, wood, water, flesh, air, gas and odor.

55. Substance : This class comprises everything of which the mind can form a positive concept, or by which the senses of men or animals can be addressed or affected and is substantial in its nature. The term substance thus necessarily includes the forces of nature, such as sound, heat, gravitation, electricity, magnetism, light, cohesion, chemism, etc., which, although not matter in any sense, are nevertheless real substantial entities.

56. Spirit : This class embraces those entities that possess vitality, instinct, mind, intellect, soul, spirit, etc., the most refined and exalted substantial entity in the universe being the Spirit-essence of the Infinite Intelligence, from which all things, directly or indirectly, have proceeded and must still proceed. Though He is an entitative "Spirit," he does not exist essentially in the gross state of matter, but in the spirit-state of substance, and consequently must have an inconceivably glorious organic form, adapted to and worthy of the Infinite Personal Creator.

57. As an entity, the soul of man must be composed of some grade of substance, however refined, and must have shape, size, intelligence and personality, and all that is implied in personality. Could the immaterial, substantial, and immortal soul of man be freed from its present surroundings with the visible, ponderable, changing, and material world, and take a flight on the wings of pure vitality and mentality through the invisible, imponderable, unchanging spirit-world, what scenes would lie before it ! It could spend untold ages in viewing new scenes of beauty and grandeur,

Scenes forbidden to mortal eyes would then hold them in admiring and enraptured gaze. Sounds and music unheard by mortal ears would charm the soul, and sciences incomprehensible by mortal minds here would be the themes of study, investigation and conversation, ever increasing the spirit's knowledge and intensifying its aspirations to approach nearer and nearer in intelligent holy personality to the image of God himself. In contemplating these things one can almost wish to leave the earth and take a view of the substantial, invisible and celestial parts of creation with its inhabitants. When we view death from this scriptural scientific standpoint, in a direct line with the Son of God expiring on the cross, we appreciate the force of the inspired language: "Oh death! where is thy sting? Oh grave! where is thy victory?"

58. May the time speedily come when mankind may become convinced that the invisible is the real of existence, and that the material world is only the smaller and less important part of creation—the mere outer court of the holy place in which the divine glory is manifested. Beyond the material lies the immaterial, the imponderable, and the immortal realm—those invisible things of God—those things which are eternal, Rom. i. 20; John xiv. 2; Heb. ix. 23; xi. 3; Col. i. 15.

CHAPTER IV.

IMMATERIAL.

59. The late Dr. Chalmers relates an anecdote of a Highland minister, who preached three sermons to prove the immateriality of the human soul; and for this, he was cited before the presbytery on the charge of having tried to prove that it was immaterial whether we had souls or not. These plain, sincere people thought that if the soul was immaterial it was nothing! How many so-called educated people live and act as if they really believe such to be the case. Those poor people were jealous not only for Jehovah's honor but for the dignity and destiny of their own natures made in the divine image.

60. The essential attributes of matter have been considered as gravity, inertia and impenetrability. Weight is simply the measure of the pull of gravity; inertia means matter destitute of self-motion, dead; impenetrability means that two masses of matter cannot occupy the same place at one and the same time. Indestructibility may be regarded as an essential attribute of matter, for all agree that it will never cease to be, however often it may change its form. The same may be said of all the immaterial substances.

61. Impenetrability does not apply alike to material and immaterial substances, as the following examples

will show. Weigh a cannon-ball very carefully, then heat it to a white heat and weigh it again. It is found to have gained nothing by the large amount of heat which it contains; but why? Because heat is an immaterial substance and not subject to the laws and conditions of matter. Gravity has no power over it, therefore it has no weight; it is not inert, for it is always active, seeking an equilibrium; and it penetrates all known material things. Now weigh a man. He weighs exactly one hundred and seventy-five pounds. Kill him with a spark of electricity and weigh him again. Lo! he weighs just one hundred and seventy-five pounds as before; but why? Because the soul is immaterial, therefore independent of gravital force, and consequently without weight. Anything material possesses gravity, inertia and impenetrability; but heat, magnetism, soul and spirit possess none of these and therefore cannot be matter. Heat pervades the cannon-ball, magnetism the loadstone, brute spirit the material organism, and the human soul the body; these immaterial substances are not subject to the conditions of matter. There is a secondary sense in which heat, magnetism and gravity are self-acting; but this is truly so with respect to the spirit of the brute, the soul of man, and the Divine Spirit; they are not only self-moving and self-acting, but have power to move other bodies external to themselves.

62. "Everything that exists and sustains attributes, must be a substance; and on this ground it is claimed that the spirit of the brute, the soul of man, and even the Infinite Creative Spirit, is an immaterial substance, each sustaining its appropriate attributes" (Prize Essay by Dr. Crawford in *Microcosm*).

63. Heat is an immaterial substantial force, and occupies the same space as the cannon-ball at one and the same time. Sound is an immaterial substantial force, and occupies the same space as the iron bar through which it passes, at one and the same time. The soul of man is immaterial and substantial, and yet pervades the body in which it resides at one and the same time. These examples are sufficient to show the wide difference and the distinction between the material and the immaterial substances. I will simply add that material substances are no obstacle to the movements of immaterial substances. Hence magnetism will act as freely through glass on its responsive object as if it were not there. Sound moves through still air at the rate of one thousand one hundred and twenty feet per second, but through solid steel wire at the rate of fifteen thousand four hundred and seventy feet per second! In both cases the substantial agents are invisible to human sight.

64. Hence the soul leaves the body at death unobserved by human eye; and thus the Saviour could unobserved enter and leave a securely closed room, John xx. 19, 26. Our material organs of vision are adapted only to a material world, and only to a very limited part of it. There is a vast world beyond our unaided vision, requiring only the telescope to reveal it; and there is another of indescribably numerous, varied and beautiful animated beings around us, but we need a microscope to reveal them. Here, with our material visual organs we see only in part, a very small part at best, and that very imperfectly.

65. Material substances are not absolutely impenetrable, as taught in the current theories of natural

philosophy. Gold is really as porous as sponge. Under sufficient pressure water may be forced through a body or plate of gold. Substantial force elements of nature do not penetrate matter by virtue of its porosity. Some of the forces of nature pass through platinum and glass more freely than they would through a sponge or sieve, and yet platinum and glass are considered impervious to, and impenetrable by, matter.

CHAPTER V.

MATTER.

66. The three essential attributes or properties of matter are inertia, impenetrability and indestructibility. Inertia expresses utter helplessness of matter ; it can do nothing ; it has no intelligence and no activity. It is dead ; and therefore neither life, nor intelligence, nor active force can emanate from it. Hence physical evolution must be set down as an impossibility.

67. "Just, then, as we find a graduated ascending scale in the material world, from osmium, the heaviest of all metals, through acetyline, the lightest of all liquids, through vapor and through hydrogen, the lightest of all gases, and, finally, through odor, the most highly attenuated condition of all material substances—which in many instances we can only know of its existence by the application of our higher faculties of reason, as when the hound scents the trail of the fox two hours after he has passed—so we have a graduated ascending scale in immaterial substances, commencing where the material left off, and ascending from cohesive force substance through the force of chemism, adhesion, heat, light, sound, electricity, magnetism, life, mind, soul and spirit" (Dr. Mott.)

MOTION.

68. What is motion ? Motion is a nonentity—a

phenomena of force—a mere name given to our idea of nonentity. Motion, like space, is absolutely nothing. The change of an object from one point in space to another point is properly called motion, or position in space changing. Therefore, motion, which only comes into existence on the application of force and ceases to be, on the withdrawal of that force, must be an absolute nonentity, as much so as a shadow.

69. Motion, thus being demonstrated to be an absolute nonentity, can produce no sensible or other objective effect, though subjectively it may make a mental impression, just as a shadow or sudden darkness may produce alarm, or as silence, suddenly changed from continuous noise, may awaken one from a sound sleep. Hence, as motion, by itself, is nothing, and can effect nothing, we see the folly of the materialist in calling any form of natural force, such as sound, light, or heat, “a mode of motion.”

70. We cannot too often impress the reader with the conclusive fact that motion, being intrinsically nothing—having no existence before the body commenced moving, and ceasing to exist whenever the body comes to rest—can neither be force nor energy, but must in every case be the result of the energetic application of force. Hence it follows that no mechanical effect can be produced by a shadow. Take, for instance, the motion of a cannon-ball, as a mere phenomenon, has nothing at all to do with the destructive effects of the ball when it strikes a material body, but it is the stored-up mechanical and substantial force communicated to the ball by the exploding powder, which, in combination with the iron mass, produces all the destructive effect observed.

71. Does the reader ask the question: Could the cannon-ball do its work of destruction, by means of the stored-up substantial force within it, except it were in motion? We answer no; just as a falling tree, when the sun is shining, is necessarily accompanied by its nonentitative shadow. But who would be so weak as to infer that it was the accompanying shadow of the tree which crushed in the building upon which it fell? The motion of the tree, like its shadow, was an incidental phenomenon accompanying the substantial mass, moving by means of its stored-up substantial force of gravity, and producing no more effect in the accomplishment of the mechanical result witnessed in the crushing of the building than does the other phenomenon—shadow—which was the incidental effect of the substantial light-force acting on the tree. This is the direct opposite of the “mode-of-motion” theories as taught by materialists.

72. The great Prof. Tyndall in the late edition of his standard treatise on “Heat as a Mode Motion,” at page 49, Ed. of 1883, says: “Heat is motion and nothing else.” Here the distinguished scientist asserts that heat—one form of the great force-element of nature—is nothing—absolutely nothing—though furnishing millions of horsepower to the manufacturing and commercial world. Heat is a real, substantial force, the great antagonist of cohesion—an entity, while motion in and of itself is a nonentity. What absurdities even learned men will rush into in their eagerness to banish from the mind the idea of a living, personal God! We are happy to say that Prof. Tait of the Edinburgh University, Dr. Pearce, Professor in Cambridge University, and the valiant Dr. Audsley, in the mother country, and the far-

famed Boston lecturer, Joseph Cook, have indorsed the substantial philosophy ; and many others of less notoriety have joined its ranks.

73. As an absolute proof that the motion of a cannon-ball in and of itself has nothing to do with the crushing mechanical effect produced when this mass strikes a material object, we have only to refer to the simple but manifest fact that a toy rubber balloon of the same form and size of the cannon-ball may have precisely the same motion, and yet, should it strike one of our learned scientists full in the face, it would scarcely break his spectacles. Yet the motion is precisely the same in both cases. Surely if it be the motion of the mass which produces the mechanical effect in the case of the cannon-ball, the result would be the same with the toy balloon, since the motion by itself, in both instances, is the same. But you say the masses are not the same. Very true. The mass of the cannon-ball is far greater than that of the toy balloon, and, therefore, requires more of the substantial mechanical force from the powder to be stored up in it in order to keep up the same velocity of motion as in the case of the toy balloon ; and consequently the mechanical effect produced in the two cases are exactly proportioned to this quantity of mass and the amount of stored-up substantial force they will contain and carry. A ball of cork, when fired from a cannon, will start with precisely the same velocity of motion as will a ball of iron of the same size ; but the cork ball will stop within a few rods, while the iron ball will continue on for miles, simply because the iron ball permitted the exploding powder to store-up more of its substantial force among its material particles than among the particles of the

cork. The motion in both cases is an incidental phenomenon, their distance of travel and their mechanical effects when striking depending entirely upon the respective amounts of stored-up force they are capable of carrying, and which alone constitutes what we call momentum. As the motion in the two masses may be exactly equal, while the mechanical effects on striking an object are vastly different, it becomes a scientific demonstration of the truth that motion by itself of any mass has nothing whatever to do with the effect it produces in striking, simply because motion is nothing but “position in space changing.”

74. The motion of a body, whether a particle or a planet, being the nonentitative effect of applied force, has no existence before the body begins to move, and such motion ceases to exist as soon as the body comes to rest, just as a shadow—the nonentitative effect or negation of light—has no existence before the light-force is applied, and absolutely ceases to exist the moment the light-force is withdrawn. Hence shadow, as the effect of force, like motion, is absolute nothingness—any effect it seems to produce, such as scaring a horse, being really caused by the varying degrees and direction of the light-force applied.

75. Prof. Haeckel of the Jena University, the great German scientist and logical giant, and general-in-chief of the materialistic host, planted himself firmly on the “mode-of-motion theories” (as taught in all the colleges and universities in Christendom, and indorsed by all the theological schools), and logically proved his right to claim on such received basis that life and mind are nothing but the motions of our brain and nerve molecules (particles), and that when these

motions cease, life and mind cease to be, and "death ends all." This logical declaration, based on false so-called scientific premises, was sown broadcast over the world, and translated into every civilized language. Atheists and materialists of less talent than their atheistic chief, jeered at the clergy, laughed at the church, and congratulated themselves upon Haeckel's scientific demonstration that they were without souls, and no more responsible to a God than were the monkeys, reptiles and crustaceans from which they claim to have been evolved. If there be a shred of true science or philosophy in the mode-of-motion theories of heat, light and sound, as taught in all the colleges, and as set forth in all the text-books, Haeckel is undoubtedly logically right, and his position remains absolutely invulnerable; for he proves it by the most irresistible logic, based on these "motion theories" of force as taught in every religious college in Christendom. No wonder the clergy of both hemispheres were compelled to close their teeth, and, with amazed desperation, bear the odious sneers of the German atheist in silence. The thinking clergy the world over were dumb in the presence of these defiant exultations of atheism. But now let us reverently thank God that Nature properly understood is in perfect harmony with Revelation, and that we are beginning to profoundly respect Plato the heathen, to repose entire confidence in Paul the inspired Apostle, and to accept Jesus Christ as the Divine Teacher sent by God the Father, and to joyfully indorse the fact that he spake as never man spake.

76. Even Haeckel, with all his acuteness, seems to have forgotten, in his haste to banish the Creator from

the universe he had made, that even the motion of the brain and nerve particles must be originated by some force as a cause. It is an axiomatic principle in all reasoning, that every effect must have an adequate cause.

CHAPTER VI.

PHENOMENON.

77. This word is often very improperly used, and it is exceedingly desirable that we should have a clear idea of what we wish to express. Let us try to fully master the precise meaning of this word so much used.

What then is a Phenomenon? It is neither a material nor an immaterial substance, nor even is it the impression upon our consciousness which we call sensation; but it is the appearance or manifestation of an object to our sensuous observation, which, in the strict sense, may be called a phenomenon; it is no more an objective entity than the shadow of a flying bird or the motion of a passing cloud.

78. To aid us in gaining a definite idea of this important word, let us take the following illustration: For example, we say that we see a tree in the distance. But this is not scientifically correct. We no more see the material tree itself than we smell the distant flower-garden or hear the distant church-bell, though in an accommodated sense they are accepted as true. The fact is, we merely see the image of the distant tree photographed upon the retinal membrane of the eye by the reflection of substantial light-rays from the material tree to our eyes. In order to see the tree itself, it would have to be in the eye itself, and thus occupy the place of the reflected image. But even then such a

material object, however small, instead of serving the purpose of an image, would mar the retina and impair the vision. Where, then, comes in the natural phenomena of vision in the case of the tree?

79. Let us see again by the law of exclusion what it must be from what it cannot be. The phenomenon cannot be the tree itself, since that tree can produce no effect upon the mind at its distance without the intervention of the force of light. It is not the light which is the phenomenon, for that is the immaterial, substantial medium through which the phenomenon is produced and recognized by the mind. It is not the image made upon the eye, nor is it the sensuous conception formed concerning it by the mind. These, though all intimately related together, are not the phenomenon itself. Thus we reach the only possible definition of the term, and that is, as already intimated, the appearance or manifestation of the distant object, produced first by the material tree, second by the force of substantial light, third by the image thus produced on the retina, and fourth by the special notice taken of the image by the mind, thus completing the appearance or manifestation, which we recognize as the natural phenomenon.

80. Thus the manifestation of the distant flower-garden, as its fragrant force radiates and comes in contact with our organ of sense, and producing a sense-impression upon the nasal membrane, and thus arresting the special attention of the mind, is the phenomenon.

COHESION.

81. Cohesion is not a property of matter. It is that invisible, intangible, substantial, and immaterial force in

nature by which particles of one and the same body or homogeneous particles in general are held together, as in the case of the diamond, gold, platinum, flint, rock, wood, and indeed all material bodies. Cohesion comes under the universal law of immaterial substances, that intensity increases with the concentration of this immaterial substance into a smaller volume or bulk as material bodies increase in density by compression into a smaller space.

82. Though cohesion is an immaterial substance, and beyond recognition by any of our senses, it is as real an objective substance to our higher reason as the material particles of matter under its control are real to our normal senses.

83. Cohesion is both superior to and independent of matter, yet it furnishes the cohesive force a medium of manifestation, as the magnet furnishes magnetism a medium of manifestation. It is true that it only acts at insensible distances, and the closest proximity of the particles is required in order to admit of its exercise. In a limited degree cohesion possesses and governs matter by holding its particles in a normal relation with each other, in a more or less porous condition.

84. Cohesive force permeates matter independent of porosity, and like all immaterial forces it is independent of material conditions—without weight, and occupies the same place as matter at one and the same time. Some of the forces of nature pass through platinum and glass more freely than they would through a sponge or sieve; and yet these substances are considered impervious to and impenetrable by matter.

85. Cohesion can construct, arrange and maintain the particles of two bodies of precisely the same quantity

of matter in such relationship that gravity or any other form of force would act more effectively on one arrangement of particles than on the other. In proof of this being the fact, we ask : Why is it that electricity, for example, will not travel through platinum, having vastly greater density, more readily than through silver? Plainly because the controlling force of cohesion has arranged the particles of the silver more in harmony with the force of electricity than in the case of platinum.

86. Cohesive force, as the direct or immediate cause of all the observed properties of matter, with their hitherto incomprehensible nature and character, well justifies designating cohesion as the ruling natural force in the physical universe, and that force, by way of eminence, upon which and in co-operation with which the peculiar operations of all the other physical forces depend.

87. Heat is the great antagonist of cohesion ; it overpowers cohesion sufficiently to expand the body only, however, to the extent of the heat applied. It is only overpowered, not destroyed ; being an immaterial, substantial entity, a real objective thing, it is indestructible.

88. The term " cohesive force " is not broad enough to include the construction of bodies, the arranging of their particles, the rearranging of them into a more contracted or expanded form, etc. Constructive force would be a more generally appropriate term, making it to include cohesion, adhesion, rearrangement of bodies, chemism, etc.

89. Cohesion has mainly to do with particles of matter, and as no one has yet measured the length, breadth, and thickness of an atom, we may as well (for illustra-

tion) say that the number of them in a grain of sand is one thousand. To hold this thousand atoms together in one hard, compact grain was part of the work assigned to that peculiar form of force we call cohesion. And here it reigns just as completely as in a boulder or in a mountain range. It is stronger than gravitation or atmospheric pressure, and therefore depends on neither to do its work, but is a power of itself, substantial, immaterial and peculiar.

CHEMISM.

90. When a chemical compound is produced, this general constructive (cohesive) force acts as chemism, and when the chemical union between the combining parts is dissolved by heat, electricity, etc., such constructive force is returned to the force-element (or general reservoir), to be regenerated as chemism when the separated substances are again united, either with each other or with some other substance in chemically combining proportions. For example, sea-salt—chloride of sodium—is the product of a union between one combining part each of chlorine and sodium; and this constructive force that causes the union between these chemical elements, it is proposed, for the sake of convenience and precision, to call chemism. This union between the sodium and the chlorine is dissolved by adding a solution of common salt to a solution of nitrate of silver. The chlorine will immediately forsake the sodium and unite with the silver in solution, and form chloride of silver. This cohesive force (hitherto called chemical affinity) that compels the union between the two elements in combining proportions we now term chemism.

CHAPTER VII.

ELECTRICITY.

91. The text-books are a babel of confusion with respect to electricity, light, sound and gravity, and must be extensively and very materially revised. I need only confirm this statement by the declaration of Edison, the greatest practical electrician now living. He says: "They (the text-books) are most misleading. I get mad with myself when I think how I have believed what was so learnedly set out in them. There are more frauds in science than anywhere else. Take a whole pile of them that I could name and you will find uncertainty if not imposition in half of what they state as scientific truth" (New York *Herald* of December 31, 1879). I believe this statement is literally true.

92. The question is, What is electricity? The Substantial Philosophy replies: Electricity is a real, substantial, though invisible and immaterial, imponderable force of nature, an objective entity, independent of all matter, and absolutely dependent only upon its Infinite Creator and Source. Being immaterial, it is destitute of properties that belong to all matter, as weight, inertia, etc. It pervades all matter, though independent of it. Its speed is very great, being estimated at more than two hundred and eighty-eight thousand

miles in a second of time by the copper-wire route. Its power is almost omnipotent. So terrific are its effects that human nature shudders at the sight of them—burning buildings on land and ships on sea, shattering to splinters the giant oak of a thousand storms, and instantaneously extinguishing the life of man and beast.

93. Electricity is developed from what is perhaps inappropriately termed static electricity by friction or contact of different bodies. It is exceedingly doubtful whether the electric or any other force is ever static, or at rest. Under the necessary conditions it is also developed from other forces, such as cohesion, adhesion, chemism, heat and light. It permeates all matter, and appears to be an indispensable supporter of the vital force, momentarily inbreathed as electrized oxygen; it is the only direct aider of the life-force known to us. The presence of electricity is only known by its effects. Like the atmosphere it pervades it is invisible, and like the mind it is only known by its manifestations.

94. It is claimed that the positive and negative poles of electricity are only apparent, not real. The terms simply mean that the positive has a larger quantity of electricity than the negative pole; that is, the positive is plus and the negative is minus; its equilibrium is disturbed to a greater or less extent in favor of the one as compared with the other. Its perfect equilibrium is termed zero, and is then termed static, at rest. Electrical force, like substantial heat and the substantial force of gravitation, is a simple form or manifestation of the force element of nature.

95. Electricity may be converted or transformed into heat, light and sound. The possibility of such conver-

sion or transformation is based upon the nature and mutual relation, and consequent convertibility of physical forces.

96. Silver allows electricity to pass with greater ease and speed than any known metal, hence is called the best conductor. This is attributed to its particles being so arranged by cohesive force as to constitute silver the royal highway of electric force. The metallic wire cannot aid the electric current in its transit; it is perfectly inert; and all that the term conductor means, is, the nature and arrangement of the material particles are such that the passageway is more or less smooth for the electric current.

97. Electricity is generated by the dynamo cylinder of magnets. The rotary speed of the cylinder must be sufficiently great to cause the magnetic poles to pass swiftly enough by each other in opposition to their attraction to rupture their magnetic force and thus transform it into electricity. That is to say, electric force is but magnetic force ruptured and disintegrated by dynamically and abruptly forcing the magnets away from their magnetic or sympathetic relation to each other; while magnetism produced by electric currents in the iron or steel is but the reconversion of the electric into the magnetic form of force.

98. These magnets do not touch each other in their swift revolutions, and therefore do not disintegrate their substance or wear themselves out by friction, even against the air, as the dynamo would generate just as much electricity if run in a perfect vacuum as in the open air.

99. Then this substantial current of electricity, when thus evolved, if passed through the carbon candles of

the arc-light, will produce its illumination by consuming those candles, which almost entirely disappear, leaving only a slight residuum, just as in the case of the tallow dip.

100. But if we pass the electric current through one of Edison's incandescent loops in vacuo, we have intense light-force as well as heat-force evolved, and that, too, without the consumption of any material substance whatever in the liberation of these manifestations of energy from the force-element of nature.

101. As a waterfall will give the necessary rotary speed to the dynamo machine as well as a steam engine, we are enabled to see how the substantial force of gravity may, by conversion and transformation, evolve and liberate from the force-element the substantial forces of heat, light, electricity; and then by passing the current in transit around a bar of soft iron we see how gravital force may re-convert electric force into magnetic force, and so on, all without the slightest consumption or disintegration of material substance of any kind.

102. Electricity is but one form or manifestation of the universal fountain of natural energy, of which heat, light, magnetism, sound, gravitation and cohesion are others. Hence the air, the earth, and the ocean are full of this substantial force-fountain or force-element of nature in its quiescent condition.

103. What the silver or copper wire is to the electric force, so the human nerves are to the life-force and mind-force—the mediums of transit for these invisible, intangible, immaterial, but substantial and independent forces.

104. In every solar ray there is a combination of light, heat and electricity—three distinct elements: and these elements are resolvable one into the other; and they act conjointly or separately as conditions demand or circumstances require. In proof of this try the following simple experiment:

Take a sun-glass—a double convex lens of three inches diameter—and so hold it as to pass the rays of the sun through it and converge them into a focal point, and place a piece of charcoal in the focus, when it will be ignited at once. If you then take a small silver wire, whether five or five hundred feet long it matters not, so that both extremities are before you, with a ball on the near or handle end and the other end pointed; then lay the wire near the ball in the burning focus, and sparks of electricity will pass off from the pointed end. Here, then, you have light, heat and electricity all under the eye at the same time; one converted into the other, and all proceeding from the sun. Here the light is converted into heat, the heat into electricity proper, as is evident from its action through the wire, and here again we have light in the emitted sparks.

CHAPTER VIII.

ANIMAL ELECTRICITY.

105. Though the subject of animal electricity is comparatively new, the minds of many acute observers are now turned to it, and rapid advancement in the knowledge of it is being made.

That animal electricity, or electrical currents excited by the organic processes in animal bodies, performs a very important part in the phenomena of life, we cannot doubt.

106. We know that the muscles and nerves, including the brain and the spinal cord, are endowed during life with the power to produce currents of electricity; that the quantity of electricity is greater in the evening than at other periods of the day; that every minute particle of the nerves and muscles acts according to the same electric law as the whole nerve or muscle; that the electric currents which the nerves and muscles produce, in circuits of which they form part, must be considered only as derived portions of much more intense currents circulating in the interior of the nerves and muscles around their smallest particles; that the power to produce currents of electricity remains for a longer or shorter period after death, or in dissected nerves and muscles after separation from the body, as long as the excitability of the nervous and muscular fiber continues;

and this fact remains whether these fibers die gradually, or whether they are suddenly deprived of their vital properties ; that the electric current in muscles when in the act of contraction, and in nerves when conveying motion or sensation, undergo a series of single and sudden variations of the intensity of the current, following each other in rapid succession ; and that if any part of a nerve is submitted to the action of a permanent current of electricity, the nerve in its whole extent suddenly undergoes a material change in its internal constitution, which disappears on breaking the circuit, as suddenly as it came on (Dr. Huff). These facts are the result of experiments carefully conducted.

107. Whether electricity undergoes any change and acquires new properties when introduced into the living organism, and pervaded by and intermingled with the vital and life-forces, is not certainly known ; but the probability is that some mysterious change or modification of it does take place in the body. Or why can some persons, who possess a large surplus of electricity, cure by hand friction all diseases caused by a deficient or irregular action of the nerve force? This remarkable power of imparting animal electricity by hand friction enabled Mottero of Paris to restore the equilibrium of disordered nervous force ; to restore completely paralyzed limbs to normal action ; to relax contracted muscles ; to impel the blood in its proper direction ; and to impart the strength that results from a sufficient supply of nervous energy (Dr. Huff).

108. Though electricity is distinct from the vital force, it is a very necessary and effective force, and imparts vigor to vitality, and has a direct and all-pervading influence on the functions of life,

109. Electricity is much more powerful and subtle than the atmosphere. While the latter may be regarded as the food of the lungs, the former may be the food of the vital principle.

110. The experiments of Matteuci clearly demonstrate the power of electricity over the nervous system, of which the brain is the center : it is as much the natural element of the cerebro-spinal system (which includes the brain and spinal cord with the nerves given off from them) as air is that of the lungs, or fluid and solid food is that of the stomach. Every muscle, gland or tissue in the system, from the finest muscular fiber to those powerful levers which move the larger bones, is stimulated into action by the nerves of the brain or spinal cord, which are the connecting links of animal and mental being. Electricity can even stimulate the nerves into action, when vitality, so far as we can judge, has completely fled.

111. As all the organic functions are performed partially through the aid of electricity, this subtle and powerful agent exciting the nerves, and through them the entire muscular system, becomes when properly used a powerful remedial agent, especially with respect to the muscular power of the chest, the functions of the heart, stomach, liver, kidneys, etc. There is no other agent known, save electricity, by which energy can be directly imparted to the vital force.

112. Electricity pervades all matter, organic and inorganic. A portion of the functions of organic life are voluntary, but those on which its existence chiefly depends are involuntary ; hence the greater portion of electric force is expended on these parts of the system which are not immediately influenced by the will ; that

is, on those of the brain and nervous system which excite involuntary muscular action.

113. Study, grief, care, anxiety and the more violent mental emotions exhaust the nervous force, by exhausting the vital force and disturbing the equilibrium of the electric force, and thus induce derangements in the direct functions of life. Hence the mourner at the grave of his friend, the despairing lover at the loss of his idol, suffer alike from the loss of appetite, indigestion, and their sad results (Huff).

114. The influence of electricity over the nervous system is very great, bodily and mentally, and is especially recognized when the earth for a long season has not been watered by the refreshing shower, and when the sun, almost tropical in its influences, has deprived our planet of its electric force. It not only affects the nervous system, but the functions of the spirit, as manifested in mind, which is wholly distinct from the grosser elements of mere life-force. The nerves, spinal cord, and the brain (the center of the nervous system) are the special instruments of the spirit by which it carries on its intercourse with the material world without.

115. In the contemplation of mind, one of the great attributes of spirit, we stand on the outermost boundary line of human reason. The soul can act independently of all the material organic senses, and the physical forces, and it goes forth in its spiritual dignity claiming recognition only by the higher Personal Reason, on whose infinite bosom is found its native and only happy home. "In the world ye have tribulation," "but in me ye may have peace," John xvi. 33. The soul, though distinct from, and independent of matter, still

requires the highest type of organized matter for its normal manifestations, hence we are forced to the conclusion that the electric force if not essential as a connector has very much to do with it. That there certainly is an intimate relation between electricity and the life force of the human organism, the following facts will show :

116. When we reflect that the brain is the organ through which the mental functions of the soul are manifested, that electricity is one if not the principal bond of union between the intellect which produces and the brain which manifests, it is easy to conceive how mental labor excessively performed exhausts the system, and deranges its organic action and equilibrium.

All excessive excitement of mind, whether as thought or emotion, may, and often does, become the predisposing cause of serious diseases that manifest themselves in exhausted states of the electrical forces.

117. The human body in some conditions is very sensitive to electric changes in the atmosphere. It is well known that "Long continued drought and heat deprive it of its electrical properties. But if the atmosphere be dry only for a comparatively short time with a clear sky, the electric force abounds, and it strengthens and invigorates us ; we feel an exhilaration, an unusual flow of animal spirit ; the invalid almost forgets his disease in this extra renovation of the powers of life. But let a chilly damp wind suddenly blow upon him, and how rapid is the change of his feelings ! The old standing chronic pains revive ; the circulation becomes enfeebled ; the lungs, particularly if previously diseased, suffer a loss of vital energy, that scarcely permits

them to perform their part in the process of respiration."

118. To show the effect of drought and heat on the electric forces of the atmosphere, the following illustration is given : If a Leyden jar, well charged, be placed in a dry atmosphere, it may retain its electricity for some hours, perhaps a day ; but if removed to a damp atmosphere, or even by placing it within the reach of a current of damp air, the electric force immediately passes off, the damp air being a good conductor, and the dry air a bad conductor of electricity. This explains why a current of damp air, passing over a person when sitting by an open window, has, in some cases, so deprived the system of the electric force as to occasion paralysis ; why so many persons die of consumption from wearing thin-soled shoes in damp weather ; why so many fashionable young ladies lay the foundation of lifelong diseases by passing out of a heated atmosphere into a chilly, damp one, as, from a social party, from the most dangerous of all parties—the public dance, or theater, or any crowded, heated assembly, no matter for what purpose convened ; and the danger is just in proportion to the nature of the clothing, the condition of the nervous system, the dampness of the ground and atmosphere, and the minus electric condition of the earth.

CHAPTER IX.

ANIMAL ELECTRICITY.

119. The chilly shuddering in the cold stages of intermittent and other fevers, frequently neuralgia (when not caused by decaying teeth), and rheumatism are largely dependent on diminished electric force for their origin. Even hypochondriacal and insane persons are sensibly affected by its diminution.

120. That great chemist, Sir Humphrey Davy, proved by actual experiment that the oxygen of the atmosphere (of which an adult in a healthy condition consumes about thirty-two and a half ounces per day), owes its elasticity to electricity; and that air which has lost its elasticity is unfit either to support animal life or to produce combustion, and consequently animal heat. Hence, it is folly for medical men to persist in calling oxygen an agent of vitality; it is in fact the scavenger of the system, constantly removing the worn-out tissue from the body. But at the same time oxygen is the medium through which electricity is supplied to the vital and life forces and which seems to be a necessary link between them and the organized material body.

121. It appears from Dr. Philip's re-proved experiment before the members of the Royal Institute, London, England, to be essentially necessary to the secretion of the gastric juice. Electricity is quite capable of exciting an inactive stomach and torpid lungs

into healthy and vigorous action. The conclusion is, that the functions of the stomach are under the influence of a force received through the nerves with which it is connected; and that such force is either electricity, or an agent, the office of which may be performed by electricity, is placed beyond a doubt.

122. The circulation of the blood is doubtless largely assisted by electricity; for Dr. Willson Philip has proved that the circulation of the blood in the smaller capillary tubes may continue some hours after apparent death, and that their current in life is not in exact unison with the pulsations of the heart. If heat and electricity are inseparable companions in the human body, this will account for it; but the ordinary theory will not. Brydone has shown that "If you cause water to trickle through a small capillary tube, the moment you electrify the tube the water runs in a full stream." If this principle holds good with respect to the capillary system of the human body, it affords a full explanation of Dr. Philip's discovery.

123. The connection of electricity with, and influence on, living bodies is very strikingly set forth in some interesting reports respecting the connection between electricity and cholera from St. Petersburg in Russia, and London in Great Britain. A magnet, for instance, of forty pounds sustaining capacity, was found, while the disease was at its height, to be incapable of sustaining more than four or five pounds; and it was further found that, as the disease abated, the magnet was gradually restored to its original powers. Again, J. C. Atkinson, Esq., member of the Royal College of Surgeons, in writing to the *Lancet*, says: "It was indeed singular to notice the quantity of

electricity which continually discharged itself on the approach of any conducting body to the surface of the skin of a patient laboring under the (cholera) collapse state, more especially if the patient had been previously enveloped in blankets; streams of electricity, many of them averaging one inch and a half in length, could readily be educted by the knuckle of the hand when directed to any part of the body; and these appeared, in color, effect, crackling noise, and luminous character, similar to that which we observe when touching a Leyden jar." "I may remark the coincidence, that simultaneously with the heat of the body passing off, the electricity was emitted. And I am therefore led to ask the question, Are not heat, electric and galvanic fluids (forces) one and the same thing?" Hence it is found that wrapping the patient in non-conducting substances, as flannel or woolen, aids essentially in the cure, by retaining the heat and electricity that is continually being eliminated in the system by the disease.

124. Electricity has been proved not only an essential in the contraction of a muscle, but an indispensable element in the production of heat; which cannot be produced in the living organism without it, and the life-forces are dependent for their preservation on the maintenance of some portion of heat in the system: its production is the last function that ceases. When this is totally extinct, no means can restore animation; the electric and the nerve forces have departed forever.

125. It is admitted by the most learned physiologists that it requires a physical force of two hundred and forty pounds to drive the blood through the whole circulatory system of the human body with the rapidity with which it is known to pass. Now, if this were ac-

completed alone by the physical force of the contraction and expansion of the heart, the inevitable consequence would be the rupture of the arteries and capillaries of the whole system; the delicate nature of the ultimate branches of which could not possibly resist the physical pressure made upon them. There have been cases in which the contractile power of the heart was measurably lost, and yet the circulation continued for years; hence the conclusion, that the physical force of the heart is not the exclusive propeller of the blood. The consequent inference is, that what the pendulum is to the clock, the heart is to the circulation. It delivers to the aorta, in measured quantity and in measured time, the blood necessary to keep up a uniform and unvarying current; electricity presumably being a very important auxiliary motor power of the circulation. This view appears to scientifically harmonize with the experiments and all the requirements of the case.

126. There is this distinction between electricity and magnetism: electricity must have a conductor, while magnetic rays need no conductor whatever. A bit of glass will stop the most powerful electric current, while magnetism freely passes through glass, or through a vacuum, as readily as through the best electric conductor.

127. Natural magnets are magnetic oxide of iron ores, known as loadstones. They are called magnets because first noticed by the Greeks in the town of Magnesia, in Lydia. The artificial magnet is a bar of tempered steel magnetized, and is far more valuable and powerful than the natural magnet. The identity of lightning and electricity was determined by Franklin in 1752. Electric properties were discovered by Thales of Miletus about 500 B. C.

128. Electricity, in reality, is no new discovery; it had been recorded under another name in the oldest text-book known to humanity—the Holy Scriptures. It is mentioned nineteen times in the Old Testament, being expressed by eight distinct terms; and eight times in the New Testament, only one term (as-trap-e) being used. It is distinctly mentioned, first, under the name of “or” in Gen. i. 3; and the same term is repeated in Job xxxvii. 3; (1) “Or,” light, brightness, lightning, a luminary; hence fire, the light of fire; (2) “Ba-rack,” a flash, glistening, flash of lightning, Ex. xix. 16; Psa. xviii. 14; Jer. x. 13; Zec. ix. 14; (3) “Cha-ziz,” lightnings, flashes of lightning, thunderbolt (root in Arabic, “to pierce”), Job. xxviii. 26; xxxviii. 25; Zec. x. 1; (4) “Lap-pid,” a lamp, torch, reflection of light, lightning, Ex. xx. 18; Gen. xv. 17; (5) “Ba-zak,” lightning, Eze. i. 14; (6) “Aish,” fire, lightning, anger, etc., Ezra xxxvi. 5; Zeph. iii. 8; (7) “Cha-tzatz,” lightning, or an arrow, Psa. lxxvii. 18; (8) “Ra-shaph,” a burning coal, lightning, burning arrows, a burning disease, Song of Sol. viii. 6; Deut. xxxii. 24; Psa. lxxv. 4; lxxviii. 48.

129. From the above definitions we gather the following scientific description of electricity in its manifestations. It appears as a very bright flash of light; as a glittering flash of fire; as a bolt or ball of fire, as a burning arrow darting through the air; as having great penetrating and illuminating properties; as being frightfully destructive in its effects; and as being accompanied with “thunder, hail and rain.”

130. In its essential nature, electricity is invisible, imponderable, immaterial and all pervading; in its manifestations it is characterized by light, heat,

amazing power, and inconceivable speed ; and it is an atmospheric purifier, an animal life sustainer, and a remedial agent of unknown efficacy. The Bible takes the lead in true science, notwithstanding all the boasting of infidel Ingersoll and atheistical Spencer, Darwin, Tyndall, Huxley, Helmholtz, Haeckel, Mayer, and a host of materialistic followers. The substantial and materialistic conflict is raging all along the lines throughout America, Europe and Britain ; and the enemies' lines already begin to waver. Soon the Substantial Philosophy will rout the materialistic enemies of scientific and scriptural truth, as the ringing shout of the three hundred—"The Sword of the Lord and of Gideon"—routed the enemies of Israel.

GRAVITY.

131. Gravity is a real, substantial, immaterial force element of nature, as is cohesion and magnetism, etc. Its true character was discovered by Dr. A. Wilford Hall, an American ; and the law by which gravity acts—called gravitation—was discovered by Sir Isaac Newton.

Because gravital force is not recognizable by any of our senses, it is no proof that it is not as really and truly a substance as is water, iron, or even platinum, the heaviest of all known substances ; only the substantial and attenuated threads of gravital force are of such a nature that we cannot recognize them except through our higher faculty of reason, by what they do—their effects.

132. Like all other forces, when not active, gravity is latent or static, which simply means at rest. A good magnet will, in a limited degree, not only neutralize

but overcome gravital force, by lifting a mass of iron from the earth and holding it in suspension. Cohesion differs from gravity in uniting particles into a more or less solid mass; and gravity draws material particles as well as a combination of particles in masses into approximate nearness to each other. Gravity may begin its work at a point where cohesion relinquishes its hold upon any given portion of matter. Cohesion makes a universe possible, and gravital force directs, controls and harmonizes its material orbs by law, which "declares" the will of the Creator by and through gravital force. Job xxvi. 7; Psa. xix. 1; Rom. xi. 36.

133. Were gravity not a substance it could not pull material bodies together. But, though a substance, it is not matter; if it were, "it would have the property of inertia, like all matter, and consequently could not move itself, much less that which is not itself." The fact that it passes unimpeded through all material substances, whatever may be their properties, such as impenetrability, impositivity and imperviousness, proves that it is immaterial. Gravity pervades and resides in all substances. "The heaviest matter contains the most gravital force, as the hottest metal contains the most heat force."

"Gravity can substitute steam for doing mechanical work, as in the case of the water-wheel under hydraulic pressure. Gravity varies inversely as the square of the distance from any mass of matter which sends out those mysterious gravital rays toward any other given material body. Gravity rounds the dewdrop on the bosom of the flower, and orbiculates the earth on which we live; it lifts the mists to equilibrium in the air and drops them again in showers over the earth; it causes the

rock to fall from the mountain cliffs, and the rivers to flow into the seas, and to hold the seas in their sunken beds, and by balancing the centrifugal force of the earth to give us orbital motion, and with it days, months, seasons and years" (Elder Munnell).

134. Gravity has no perceptible influence on the imponderable, immaterial elements, as light, heat and electricity ; nor does gravity, so far as we know, affect in the least the immaterial bodies of angels or the departed human souls. Even the clouds in their rarefied condition act in opposition to the laws of gravitation, as does the sap ascending the loftiest cedar in the forest.

CHAPTER X.

HEAT.

135. Heat is a real substance, as much so as the water it converts into vapor; it is an immaterial, imponderable, physical force-element of nature, as is light and electricity. Though it pervades all matter either in an active or static condition, it is not affected by the properties or conditions of matter; gravity does not control it; it can occupy the same space as matter at one and the same time; as for instance the most accurate weighing can detect no difference between a cannon-ball when cold and the same ball when heated hot. Heat has the property of diffusion, and travels by conduction more easily through some bodies than others, as do electricity and sound. It raises the temperature of the medium through which it passes. It does not necessarily require a material conductor or medium through which to travel; like gravity and light it shoots its rays from world to world.

136. The great heat reservoir in our solar system is the sun; but the sunbeam, in its passage to the earth imparts no warmth to space, because space is nothing—it merely means room for something—consequently emptiness cannot be warmed! Space can no more be warmed than motion, or a shadow.

137. “The heat-producing rays of the sun are not hot.

This is quite susceptible of demonstration ; then why should the books tell us that the sun is hot ? There is no day so hot on the surface of the earth that the cold is not intense only a few thousand feet above the surface. How often, in warm climates, are the snow-capped mountain summits visible through the entire summer ? Yet the heat-producing rays of the sun are as numerous up there as they are at the surface of the earth. Heat is a condition of material substances. Immaterial substances certainly cannot be affected by it. But you ask, if the heat-producing rays of the sun are not hot, how do they produce heat ? We reply : By the resistance they meet with in their rapid flight when they come into contact with material substances. The collision of immaterial substances with material substances produces heat, as in the case of lightning. The light and heat-producing rays of the sun come to the earth in eight minutes. This is at the rate of twelve millions of miles in one minute, nearly, or two hundred thousand miles per second, nearly. The rate of speed is such that if the particles were material, though no larger than to be visible to the most powerful microscope, no living creature could stand the bombardment for a moment. In all probability the world would be ignited like a friction match. There is no evidence that the sun is hot, or that there is any combustion there" (D. Oglesby in *Microcosm*). The sun is the great reservoir and center of the immaterial substantial forces of our solar system.

138. "Heat is manifested by obstruction, friction, and mechanical and chemical action. Though a subtle imponderable force of nature, it produces great and important changes in matter, as expansion, fusion,

evaporation, and combustion, in changing water into steam heat causes it to require seventeen hundred times the space it fills in a liquid condition. Heat must therefore be a substantial cause to produce such effects. Effects always do and must result from real causes. A shadow cannot produce a substance, no more than nothing can produce something, or a non-entity produce an entity! Heat is neither motion nor any mode of motion, as heretofore taught in all our colleges" (Dr. Hamlin in *Microcosm*).

139. Radiant light and heat alike belong to the active forces of Nature. The active power or force of heat is manifested in conduction and radiation, according to a law of diffusion ordained by God. It radiates from one heated body into another containing less heat until a thermal equilibrium is established. Ice has not yet been found destitute of heat.

140. There are three powerful agencies for carrying off heat from liquids: radiation, conduction, and evaporation.

141. Heat is capable of being condensed, and thereby concentrated to greater intensity, as by the burning or sun-glass, and by the compression of air which it pervades. When two volumes of air are compressed into the space of one, the amount of heat is doubled in its intensity. The heat is not generated but compressed. The mechanical force exerted in the compression has practically nothing to do with it. The heat was in the air before compression; and the greater the compression, the greater the intensity of the heat resident therein. Heat like sound and electricity travels faster through some bodies than through others; and, like gravity and light, shoots its rays by radiation from

world to world. It travels through matter by conduction, and radiates from matter by general diffusion. It would appear that heat-force is co-extensive with cohesive-force in whatever worlds vegetable and animal life exist: "for God hath set a tabernacle for the Sun;" and "there is nothing hid from the heat thereof." Psa. xix. 4, 6.

142. ANIMAL HEAT.—All the organic processes require a temperature of about ninety-eight to ninety-nine degrees, Fahrenheit. Each functional division of the vital organism must have its appropriate food. Electricity is the natural food-element of the nervous centers, as the atmosphere is the natural food-element of the lungs, and solid food and water are the natural food-element of the stomach. The blood carries to the vital force the nutritive elements of the various elemental foods appropriated, accompanied by electrized oxygen and electricity; the latter permeating all the network of the nervous system while in a normal condition. To maintain it in this condition requires on an average in an adult about thirty-two and one-half ounces of oxygen per day. This electrized oxygen is conveyed to the tissues of the body by the arterialized blood, but by its action the substance of the worn-out tissue is decomposed; a part of the oxygen uniting with the carbon thereof, forming carbonic acid gas, and the remaining part uniting with the hydrogen, forming water. Thus the principal source of animal heat results from the chemical action between the elements of the tissue, food and electrized oxygen.

143. It has been carefully estimated that about one hundred and seventy-three grains of pure carbon is given off from the lungs every hour as carbonic acid

gas, and about thirteen to fourteen ounces per day from the lungs and skin together. Hence the loss to the body is kept up by the causes named ; and the nature and amount of food required is largely regulated by the external temperature. The higher the temperature of the air inspired, the less the amount of carbonic acid gas exhaled, and vice versa. Heat is always the result of the chemical combination of oxygen and carbon forming carbonic acid, and of oxygen and hydrogen forming water, of which about three and one-half pounds daily pass off through the kidneys, lungs and skin of an average-sized person.

144. Without cohesive-force a material universe would be impossible ; and without heat-force animal life could not exist. Without heat there would be no evening breeze to fan the cheeks of infancy, no tides to rise and fall, perennial springs could not send forth their crystal streams, the rivers, lakes and oceans would become solidified like transparent crystals, one wide waste of desolation, and the silence of death would reign around. But heat-force, the great all-pervading modifier of cohesive-force, clothes the earth with variety and beauty. We have light, heat and moisture, and with them all the necessary physical conditions of vegetable and animal life, accompanied by adaptation, utility, and more than prismatic beauty. We have millions on millions of tons of water evaporated annually from the surfaces of rivers, lakes, seas and oceans, amply sufficient to meet all the requirements of vegetable and animal life, including mental activity, physical enjoyment, and moral happiness.

145. The healthy human organism luxuriates in a temperature of ninety-eight to ninety-nine degrees

Fahrenheit, while water boils at two hundred and twelve, and freezes at thirty-two above zero; and mercury solidifies at forty below zero Fahrenheit. Carbonic acid gas, oxygen and hydrogen have been so far deprived of their heat and compressed as to solidify. Hydrogen has hitherto been considered the lightest of all elements; but now it is said that a new element has been discovered and named damaria which weighs only half as much as hydrogen: we await further evidence. The solid seems to have been the original condition of all matter until modified by heat.

146. "Scientifically speaking, cold does not freeze water into ice, and thereby expand it; but these are effected by the natural radiation of heat from the water, which thereby allows it to return to its normal condition of solid ice. Nor does cold burst the vessel or cylinder in which the water is confined. The reason that ice takes up more room in the act of forming, is that the particles of water being round and compressible fall together with the greatest possible compactness and with the least possible space between them, thus taking up the least possible room. Hence those particles of water that first give up their heat will form themselves into crystallized particles of irregular shapes, which of course will take up more room than the compressible round particles. As there is no space for them to enlarge, they commence wedging themselves in between the fluid particles, forcing them apart, which being almost entirely incompressible must begin to exert a powerful strain upon the inclosing vessel or cylinder; till finally, as crystallization continues, millions on millions of infinitesimal wedges have formed and are exerting all their force, thus bursting the vessel or

cylinder asunder. It is simply split by the action of an infinite number of mechanical wedges. That is all" (Dr. Hall in *Microcosm*).

147. Heat is conjointly with oxygen a purifier of the vital organism; for it has recently been demonstrated that the vapor exhaled from the lungs when largely condensed contains a fatal poison. What must be the condition of the atmosphere in a large crowded hall, when to the natural poisonous exhalations of the body are added the lung-fumes of tobacco, wines, liquors, and odors of cosmetics? and especially in a crowded public dance when all these evils are aggravated to an untold extent with violent perspiration, and clouds of poisonous vapor and filthy dust? What is poor humanity! It will turn up its fastidious and fashionable nose at a poor unfortunate fly entrapped in the jelly, and yet breathe such a filthy poisonous air until the "wee" hours in the morning, and almost go into hysterics over the so-called fun and enjoyment that too often causes unhappiness, if not bitterness in other hearts, a bone of contention between husbands and wives, sometimes ending in divorce, murder, or suicide. Sex is the spirit of the public dance, as alcohol is the spirit of intoxicants; it leads to physical, moral, and spiritual death. As nineteen out of every twenty bad girls take their first downward step at the public dance, who will dare to say, "There is no danger there?" He or she who is born of God hates sin and shuns the appearance of it. *Psa.* cxix., cxiii., civ.; *I Thess.* v. 22.

148. What heat is to the material world—modifying, diversifying, beautifying, animating and harmonizing; so is Divine love to the holy spirit-world—animating, exalting, beautifying and intensifying all the activ-

ities of Heaven. Here it radiates purity, harmony, happiness and joy. What magnetism is to the magnet, so love is to God—the great moving and attractive force of His infinite nature acting morally on responsive beings; for God is love, whether seen in the expulsion of Adam and Eve from paradise, or in the destruction of the Old World by a flood, or witnessed amid the terrific thunders of Sinai, or heard in his dying prayer on Calvary—yes, God is love, and there is no moral subject hid from the effects thereof.

CHAPTER XI.

PHYSICAL LIGHT.

149. What light is not. It is not invisible material particles, as believed by Newton; nor an exceedingly subtle and material jelly-like substance, called luminiferous ether, as believed by Christian Huygens, a Dutch astronomer, who suggested to Newton the present utterly baseless "wave theory" of light. This ether theory relieved Newton's embarrassment, for he found that material particles, however small, traveling at the amazing rate of one hundred and eighty-six thousand miles in a second of time, must certainly destroy any eye into which it enters. The supposed wave motion of this supposed ether constituted the basis of the "undulatory theory of light," that has enslaved the minds of the highest class of scientists for about two hundred years; but the morning star of scientific truth has already appeared, ushering in the wedding-day of true science and Bible truth, nevermore, we hope, to be divorced by evolution, agnosticism, or materialism.

150. "What is light?" is not so easily answered as some might suppose. Although it is by light that we see external objects, light itself is invisible. Light is manifested by friction, obstruction, and reflection. The sunbeam, which we think we see shining through a crack in the window-shutter, is only particles of dust

so acted on by light that they shine, and thus become visible. We look to the shining of the moon which is only reflected from the sun. Although the light must exist at the place where we see the moon, it is invisible, unless reflected by the little satellite" (Prof. Lowber).

Physical light is a compound substance: in the first creation it was the agent used in the vast transformation.

151. The nature of light as at present known.—Light is a real, physical, tangible, immaterial, compound, substantial, imponderable force-element of Nature, and as emanating from the sun, associated with heat, passing through space, and coming into actual contact with the normal retina of the eye causing vision. It passes through a vacuum as easily, or more so than through any transparent material substance. In this respect it somewhat resembles magnetism, though it differs from both electricity and sound, which require a conducting medium. In the above description of light, the term "tangibility" is used in the higher and truer sense—that the five senses constitute so many modifications of the sense of touch, and not in the sense of touch commonly called feeling, which, to say the least, is a very indefinite, imperfect, and unscientific sense. Whatever substantial force, be it odor, sound, or light, etc., that produces its appropriate sensation by substantial contact with the nerves of the appropriate organ, is tangible in the true sense of the term.

152. Light is not a simple substance, but can by a prism be divided into seven distinct colors, termed primary: as, one violet, two indigo, three blue, four green, five yellow, six orange, seven red. Out of these primary colors all the variety of colors in nature are

produced. White light may approximately be said to consist of forty-five parts of red, twenty-seven of orange, forty of yellow, sixty of green, sixty of blue, forty-eight of indigo, eighty of violet, or three hundred and sixty in all. These seven prismatic colors remind us of God resting from His creative work on the seventh day, of the seven spirits of God, the seven eyes, the seven vials, the seven angels, etc.

153. Colors are now considered as the result of different rates of pulsation and obstruction, instead of its refrangibility as formerly. Color is not in the object but is caused by the obstructed rays of light.

154. Light has attributes and properties, as vibration, velocity of movement, refrangibility, and color, and yet its existence is peculiarly its own. There is nothing with which to compare it except the manifestations of God Himself. It has nearly a million times the velocity of sound through the atmosphere, traversing the entire distance between the sun and the earth, which is estimated to be about ninety-one million five hundred thousand miles in eight and a quarter minutes, being about one hundred and eighty-six thousand miles per second.

155. The principal sources of light are the sun, the stars, heat, chemical combination, phosphorescence, and electricity.

156. The actinic or chemical property of light is very remarkable, and is, perhaps, most fully realized and duly appreciated by the most skillful photographer. But if light be nothing but the wave motion of the supposed luminiferous ether, as the materialists contend, why does chloride of silver blacken under the influence of the chemical action of light? transparent phosphorus

become opaque? and vegetable coloring matter fade? When men undertake to dismiss the compassionate Creator from the world he has made and the vast family he has so abundantly provided for they manifest well-defined symptoms of logical and moral insanity. While the heat increases from the violet to the outside of the red rays, the actinic or chemical rays increase from the red to the violet, and away beyond it, but are most energetic in the violet. If light be a wave motion of a supposed ether—a nonentity—a nothing—why does its remarkable chemical action so wonderfully promote the growth of plants? and why is it that under the influence of the sun's rays the chemical attraction which holds together the carbon and the oxygen is overcome that the former may become food for the plant? Yes, light is something—though mysterious—or it could not produce such wonderful results—could not so exquisitely paint in variety and beauty what no artist can ever approach in design and execution.

157. The reason why light passes through some bodies more easily than others is because cohesive-force has differently arranged and controlled the particles. “Take, for example, a piece of the most transparent crystal, pulverize it into flour, and then condense it into a solid mass under a powerful hydraulic press. Though it is now constituted of the same substance as before, light will not pass through simply because cohesion has arranged its particles in a different order.”
—Sub. Phil.

158. Light is related to the organ of vision, as air is related to the lungs, or sound to the ear. It makes a particular sensible impression on the retina—the outward expansion of the optic nerve—by imprinting

thereon the image of an external object, as a man, a horse. Suppose the eye to be one inch in diameter, and an object six feet in diameter at a distance of eight thousand yards will only form a picture or image on the retina of the eye one eight-thousandth part of an inch, or about the sixty-sixth part of a common hair, and from this microscopic picture on the retina the mind receives its idea of the external object. The aqueous, crystalline, and vitreous humors are each distinct in character, and of different refractive power, but all serving, in their action, to give the most correct image of the object, and in its truest colors. For accurate vision, how necessary that the eye should be perfect and in a healthy condition. The retina is the immediate seat of sensation ; it is a membrane of the most delicate texture of any in the human body, and is endowed with the most astonishing sensibility. In its fresh state it is transparent, and so soft and tender that it will tear with its own weight.

159. The organ of vision can detect through the spectroscope the one-million-four-hundred-thousandth of a milligram of sodium, which is two hundred and fifty times coarser division of matter than is detected by the sense of smell. For distinct vision it is necessary that the visual impression remain upon the retina about the eighth of a second. An electric light no larger than the head of a pin can be seen at the distance of ten miles.

160. The primary objects of vision seem to be simply light or color, and expansion of surface. For these are all that persons who have been restored to sight by surgical operations could at first perceive ; like the blind healed by Christ, they could see men, but only as

“trees walking.” Thus the surgery of to-day confirms the miracle of nearly nineteen hundred years ago. They had no correct idea of distance or magnitude: These had to be learned by experience. The microscopic picture formed on the retina by the refractive humors of the eye, causes therefore all the mental perceptions excited by light on the sense-organ of vision. Let us not forget that though we have an abundance of light there is no one of our special sense-organs so liable to lead us astray as the eye. It may be seriously affected by diseases of a hereditary, general, or ophthalmic character, any of which may lead to fatal mistakes, saying nothing of the abnormal action of the mind, and the unfavorable condition of the atmosphere. All these may be fruitful sources of error. Many persons are color-blind with respect to some particular color, which often causes fearful loss of human life on railroads. But a much greater proportion of individuals are sin-blind with respect to some particular darling sin, unpleasant fact, or unwelcome truth.

“The limits of vision vary with elevation, conditions of the atmosphere, intensity of illumination and other modifying elements in different cases. On a clear day an object one foot above a level plain may be seen at a distance of 1.31 miles; one ten feet high, 4.15 miles; one twenty feet high, 5.86 miles; one one hundred feet high, 13.1 miles; one a mile high, as the top of a mountain, 95.23 miles. This allows seven inches, or, to be exact, 6.99 inches, for the curvature of the earth, and assumes that the size and illumination of the object are sufficient to produce an image. Five miles may be taken as the extreme limit at which a man is visible on the flat plain to an observer on the same level.”

The following careful statement by Prof. E. S. Holden on the power of the eye and the telescope, as they are contrasted in actual experience, is of special and permanent interest: "If the brightness of a star seen with the eye alone is one, with a two-inch telescope it is one hundred times as bright, with a four-inch telescope it is four hundred times as bright, eight-inch telescope it is sixteen hundred times as bright, sixteen-inch telescope it is six thousand four hundred times as bright, thirty-two-inch telescope it is twenty-five thousand six hundred times as bright, thirty-six-inch telescope it is thirty-two thousand four hundred times as bright. That is, stars can be seen with the thirty-six-inch telescope that are thirty thousand times fainter than the faintest stars visible to the naked eye."

161. Two distinguished physical investigators, Prof. S. P. Langley and F. W. Verrey, at Allegheny Observatory, Pa., have discovered by various and carefully conducted experiments that the great Cuban firefly is by far the most economical producer of illumination furnished either by nature or the art of man—for not more than the one four-hundredth part of the mechanical energy is exerted by this great firefly, in proportion to the light emitted, than is utilized in the burning of a tallow candle. Or, in other words, while this insect emits no heat-rays at all, its intensity of light could not be equaled by any means known to our arts without the development of at least two thousand degrees Fahrenheit.

162. According to all materialistic scientists, light has had its source in the mechanical energy of the central-heat; but here in the firefly of Cuba we have a light-center of great intensity without any discoverable

heat-center at all. Thus do these able experimenters demonstrate the claims of the Substantial Philosophy—“that the intensity of light depends entirely upon the luminous property of its source as to the amount of light-force liberated from the force element of nature.” It proves also for what the writer has long contended—that light in itself is an independent, distinct, and immaterial entity governed by laws peculiar to itself. And the luminosity of the Saviour in the transfiguration required that there should be light apart from heat. And here we have it. How beautifully it harmonizes with, and explains the luminosity on the occasion referred to! Instead of saying like Solomon, “Go to the ant and learn wisdom, we say to the wave theorists—go to the firefly and learn the nature of light: go to the little locust (katydid), and learn the science of sound! For God hath ordained these small insects to confound the wisdom of the wise.”

163. Light is one of the most wonderful, cheering, invigorating, beautifying and useful of all the immaterial forces of Nature. To it we are indebted for all colors, all vegetable life, for the normal constituents of plants—as their nutritive properties, and medicinal qualities, and for the normal continuance of animal life. It is indispensable to our health, vigor, activity, safety and happiness. Indeed no physical force better illustrates whatever is pure, beneficent, joyful, glorious, spiritual, and divine. Hence the beauty, the force, and the propriety of the Saviour’s declaration—“I am the light of the world: he that followeth me shall not walk in darkness, but shall have the light of life,” John viii. 12; i. 1-4.

164. What light is to the eye, so knowledge is to the

mind. What physical light is to material things, so spiritual light is to immaterial and spiritual things. Physical light reveals myriads of diversified forms in Nature, so spiritual light reveals to reason and faith innumerable realities which the eye has not seen, nor the ear heard, but God has revealed them through his Spirit : for the Spirit searcheth all things, yea, the deep things of God, I Cor. ii. 8, 10. Physical light flashes in the diamond, sparkles in the dewdrop, clothes the lily in its purity, blushes in the rose and enrobes it in delicious perfume, and adorns all Nature in its richest and most gorgeous attire ; so spiritual light clothes the divine nature, attributes, character, and providences in a halo of glory brighter than the sun, and more glorious than the concentrated beauties of the created universe. Hence God is light in a higher sense than any finite mind can possibly conceive ; light, compared with which the sun is a shadow, and the moon a dark cloud. No created mind can approximate an adequate conception of Him who “ so loved the world, that he gave his only begotten Son, that whosoever believeth on him should not perish, but have everlasting life.” Truly God is not only light, but he is love, and the infinite source of both, John iii. 16 ; I John iv. 8. “ Light ” here means spiritual knowledge, wisdom, and saving truth, as applied exclusively to God, the divinity of His omniscient self-consciousness.

CHAPTER XII.

MAGNETISM.

165. Odor seems to stand on the dividing line between the material and the immaterial ; and magnetism on the dividing line between the mere immaterial and spiritual ; for the nearest we come to seeing the isolated action of spiritual energy is in the magnet.

But what is magnetism ? Sir William Thomson, the great leader of the materialistic host, in his recent address to a distinguished audience in Birmingham, England, said : “ Magnetism is nothing more nor less than the rotary motion of the particles of the magnet.” When I read this ridiculous statement, I hung my head in shame to think that personal individuality and independence of thought had so far fled from the dear old Motherland that not one son was found to vindicate the family name against the mental criminality of believing such an absurdity ! Sheep-men abound ; but Elijahs, Daniels, Pauls, Knoxes and Luthers are very few on the Scientific-Biblical battlefield.

166. This philosophy answers the question in part, by its effects. What is magnetism ? Sir William knew that no particles of iron could possibly pass through glass, one of the most impervious of all known material substances, and yet a thick sheet of glass is no hindrance whatever to this mysterious magnetic force. Sir William’s common sense ought to have told him that

no sort of material threads could extend away from the magnet to seize the piece of iron and lift it bodily, since a sheet of glass placed between the magnet and the piece of iron would not produce the slightest effect in cutting off the lifting power of magnetism. He seemed to have no conception of an immaterial substance, and to be so totally blinded by materialism that the immaterial and the spiritual—the real, the invisible and the eternal were invisible to his eye of reason—the most important organ of his inward man, and a more sure guide in many things than the material visual organs can be, II Cor. iv. 18.

167. As particles of the magnet cannot possibly pass through the glass, magnetism is not material. Motion is mere position in space, changing, and therefore is a nonentity, for it ceases as soon as the force that produces it is withdrawn; it is no more than the shadow of a falling tree when the sun is shining—nothing! Therefore Sir William's definition of magnetism is just nothing! notwithstanding every electric-light proclaims itself to be the offspring of magnetism! Materialism, atheism and agnosticism is confirmed moral insanity.

168. Magnetism is an invisible, immaterial, imponderable, self-acting substance, one of the force-elements of nature; but it differs from those of cohesion, gravital force and electricity, though very closely related to the latter, somewhat as fine steel is related to iron.

169. Professor Hunt says that there is no substance in Nature yet found that is independent of magnetic power. It, however, influences bodies in different ways, some it attracts, and others it repels.

170. The essential nature of magnetism is not under-

stood ; we only know that it is present by its effects, as in the case of the soul that animates the body. Nor do we know the nature of the cohesive force that constructs the beautiful diamond ; nor the gravital force that pulls the stone to the earth ; nor the chemic force that plays so important a part in chemistry under the name of "chemical affinity." Perhaps these various forces are best illustrated by two pure, sympathetic and loving hearts, each responsive to the other. Gravital force responds to the gravital force residing in the stone which is drawn to the earth ; cohesive force in one particle seeks a union with the like force in the other particle, and hence the sparkling brilliant ; and so of chemic force. Magnetic force takes even a higher stand. Like its Creator, it seeks a union with whatever has a nature like its own, and repels whatever is unlike itself. Hence love and purity are attracted, and sin and hatred are repelled by the Divine Nature.

171. Magnetism is no part of the metal it lifts, but resides in or pervades it, as the soul the body. There seems to be one general law throughout all nature, up to the Creator himself—like seeking union with its like by what we will, for want of a better term, call responsive sympathy ; for neither attraction nor chemical affinity conveys the desired idea.

172. If magnetism were not a substance it could not lift a piece of metal bodily at a distance from the magnet, any more than our hand could lift a weight from the floor without some material connection between the two. For it is an axiom in mechanics, that no body can move or displace another body at a distance without a real, substantial medium connecting the two through which the result is accomplished, otherwise it

would be a mechanical effect without a cause—a self-evident absurdity.

173. There is a very close relationship between magnetism and electricity, so much so that the latter is manufactured by the dynamo from the disintegration of the former: the finest of steel is produced from iron. Though magnetism differs from electricity, from the fact that it does not require a conductor, and produces no direct effect upon our senses. We only know its effects by the way it moves certain other bodies. There is a very close and beautiful analogy between magnetic force and the energy of the Holy Spirit on the soul of man. Both are invisible, both immaterial, both substantial, both self-active, both sympathetically responsive to their like, and repelling to their opposites, and both have power to guide action, force and motion.

174. “It is generally admitted that no material substance can pass through platinum and glass—two of the most impervious substances known; yet these substances are no hindrance to magnetism. A magnet may be corked and sealed in one bottle, and iron filings may be placed in the same condition in another; yet the magnet will attract the iron as though no such division existed between them. The experiment teaches us that magnetism has a very close relationship to the spiritual. May it not yet be the means of solving the difficult problem of the relation of the spiritual to the material world?” (Prof. Lowber, Sc.D.) Since the force of magnetism that lifts a mass of iron is not matter, it acts through the densest of material bodies as if nothing were present; and hence the securely-closed room in which the apostles were convened proved no hindrance to the immaterial body of

Christ, who unperceived entered the room and stood in their midst, and as unperceived departed.

175. Every mass of matter, large or small, is only acted on by the earth's gravital force by virtue of the like gravital force residing in or pervading the mass, be it stone or mountain; and so the sympathetic Holy Spirit directs his energy not to the material body, but to the personal spirit that animates or resides within, made in the likeness of God, and therefore like it in nature.

176. "Place a handful of common tacks or a number of needles on a glass plate, and then pass the poles of a good magnet below the plate, moving criss-cross and in circles, and watch the tacks or needles darting hither and thither, following the minutest movements of a magnet! Having witnessed this experiment I ask, Can any rational mind come to any other conclusion than that an immaterial substance radiates from those magnetic poles, passes through the glass, fastens itself to a like force resident in the tacks or needles, and thus holds and manipulates them according to a fixed law of Nature" (Dr. Hall).

177. Magnetism, within certain limits, overpowers gravital force, in lifting large masses of iron. It is said that an electro-magnet is now made to lift seven thousand two hundred pounds. It largely neutralizes gravital force, "as in the case of a piece of copper or silver, which falls very slowly through a dense atmosphere of magnetism. Why is this? It is not the obstruction caused by the dense collection of magnetism which impedes the fall of the piece of copper, but the neutralizing effect upon the gravity within the copper, thus rendering it unfit, so to speak, for the gravity of

the earth to unite with. In evidence of the correctness of this explanation, weigh a piece of copper while in a dense magnetic atmosphere, and it will be found to weigh almost nothing. A child might thus lift a ton of copper with one finger by simply bringing the two poles of a magnet, powerful enough, on the two opposite sides of a mass of copper, thus neutralizing its inherent gravity, and thereby destroying the hold of the earth's gravity upon it." (H.)

178. "Glass is less porous than gold, and more impervious to material substances than any known body of matter; so much so that any substance which penetrates, permeates, and passes through it cannot be composed of material particles. Yet, in the case of this magnetic substance, no difference whatever results in the energy of its mechanical pull on a distant piece of iron, however many or few of the practically imporous sheets of glass, rubber, or whatever other material body be made to intervene, or if no substance whatever but the air is interposed, or if the test be made in a vacuum. The pull is always precisely with the same force, and will move the suspended piece of iron at the same distance away from it in each and every case, however refined and delicate may be the instruments by which the tests are measured." (H.)

179. When a loadstone or an artificial magnet is placed upon a pane of glass, and iron filings thrown around, it draws these filings in regular and beautiful curves. They are especially drawn to each end of the magnet, for magnetic force is not equally distributed to all parts of the magnet, but is found concentrated chiefly at the ends. The law of the attraction and repulsion of magnets is that unlike poles attract, and the like repel.

The special cause of this, I presume, is known alone to the Infinite Mind. There are magnetic bodies and dia-magnetic; while the magnetic arrange themselves along the line of magnetic force, the dia-magnetic place themselves at right angles to this line. Every material substance in Nature is thought to be in one or other of these conditions. Its directive power is apparent in every particle of ore, and it forms the beautiful crystal.

180. A loadstone is a brown mass, and can be used in making many magnets, and it does not lose any of its original force. We may break a magnet, it then becomes two magnets, each with its positive and negative poles.

181. "A bar of steel can become magnetized by rubbing it with a loadstone and in other ways. Magnetism does not appear to be transferred, but simply induced or developed by the loadstone, somewhat similar to obtaining fire from ice by friction. Magnetic phenomena are not limited to the inorganic world, but extend also to the organic. The leaf, the flower, the fruit of a tree, the flesh, bone, and blood of animals, and even gases and vapors are affected by an all-pervading magnetism." (Prof. Lowber, Ph.D.)

182. The least educated person has only to be shown the proper use of a good magnet for a single half-hour to become convinced of the existence of an immaterial substance. It is to be lamented that there are so few of even intelligent persons who have formed a true conception of the vast significance of a good common horseshoe magnet in the realm of scientific research. The distinguished Joseph Cook, in one of his recent lectures, boldly declared that "no logical thinker can be an atheist or materialist who will carefully study the

steel magnet; that within its mysterious operations, when properly analyzed, are to be found the hidden scientific evidences of the existence of God and of the clear possibilities of a future life for man."

183. Sensuous perception, as applied to light and external objects, means that the mind recognizes the image photographed on the retina of the eye, and may be thus illustrated: I perceive through the organs of vision a house; the first impression on the mind is that of form, and may be called intuitive perception, for there is no reasoning process about it. The second impression is what I will venture to call a logical perception, for it includes not only form, but the meaning of form, which includes the object and design of the house—for a family residence. This implies a simple process of reasoning. We will apply this illustration to the magnet and magnetism. For instance, a magnet draws to itself a mass of iron; but no material connection between the magnet and the mass of iron can possibly be perceived by the senses; yet we see that the iron follows the magnet hither and thither until it comes into actual contact, and then is lifted up and suspended by the magnet as if bound to it by an iron bolt. Why is this? Though no material connecting bond can possibly be discovered by the senses, yet reason assures us that there is a substantial one, notwithstanding an immaterial one; for an effect cannot exist without an adequate cause. We have seen the effects. We cannot deny them; and were we disposed to do so, reason would give the lie to our denial, and conscience would charge us with guilt. Almost every day we may witness whirling machinery driven by steam, which we cannot see, yet we see the effect thereof. We do not

see the air, yet we breathe and enjoy it every day, and it weighs fifteen pounds to the square inch. The nerve-forces are constantly busy on all the nerve-lines of our bodies, and they are essential to our existence therein, but we have never seen them, nor has any other person seen them. The same may be said of other forces, as gravity, cohesion, sound and electricity. Hence, we term magnetism an immaterial substantial force-element of Nature. It is independent of all the conditions of matter. Matter is no hindrance to its movements. It approximates the nearest of all known immaterial substances to spirit, and probably stands on the dividing line between the immaterial and the spiritual, as odor appears to stand between the material and the immaterial.

184. Logic, or the perception of reason, is in many things a surer and safer guide - than sense-perception, and its cultivation is very often criminally neglected in the education of youth, leaving the mind fully exposed to the chilling and blighting effects of error.

CHAPTER XIII.

ODOR.

185. Changes in the combination of the various chemical elements of matter produce all the phenomena in matter recognizable by the senses, as odor in the growth of a flower, sound in the explosion of gunpowder, light in the generation of electricity, or color through the action of light, etc.

186. Odor seems to be matter in a very subtle and highly attenuated form, that emanates from material substances, and comes into actual contact with the olfactory nerve, producing a sense-impression which is conveyed by the life-force to the brain, where it is perceived and deciphered by the mind, and classified according to its quality, as pleasant or otherwise.

187. Odor would seem entitled to rank with immaterial forces, seeing that it is invisible, not subject to gravital force, permeates matter like heat and consequently can occupy the same place as the substance it pervades at one and the same time, and manifests its presence to the organ of smell as magnetism manifests its presence to the organ of vision.

188. Though odor is diffusive, it can be concentrated, and, to a limited extent, be preserved or dissipated. It can, as though related to the immaterial forces, be absorbed by one substance throughout

its mass as it is emitted by another, as in the case of milk and butter placed near to fish or onions, etc. There is a large variety of odors recognized by the sense of smell, as there is of flavors recognized by the sense of taste.

189. Some odors are pleasant, refreshing and even health-producing ; others are unpleasant, or offensive, or destructive of health, or fatal to animal life.

190. A great difference exists in persons with respect to sensitiveness to odors. Some persons are actually tormented by odors that are rather acceptable to, or endurable by others. For example, some ladies can detect the scent of tobacco smoke in a garment that has been merely carried through a room containing a little smoke, even when it has been aired for some time. Such a woman, if a wife, has to pay a lifelong painful penalty for marrying a smoker — a physiological criminal, who injures himself, distresses others, entails a curse on his children, and reflects on his Maker ; for had he designed him to do anything so filthy and offensive he would doubtless have put a chimney up through the top of his head, and made all his internal organs smoke-proof against fatal diseases.

191. Certain animals and birds are very sensitive to odors ; the vulture is able to detect the odor of carrion afar off ; a shepherd dog will follow the scent of his master's footsteps for miles ; the bloodhound will follow a convict and readily distinguish his scent from that of all others who have crossed his tracks in all directions ; and wild animals can detect the scent left by the mere touch of a man on the trap. With respect to animal natures, odor will probably be found to be the product of waste matter resulting from vital and muscular activity.

192. For the present we will regard odor as a very highly attenuated form of matter, and the connecting link between the material and immaterial in nature.

193. "In the growth of a rose, it is evident that its odor, which develops with its growth, is a quality absorbed either from the soil or atmosphere or both, or is the product of the chemical action of light, through the atmosphere on the material of the flower. Whichever it be, the odor has a material source; and as the flower increases in size, it increases the quantity and varies the quality of its odor. A grain of musk will emit odor for many years without the least apparent diminution either of the substance or of the odor. May we not account for this by inferring that the musk absorbs from the atmosphere that which replaces in quantity what escapes from it as odor, and, at the same time, by a chemical change constantly going on, keeps the quality unimpaired?" (T. Nield in *Microcosm*.)

194. "It would seem that odor is the veritable connecting link of substance between the material and the immaterial forms, partaking of the nature of both, and designed by the Creator to span the chasm lying between the two grand divisions of the substantial entities of the universe--the material and immaterial substances. Connecting links are common between all the principal classifications, both in the organic and the inorganic departments of nature. Such as that of asbestos, forming the connection between vegetable fiber and inorganic mineral; as the mimosa or sensitive plant so strangely constituting a connecting link between vegetable and animal life; as the flying fish, connecting the fish proper with the bird; or as the flying squirrel

and bat, so beautifully linking bird with mammal." (H.)

195. "May not these links be specially designed to gradually carry the thoughts of intelligent and reasoning beings from the gross materials of earth to the sublime and refined immaterial entities of Nature and thereby to convince us that the immaterial is the real of all existence, while gross matter is but the temporary means of its manifestation: 'For the things which are seen are temporal (continuing for a limited time, temporary, transient); but the things which are not seen are eternal,' II Cor. iv. 18." (H.)

196. The atmosphere is the vehicle or conductor by which odor is brought into actual contact with the olfactory nerve and produces the sensation of smell. All the special senses are modifications of the sense of touch. Therefore they require correspondingly substantial objects. The organ of sight is adapted to the contact of substantial light, of hearing to sound, of smelling to odor, of taste to flavor, and of the tactile nerves to contact from substance of some other kind. All substances, however, are not necessarily tangible, as, for example, magnetism, which cannot be discovered by any of the senses, only as its presence is made known by its effects upon matter.

197. The normal sense of smell is in some animals exceedingly acute, far surpassing that of human beings; but even the latter can, according to Valentine, perceive about the one-hundred-millionth of a grain of musk. The minute particles, if such they be, which we perceive by smell, no chemical reaction can detect, spectrum analysis being only able to recognize the two-hundred-millionth of a grain of soda.

The sense of smell can detect one one-hundred-and-twenty-thousandth of a grain of oil of roses ; and not quite one three-billionth of a grain of mercaptan, a liquid of strong garlic odor, composed of sulphur, carbon and hydrogen. The sense of smell is generally more acute in man than in woman ; hence perfumes that are pleasant to ladies are often unpleasant from excess to gentlemen.

CHAPTER XIV.

SOUND.

198. Sound, in its primary sense, is an imponderable, immaterial substance, and is that form of physical force by which the sense of hearing in man and animals is addressed. Back of all sound is energy as the generating impulse. Hence, as perceived by the sense of hearing, sound is energy expressed. To produce sound there must be motion, which is the expression of energy in force as the cause of motion. To produce sound there must be motion; but mere motion alone cannot produce sound. The sound originally existed in the force-element of nature and only needed the material motion or vibration of the musical instrument to provide the opportunity for its manifestation. Sound is not the motion of the vibrating instrument, nor is it the resultant of this motion, except incidentally, as it furnishes the medium of its manifestation.

199. The power of any agent as a generator of sound, is its capacity to receive and express sound-energy. A blow upon a block of iron or steel produces or generates little sound, but if rolled out into a thin sheet, a like blow will generate a loud and prolonged sound. Sometimes the term sound is used to signify the effect of sound, or the sensation in our consciousness, which we call hearing.

200. Any tremor or vibration observed in air or other

sound-conducting medium constitutes no part of sound-force itself, but is either the effect of such force in its action upon material objects, or is incidental to the vibratory process or operation by which sound-force is generated and liberated. Though sound-force itself will produce vibrations in bodies against which it strikes, as, for example, the diaphragms of phonographs, telephones, etc., in close proximity to sounding instruments.

201. Sound is not perceptibly impeded when traveling against a wind, for foghorns and steam sirens have been heard for miles against heavy gales, at coast signaling stations.

202. Sound is also produced by the conversion of one force into another, as in the case of a ray of light directed against certain substances, as lampblack, cotton fiber, etc., inclosed in a glass tube, will cause an audible sound to issue from the tube of a pitch corresponding to the intermittent beam of light. It is well known that an electric telephone will convey sound without any vibration being produced, first by blending with or converting such sounds into electricity, thus increasing the intensity of the current, and then at the receiving diaphragm reconverting the electricity into sound, making the words audible, and that, too, without any mechanical vibration occurring at either end. Until something more definite is known I shall feel constrained to believe that sound blends with electricity, as in the case of thunder and lightning. It appears to me that, in this case, electricity sustains merely a stimulating relationship. The diaphragm at the transmitting end is not at all essential to the conveyance of speech over the electric wire. Indeed, messages have

been spoken against the naked ends of the transmitting magnet, without any disk at all, and the words' articulate sounds have still been sent, and heard at the receiving end all right.

203. Prof. Chamberlain, says: "My house is connected by telephone with a neighbor's who lives about a mile distant. The instruments are automatic and mechanical, and weak without the aid of electricity. The entire apparatus is very simple, consisting, at each end of the line, of a square box, in which is placed two double concave diaphragms; in the center of these is fastened the steel wire which acts as the conducting medium. Speaking into the box at either end conveys the conversation through the wire, and it can be distinctly heard at the other end. The wire is supported at intervals of two hundred and fifty feet, and is insulated at each point of support by a metallic loop through which the line passes.

204. "Soon after the telephone was erected I was annoyed by a sound of tapping on the wire. In order to remedy the difficulty I took a walk along the line in company with a friend and found the obstruction about halfway between the two houses, which proved to be the limb of a tree which the wind had forced against the wire. In order to have the use of both hands with which to break off the limb, I held the wire between my teeth, when to my amazement I heard with great distinctness the sound of conversation, and was able to recognize the voices of those speaking in the room at home. I then gave the call by tapping lightly with my finger on the wire. This call was immediately answered, and I experienced still greater astonishment when I found that by keeping the line between my teeth and

speaking, I could make myself understood at either end of the line, and carry on a conversation in this novel way as easily as with a diaphragm. This discovery, which was to me most startling, may perhaps be known to some of the readers of *The Microcosm*. Will you kindly afford an explanation of the manner in which articulate sounds, as in the above case, can be communicated to the naked wire without the assistance of a diaphragm, while at the same time preserving, in a most unmistakable manner, the tone, inflection, and general character of the voice of the speaker?"

205. Sound-pulses are not sent off at all by the vibratory motions of the sound-producing body, but after being generated by the substantial particles of the sonorous instrument, they travel by a law of conduction and radiation somewhat analogous to that of electricity through a wire. We surely cannot suppose that electricity is sent through the wire three thousand miles a second by the rotary motion of the dynamo machine.

206. The chief peculiarities of sound are intensity, pitch, duration, and quality or timbre. Intensity depends upon the amplitude or extent of the arc of vibration. Pitch has reference to sound as high or low, sharp or grave, and is the main foundation of all music, and of the basis of harmony, and of the essentials of ordinary expression. As sound is developed by the vibratory action of some sound-producing body, by which this peculiar form of natural force is generated or liberated from the force-element of nature, it follows, and has been abundantly proved, that the pitch of sound depends upon the number of such vibrations in a given time by which any particular sound is produced and conveyed to the ear. Sounds can be heard by the

best ears from sixteen to about sixteen thousand vibrations in a second. The average range of tone, however, in orchestral music is believed to extend from about thirty to eight thousand vibrations per second.

207. Sound force is generated both by lower and higher rates of vibrations than those named as producing audible sound, but which exceeds the capacity of our sensations. Hares, for instance, can hear sounds from a distance that human beings cannot perceive. It has also been proved by the microphone, that very small insects have conversational sounds by which they communicate with one another, but which are far too delicate for our unaided ears. Intensity of sound inside of our sensations signifies loudness, but externally, the strength or quantity of this force generated or liberated from the force-element of nature.

201. Sound cannot travel an inch further than it has a suitable conducting medium. Hence it cannot travel in a perfect vacuum. Glass is said to be the best known conductor of sound, though the worst conductor of electricity.

Take the magneto-telephone as an interesting example. Here are three forces—sound, magnetism, and electricity. Sound, at a temperature of sixty degrees Fahrenheit, travels through air at a speed of about eleven hundred and twenty feet, and through steel wire nineteen thousand feet, in a second of time, and electricity travels through copper wire at more than two hundred and eighty-eight thousand miles per second. When the substantial sound-pulses are spoken against the magnetized transmitter, both forces reach the distant end of the wire at the same time, and each as distinct in its nature as when it started at the opposite end of the wire. There

is no correlation or conversion of one force into another. Why is this, and how can the mystery be explained? It is reasonable to suppose that, chemically speaking, there is such an affinity, or humanly speaking, such an intense attractive sympathy between sound and electricity, that they so unite or coalesce, while retaining their original natures, that the former is conveyed in the embrace, so to speak, of the latter, the stronger and speedier force, to the distant receiver, without any movement whatever from the wire or diaphragm.

209. Sound travels by a law of conduction or radiation suited to that peculiar form of force, and which law (at present unknown to man) is adapted by the All-wise Author of Nature to the various bodies through which sound passes at varying rates of velocity according as their material particles are variously arranged and held together by the force of cohesive attraction.

210. The velocity of sound is the same in a given medium, whether the sounds be soft or loud, high or low, simple or complex. The velocity of all sounds in air is about eleven hundred and twenty feet in a second, at the temperature of sixty degrees Fahrenheit. The law of sound conduction, like the law of resonance or sound augmentation, is not entirely known at present. Density and elasticity seem to have nothing to do with the rate of sound velocity through different bodies; for example, lead is one of the most inelastic, as well as one of the densest of bodies, yet conveys sound many times faster than air, one of the least dense, and one of the most elastic of all known bodies. Sound, as a substantial entity, will move a sound-producing body that is in unison into sympathetic vibration. The substantial

sound-force issuing from the sounding instrument in sonorous pulses of force corresponding to its vibrational number, strikes the unison instrument, which, being tuned to the same pitch, stands ready to act sympathetically, and respond by absorbing the radiating force, so to speak, thus reproducing the same tone, though with much less intensity. The sound pulse from one tuning fork, heavily bowed, has been known to start another fork at a distance of one hundred and eighty feet when in sympathetic unison and mounted on their resonant cases so as to have their sympathies augmented by the sonorous or resonant qualities of these wooden cases. To prove that air waves have nothing to do with this sympathetic action, remove the two forks from these resonant cases of the wood, and place them on iron cases of the same size which will vibrate and disturb the air with even more mechanical force than will the wooden cases, though with but a small fraction of the volume of sound; and however heavily the actuating fork may be bowed and set in vibration, no sympathetic effect will be produced on the other fork, even if only one-tenth that distance away, notwithstanding the same or even greater atmospheric action is produced.

211. This sympathetic vibration is not produced by air or sound waves as taught in the text-books, but by a substantial though immaterial sound-force. For a delicate gold leaf experiment incontestibly proves that the vibrating fork does in no degree disturb even a confined column of air at the distance of one inch from its prongs. How then can it affect a fork one hundred and eighty feet distant? Were sound not a substantial force, how could it be reflected, as in the case of an

echo, somewhat as a rubber ball rebounds from a hard surface? With respect to air waves and water waves there is no true reflection about them. The term con-
volution would be more appropriate at least to water waves.

CHAPTER XV.

SOUND.

212. Dr. Audsley, of London, England, the greatest artistic organ builder now living, recently delivered a very interesting lecture on the Substantial Philosophy to an audience of distinguished musicians. In illustrating sympathetic vibration, he used two steel tuning forks in unison, each weighing fifteen ounces ; having sent one with appropriate instructions to the extreme end of the hall, he bowed the other, and soon the distant mate audibly responded, to the complete satisfaction of his hearers, and thus gave them a striking proof that sound, though invisible and immaterial, was a substantial force, producing remarkable effects.

213. The doctor says : “ I am of opinion that sympathetic vibration or sympathetic generation of sound forms one of the most remarkable and noteworthy phenomena of acoustics ; and there can be no question of the great importance of sympathetic vibration as a teacher and as a guide to a right understanding of the nature of sound. Though sympathetic vibration is a self-evident fact in nature, I have both the assurance and the boldness to stand before you, the accomplished members of the most distinguished musical association in the land, and say that there is no such thing in existence as (the much vaunted) interference of sound,

as taught in our text-books on acoustics." These books teach us how to produce this "interference" or silence. When "two unisonant tuning forks are sounded together," "the condensations of one coincide with the condensations of the other, and the rarefactions of the one with the rarefactions of the other, and thus the two forks assist each other; but if the rarefactions of one system of waves coincide with the condensations of the other system, the air (beyond the second fork) becomes quiescent and we have silence. The action here referred to is called interference." "Thus it is possible by adding the sound of one fork to that of another to abolish the sounds of both. We have here a phenomenon which, above all others, characterizes wave-motion. This silence is produced by placing the two forks half a wave length apart, and set them in vibration." (English Text-Book on Sound.)

214. In reply to this great English authority, Dr. Audsley, says: "I unhesitatingly affirm there is not one atom of truth in the statement made, and I defy any experimenter with two forks, or, indeed, with any two sounding bodies, to produce silence in the manner so clearly laid down. I say it cannot be done." And the doctor might have added: All careful experimenters, whose all-absorbing passion is love of truth and fact, confirm his statement. It cannot be done.

215. The doctor further adds: "The apparatus I now submit for your inspection is called, for want of a better name, the 'acoustical turbine.' It consists of four small canister-shaped vessels of aluminum, closed except at their projecting necks. These vessels are resonators (capable of resounding), accurately tuned to the note C⁴, of five hundred and twelve vibrations per

second. The resonators are attached or suspended to the extremities of four arms, also of aluminum, provided at the crossing with a little agate cup, which rests upon a sharp steel point attached to a small stand. By this simple arrangement the suspended resonators are perfectly balanced and revolve with the greatest ease. The remaining part of the apparatus consists of a tuning-fork, C⁴, perfectly in accord with the resonators, mounted on a resonant case.

216. "This experiment is performed as follows: Placing the resonant case with its open end directly opposite the 'turbine,' which of course is perfectly motionless, I set the fork into vibration by bowing it at short intervals so as to keep up the discharge of sound-force, and immediately the 'turbine' commences to revolve and gradually gains speed until it moves round with considerable rapidity. The resonators move with their closed and flat ends foremost, carrying their open necks behind them, and they will move in no other way under the influence of sound-force. If I set the turbine revolving in the opposite direction and then bow the fork, it will be observed that a diminution of speed instantly takes place, then the 'turbine' comes to a standstill, and then it slowly resumes its true motion. There is one important fact which must be mentioned, namely, that the apparatus will move with no fork which is not in perfect unison with the note to which the resonators have been tuned."

217. Dr. Hall gives the best explanation of this phenomenon yet made public. He says: "Let it be distinctly remembered that substantial but immaterial pulses of sound-force do not act at all on material bodies, however light and easily moved, unless their

vibrational tension puts them in synchronous sympathy with that of the sounding instrument. Hence, unless there were something connected with the four arms of this wheel having a tension in sympathetic synchronism with the substantial sound-pulses emitted by the C⁴ fork, it is manifest that such pulses would produce no effect on the wheel one way or the other. But here is the fact that unlocks the whole mystery. The air column or chamber in each of these resonators is in exact sympathy with the C⁴ fork, and has the same vibrational number; but as these air columns can only be reached in full power by the sympathetic force at the ends having the open necks, hence the substantial sound-pulses from the fork and its resonant case acting exclusively against that end of the air chambers must necessarily drive the resonators in the direction which they do."

218. This experiment shows that sound is essentially distinct from air in nature and action; that it is a substantial force, related to gravity, electricity and magnetism as a motive power, and that like those forces it acts by a law peculiar to itself.

219. A sounding bell in a vacuum is not heard outside of the receiver for want of a conducting medium (air) for its sound-pulse, and hence it returns to the force-reservoir of nature whence it came. But it can be distinctly heard throughout a large hall if the sound has any other good conductor as a substitute for the exhausted air. Let the bottom of the receiver be a pine board, and let the shank of the bell rest embedded in this wood, and then rung, and it will be heard with about the same intensity in a perfect vacuum as when the receiver is filled with air. The wood takes the place of the air as a conductor; for air waves, and

we might with as much reason say, water waves, and iron waves, have nothing whatever to do with the hearing of sound. As evidence of this, close both ears with your fingers and then touch your teeth to the wooden base of the receiver, and you will find that the sound of the bell in *vacuo* will be intensely heard.

220. "The fact of the uniform velocity of all sounds in air at a given temperature is verified by listening to the playing of a band of music at a distance, when all the sounds, however varying in intensity and pitch, will reach the observer in perfect time." To ascertain the velocity of sound, "It is evident that so much must be added or deducted from its velocity as will correspond with the bodily movement of the conducting medium, either with the sound or in the opposite direction. To illustrate: As sound travels in still air at sixty degrees Fahrenheit at a velocity of eleven hundred and twenty feet in a second, it is manifest if the air itself were traveling in the same direction, at the rate of thirty feet to a second (about twenty miles an hour), that we would have to add these thirty feet to the real velocity of sound as measured from one fixed station to another, making it eleven hundred and fifty feet a second, instead of eleven hundred and twenty. But if we change stations and send the sound against the same breeze, we must deduct the thirty feet a second from the actual velocity of the sound, making it only ten hundred and ninety feet instead of eleven hundred and twenty." (Sub. Phil.) The velocity of sound in air is said to increase about two feet a second for each degree Centigrade above freezing point.

221 The speed of sound varies according to the

medium through which it travels, whether it be air, gas, water, metal, or wood, etc., as the following facts will show. The figures express the number of feet traveled in a second through each medium.

Still air (at sixty degrees Fahr.).....	1,120
Water.....	4,708
Hydrogen gas.....	1,164
Oxygen gas.....	1,040
Carbonic acid gas.....	858

METALS.

Iron (at sixty degrees Fahr.).....	16,800
Iron at one hundred degrees Cent.....	17,386
Cast steel at one hundred degrees Cent.....	16,153
Copper at one hundred degrees Cent.....	10,802
Platinum at one hundred degrees Cent.....	8,437
Silver at one hundred degrees Cent.....	8,658

WOODS.

Aspen, along line of fiber.....	16,677
Fir, along line of fiber.....	15,218
Sycamore, along line of fiber.....	14,639
Maple, along line of fiber.....	13,472
Oak, along line of fiber.....	12,662
Pine, along line of fiber.....	10,900

Fir gives a speed of only 4,382 feet across the ring, at right angles to the direction of the fiber; maple only 5,047, and pine only 4,611, with a like variation per second in the others.

222. We define sound to be one of the primordial, invisible, immaterial, but substantial forces of Nature; expressed energy, "governed by laws ordained and fixed immutably by the Creator." "This form of force can only be generated or liberated from the force-element of Nature by one means devised for that end—namely, vibration of the sonorous body."

223. Sound-pulse is an emission of sound-force carried by one stroke or vibration of the sonorous body, and just as often as the vibration takes place, just so often will a pulse of sound-force be sent off. So that a tuning fork making two hundred and fifty-six vibrations in a second will send off two hundred and fifty-six pulses of sound-force in a second. The number of vibrations determines the pitch, while the amplitude of swing determines the intensity, and this again depends upon the amount of stored-up substantial force or energy that has been imparted to the fork. Sound-force travels at a velocity of only ten hundred and ninety-three feet a second in the air, while it will travel through iron wire at a velocity of over seventeen thousand feet a second.

Sound is a substance or it could not produce sympathetic vibration in a distant tuning fork; it could not give motion to the "acoustical turbine," and thus claim causative relation with wind, water, steam and electricity; it could not rebound as in reverberation or echo. For a nonentity cannot rebound. It must itself be a substance, and it must strike a substance to render a rebound possible. Sound is a substantial cause, producing most marvelous effects. Light, heat and sound, as immaterial substances, can be refracted, concentrated and reflected, just as material substances can, and we are compelled therefrom to conclude that they are substantial entities.

224. The Pythagorean fog is now cleared away from sound, and it stands before us as one of the great royal forces of Nature, that will be the handmaid of holiness and love forever, reverberating through the vast arches of the temple of God in heaven—our Father's house.

CHAPTER XVI.

THE WAVE THEORY OF SOUND, AS TAUGHT IN NEARLY ALL THE COLLEGES OF CHRISTENDOM.

225. If true, it requires us to believe mental and mechanical impossibilities. The following facts will show that it is one of the greatest scientific frauds that ever misled the mind of humanity.

226. Pythagoras, who lived about twenty-five hundred years ago, was a noted Greek philosopher; though he believed in the soul as a personal being distinct from the material body, he maintained that sound is only the phenomenon of the vibratory motion of matter; but this has never been proved and never can be, because it is self-evidently false, as matter cannot move in two opposite directions at the same instant of time; yet on this baseless assumption is built the mode-of-motion theories of sound and light.

227. Tyndall the highest English authority, Helmholtz the highest German authority, and Mayer the highest American authority, with many others, agree in maintaining and defending this baseless theory.

228. Tyndall says that a sonorous body that makes four hundred and forty vibrations in a second, condenses the air into waves about three feet apart from "crest to crest." Prof. Mayer says: "The violin sets the air trembling with five hundred tremors a second.

and these speed with a velocity of eleven hundred [eleven hundred and twenty] feet in a second in all directions through the surrounding air. They soon reach the drum-skin of the ear. The latter, being elastic, moves in and out with the air that touches it. Then this [tympanic] membrane, in its turn, pushes and pulls the three little ear-bones five hundred times in a second and . . . shakes the fibers of the auditory nerve five hundred times." Let the reader bear in mind that all this shaking is purely imaginary, as we shall soon see, and yet is taught in nearly every collegiate institution as veritable science.

229. The wave-theory teaches that sound consists of air-pulses, or of "condensations and rarefactions, sent off from a vibrating instrument." Sir William Thomson says: "Any [barometric] pressure, which is so sudden as to let us perceive it as sound, is sound." "If by any means a fall in the barometer could happen, amounting to the tenth of an inch, and taking place in a thousandth of a second—would affect us quite like sound. What is the difference between a noise and a musical sound? Musical sound is a regular and periodic change of [atmospheric] pressure." "We have distinctly only one thing to deal with in sound, and that is air-pressure, or the variations of air-pressure." How exquisite the simplicity, Sir William! How profound the science! How deserving a coronet of fame! Let us now have a musical barometer!

230. Now, my respected readers, I purpose to show you that the wave-theory of sound, as at present taught to our children, is one of the most stupendous frauds that ever enslaved the mind of Christendom. We have an abundance of business frauds, of religious frauds in

every department of Christian activity, but here we have a gigantic scientific fraud, hoary with age, robed in all the insignia of state, and worshiped as the unknown God, not in heathen Greece, but in the holy of holies in the great temple of Christianity. Great extremes often meet in this world. We have the noble Puritan giving up his useful life amid the martyr-flames for the good of man and the glory of God ; but against this we have Tetzels selling indulgences for the committal of all kinds of crime. We have our Elijahs, Johns, Peters, and Pauls, zealously jealous for Jehovah's honor in rescuing the perishing ; but against these we have the Wave-Theory-Gamaliels of all Christendom strutting about with a writ of ejectment to dethrone the Creator from the world he has made so beautifully, adjusted so admirably, watched over so unceasingly, and cared for so tenderly ! Is there any line long enough to sound the depth of man's ingratitude to his best friend ?

231. I have said that the wave-theory of sound and light is an enormous scientific fraud. Let us see what its deliberate, audacious, and even contemptible teachings require us to believe ; and remember that these teachings enfold the reasons on which the Materialists and Atheists seek to rob us of our souls and a Father-Creator, and give the lie to Divine Revelation that alone hath brought life and immortality to light ; and let us bear in mind that there are thousands of men in the pulpits to-day who either connive at, or silently indorse, or openly champion these fatal, soul-destroying teachings. Never was there a time when it was more important that every intelligent man should stand on his own individuality and realize his own responsibility as to how and what he listens to as truth.

232 “This wave-theory teaches the anomalous doctrine that when the prong of the fork moves only at the rate of one inch in a second, it sends off condensations of air at sixty degrees Fahrenheit, at the rate of eleven hundred and twenty feet in the same time ; and then if it should move two thousand feet in a second, it would even then send a wave exactly at the same rate of eleven hundred and twenty feet in a second, and no faster ! And as the culmination of scientific absurdity, we are forced to the conclusion that if the prong should travel only at the rate of one inch in a year, it would still condense the air because it displaces all its particles, driving off its so-called waves at the same velocity of eleven hundred and twenty feet in a second ! Such is the logic of these distinguished teachers of the wave-theory—these renowned leaders of scientific thought. They cannot believe the truths of revelation and laugh at the idea of Jonah being saved by a sea-monster—probably white shark, some of which are able to swallow a horse ; but these scientists feel no difficulty in swallowing an illogical elephant, and thus make fine fun for a half-witted schoolboy.

233. The wave-theory teaches that the measurable atmospheric vibrations sent off from a powerfully sounding instrument, and which visibly communicates similar bodily movements to the diaphragm of a phonograph, are sound-waves ; and that these “ to and fro atmospheric oscillations ” and “ condensations and rarefactions ” are truly sound-waves ! Helmholtz says : “ Among sonorous bodies, which move in the same way [as the pendulum], only very much faster, we may mention the tuning fork.” Tyndall speaks of the

prong "swiftly advancing," and Helmholtz, "of its moving very much faster than a pendulum." Of course, these scientists well knew that the prong of a tuning fork must advance swiftly and must move very much faster than any pendulum ever constructed, before it can compress the air immediately in front of it, and "carve the air into condensations and rarefactions," which will create sound-waves and send them off in all directions at the velocity of eleven hundred and twenty feet a second to "shake the drum of a distant ear." How can a prong, demonstrated to only move at each swing one-seventeen-thousandth part of an inch in the two hundred and fifty-sixth part of a second, send off such waves, measuring about four feet four inches from condensation to condensation, at the uniform velocity of eleven hundred and twenty feet in a second of time, which equals a rate of travel of one-sixty-sixth of an inch in a second, a "motion absolutely incapable of disturbing the air even to the distance of one inch from the prong."

234. But Captain Kelso Carter, Professor of Higher Mathematics in the Military Academy, Pennsylvania, has demonstrated by careful experiment, that a large Kœnig fork of two hundred and fifty-six vibrations in a second actually produces an audible sound, while its prongs, at their swiftest motion, are not traveling at a velocity of more than one inch in two years!—twenty-five thousand times slower than the hour-hand of a clock! How large a wave can such "condensation and rarefactions" produce! What superlative nonsense to teach, as natural philosophy, that a prong of a tuning fork demonstrably traveling at this exceedingly slow rate of one inch in two years, "carves" the air

into "condensations and rarefactions" and sends them off at a velocity of eleven hundred and twenty feet in a second, a motion absolutely incapable of disturbing the air, even to the distance of one inch from the prong, almost too slowly to be realized by the mind. (Dr. G. A. Audsley, F. R. I. B. A., London, England.) This is the "swiftly advancing" of Tyndall and "very much faster than a pendulum" of Helmholtz!

235. We are required to believe that the so-called sound-waves produced by the oscillation of the tuning fork resemble water-waves. But they are not sound-waves at all, neither do they resemble water-waves. They are merely air-waves, or rather air-pulses produced by the sounding instrument or sonorous body, that incidentally pass off at the same time as the sound-pulses, and cannot justly be compared to water-waves. Gravitational force has no perceptible effect on sound; but it is the chief agent in the production of water-waves. Throw a pebble into a pond, and a ring of water is raised around the place where it strikes, proportioned to its size. Then gravity, as it pulled down the pebble, also pulls down the ring of water, thereby pressing up another ring outside of it but not quite so high; then it pulls that down, pressing up another, and so on, as far as the wave extends. The air-pulses are sent off by the force of the disturbing body, but the water-waves are not sent off at all by the disturbing body that originated them, and their velocity is from an entirely different cause—the uniform vertical pull of gravity and the size and height of the wave, as regulated by the law of falling bodies.

236. We are required to believe that the tympanic membrane is essential to hearing, and that we can only

hear sound by the bending in and out of this membrane of the ear, weighing only half a grain, and by the pitch and tone of an A fork it must bend in and out four hundred and forty times a second! As Tyndall says, this is a "shaking of the drum of the distant ear!" But what is this shaking of four hundred and forty pulses bombarding this little thin and semi-transparent membrane in a second, compared with what must take place while listening to a large orchestra!

237. Now for the facts. The human race has been led to believe during twenty-five hundred years that the tympanic membrane was a tight, elastic, drumhead-like substance, that is essential to hearing, and that it bent in and out by the so-called sound-waves. But it is now demonstrated by anatomy, facts and experiments that such is not the case, and never was. The Ptolemaic Theory of Astronomy prevailed until 1543, a period of fourteen hundred years. Then the true theory had to struggle against the ignorance and prejudice of philosophers for nearly one hundred years before it was taught in the schools. But this membrane tympanic error has enslaved the public mind for a much longer time, and the most violent opponents to its overthrow are the scientists and many of the clergy.

CHAPTER XVII.

THE WAVE THEORY OF SOUND.

238. So far "from the tympanic membrane being elastic, it is an absolutely inextensible membrane, chiefly composed of tendinous or sinewy fibers [known to some persons as gristly fibers], and is about one two-hundred-and-fiftieth of an inch thick. Its curved form renders it essentially different from all other membranes hitherto studied in acoustics. It is a concavo-convex membrane and cannot vibrate without dislocation, being of a fibro-tendinous character and inelastic, and would by its vibration produce such a crackling sound that all other sounds it would sink into nothing compared with the sounds itself would produce, were it to vibrate as physiologists say that it does. I take the ground, then, that the object of the tympanic membrane is not for the purpose of vibrating and conveying sounds to the auditory nerve, but for the purpose of collecting sound, and also as a protection to the cavity of the drum the same as the eyelid is a protection to the eyeball and its delicate mucous surface." (Prof. Henry Olin, M.D., of Chicago Medical College.)

239. Again, Prof. H. Raymond Rogers, M.D., of Dunkirk, N. Y., than whom there is no higher authority living, says: "Already the minds of thoughtful men are being freed from the iron dominion of the old theory of

the mechanical action of waves of air upon the vibrating drum of the ear. The essential irrationality of the theory makes itself seen and felt. Men are now ready to listen to the fact that the drum of the ear is in no sense a resounding drum beaten by waves of air. A membrane diminutive and flaccid, it would never have been supposed to play the part of a tense drumhead, except in blind support of a theory. The imagined vibratory action of the membrana tympani is a mechanical impossibility. These membranes are not flat, as popularly supposed, but funnel-shaped, with a depressed center, surrounded by sides gently convex outward. They cannot, therefore, act like stretched membranes and vibrate like drumheads. And, too, the auditory ossicles [little bones] are not so attached to those membranes as to be subject to a synchronous vibration. This is impracticable. These facts alone are sufficient to destroy the accepted theory of sound." We thank these medical gentlemen for their testimony to anatomical facts.

240. "Sir Astley Cooper was consulted by a gentleman who had become deaf through inflammation of both ears; after several months his hearing began to return to him. During the examination by Sir Astley, it was found that when he filled his mouth with air, and closed his nostrils and contracted his cheeks, the air thus compressed was heard to rush through the meatus auditorius [external opening of the ear] with a whistling noise, and the hair hanging from the temples became agitated by the current of air that issued from the ear; when a candle was applied the flame was agitated in a similar manner. Sir Astley passed a probe into each ear, and thought the membrane of the left side was totally

destroyed, as the probe struck against the petrous [hard] portion of the temporal bone. In the space usually occupied by the membrana tympani was found an opening or aperture without a trace of membrane. On the other or right side also a probe could be passed into the cavity of the tympanum, through an opening one-quarter of an inch in diameter in the center of the tympanic membrane. Yet this gentleman was not only capable of hearing everything that was said in company, but was nicely susceptible of musical tones; he played the flute, and had frequently borne a part in concerts, and he sung with much taste and perfectly in tune." (Dunghlison's Physiology.) Certainly in this case there were no tympanic membranes to receive the sound-waves—the "condensations and rarefactions" of the air.

241. In a lecture delivered by Sir William Thomson at Birmingham, in 1883, he says: "Hearing is perceiving something with the ear." What is it we perceive with the ear? It is something that we can also perceive without the ear; for instance: Beethoven, though deaf the greater part of his life, was the greatest master of sound, in the poetic and artistic sense, that ever lived; and during the period of his deafness were composed some of his grandest musical compositions, and without the possibility of his hearing them himself, for his hearing by the ear was gone from him forever. But he used to stand with a stick pressed against the piano and touching his teeth, and thus he could hear the sounds that he called forth from his instrument. I have recently read of telephonic messages being taken by the teeth from midway of the wire. Whether confirmed or not I am unable to say. However, sufficient has been

given to completely annihilate the wave-theory of sound as at present taught in the college text-books throughout Christendom. But as materialistic scientists boast of the wave-theory as furnishing them sufficient ready means by which they can rob man of his soul, and the universe of its Creator, we design not to leave it until we leave it as David left the Philistine—dead.

242. 4. The wave-theory requires us to believe that a tiny locust can do mechanical impossibilities. Scientific men say that this little insect is one of the *locustidæ* (a saltatorial family of the order orthoptera); but we common people call it katydid.

243. But we must now let our little acoustic friend exhibit its mechanical and artistic abilities. For, little though it be, it is a veritable Samson, causing consternation and confusion among the fleeing Philistines of the wave-theory army. Though insignificant in appearance, weighing not quite six grains, nevertheless its marvelous musical sound can be heard one mile in all directions, as admitted by Darwin. The pitch of its sound is A, which gives four hundred and forty vibrations in a second.

244. Now, if the wave-theory be true, we must believe that our tiny locust actually throws the entire area of four cubic miles of atmosphere—which, in round numbers, weighs twenty-four million tons—into waves constituted of condensations and rarefactions, and thereby shake the tympanic membrane of hundreds of thousands of human beings, who might happen to be in a position to hear it. In so doing, our katydid by scraping its legs across the horny divisions of its wings exerts a mechanical energy sufficient to shake two thousand million tons of tympanic membranes, swinging

each "to and fro" at the rate of four hundred and forty oscillations in a second. Careful estimation by actual weight shows that it requires no less than sixteen thousand tympanic membranes to weigh one pound, and thirty-two millions to equal one ton of two thousand pounds. Hence our little locust must exert a force on the four cubic miles of air sufficient to bend in and out two thousand million tons of tympanic membranes four hundred and forty times a second, as required by the wave-theory : the force must be sufficient to shake a tympanic membrane weighing half a grain, at every cubic quarter inch of four cubic miles of air, four hundred and forty times in a second. The locust is thus supposed to agitate one hundred and twenty million tons of air, and keep up the feat for a full minute.

245. The mathematicians of both Europe and America have long had their biggest mathematical guns trained on this poor locust, but, with the best ammunition obtainable, it cannot be silenced or dislodged ; no, not even wounded ! If I were a wave-theorist I would rather tenfold take a large emetic than swallow the locust-pill ! They have long wriggled and twisted and squirmed like a snake in hot ashes to avoid the dose, but take it they must. Peaceable treatment is a failure ; heroic treatment is now a necessity.

246. The reader must remember that the wave-theory teaches that sound only travels by the mechanical shaking of the air—by "throwing it into condensations and rarefactions," called waves, and every part of the air thus permeated with sound is disturbed by a force sufficient to shake a tympanic membrane four hundred and forty times a second ; since the sound can

only be heard by the bending of the membrane "in and out," according to all authorities of the wave-theory. In addition to this oscillation of the membrane, the air is said to be heated and cooled the same number of times in a second, and this heating and cooling by the insect's sound is estimated to be sufficient to add one hundred and seventy-five feet in a second to its velocity, which is thus brought up to the actual speed required—eleven hundred and twenty feet in a second, at sixty degrees Fahrenheit.

247. Prof. Tyndall makes no distinction between the air-wave and sound-pulse in a magazine explosion. In referring to the effect of such an explosion on the Church at Erith, in 1864, he says: "Every window in the church, front and back, was bent inward. In fact, as the sound-wave reached the church it separated right and left, and for a moment the edifice was clasped by a girdle of intensely compressed air."

248. Dr. Mott contends that if sound consisted of wave-motion, as the materialists claim, we should hear, even in the sustained musical tone of one instrument, explosive sounds caused by the king wave; whereas, when we hear the music of a band at some distance, the harmony reaches the ear as a whole.

249. In the four cubic miles of air, the two opposing forces are the locust and the air particles. In this case the locust force overcomes the inertia of the twenty-four million tons of air to the extent of bending the tympanic membrane "in and out." How much force is required to overcome the inertia of this weight of air? We are told that a hurricane moving at the rate of one hundred miles an hour exerts a pressure of fifty pounds to the square foot. Now an air-wave moves at the

rate of eleven hundred feet in one second, which gives the tremendous velocity of seven hundred and fifty miles an hour. The atmospheric resistance increases as the square of the velocity. Hence, the amount of pressure upon a square foot of surface exerted by air moving at the rate of eleven hundred feet a second actually amounts to twenty-eight hundred pounds of positive pressure to the square foot, which brings the grand total up to about seventy-eight million four hundred thousand tons, equal to the entire weight of nearly four million of twenty-ton locomotives! The amount of mechanical force exerted by the locust must be equal to the total resistance of the air every second, which is seventy-eight million four hundred thousand tons. Let us recapitulate the facts here stated:

250. 1. A locust can be heard throughout four cubic miles of air.

2. This volume of air is moved to and fro at a rate of eleven hundred feet a second.

3. The locust is the sole mechanical cause of this motion, if there be such motion.

4. This amount of air actually weighs twenty-four million tons.

5. It is of no consequence how far the air particles actually move.

6. The amount of mechanical force exerted by the locust must be equal to the total resistance of the air.

7. This total resistance to be overcome every second amounts to seventy-eight million four hundred thousand tons.

8. "Nothing gives what it does not possess." (Captain B. Kelso Carter, Professor of Higher Mathematics in the Military Academy, Pennsylvania.)

251. "A number of years ago a series of remarkable experiments was tried upon Lake Geneva, in Switzerland, by Messrs. Colladon and Sturm, who, by means of a bell and some ingenious apparatus, determined accurately the velocity of a sound-wave through water; which was found to be four thousand seven hundred and eight feet per second. They heard the sound of a bell, struck under the water nine miles off, clear across the lake. It would be perfectly fair to claim nine miles in any direction; but I will take only nine miles long, nine miles broad, and one-quarter of a mile deep, which gives twenty cubic miles, every particle of which must have been vibrating to and fro if the wave-theory be true. These twenty cubic miles of water equal in weight nine hundred and twenty-six billion two hundred and thirty-nine million six hundred and fifty thousand tons. The total force exerted by this bell, if the wave-theory be correct, was actually twenty-two trillion tons, four times for every vibration for the particular note given; if the note vibrations were one hundred to the second, this amount of force was exerted four hundred times in a second—four times to every complete vibration." (Captain Kelso Carter.)

252. Now let us visit the wave-theory jubilee. "Here we are in a large hall. Thousands are assembled. Hundreds of instruments of various kinds are playing in full orchestra. Thousands of voices are filling the air with all the tones within the compass of the human voice, from the lowest bass up to the highest pitch of alto, tenor, or soprano." (Prof. Hand.) The vibrations varying from sixteen to about sixteen thousand in a second, according to the nature of the tone. The average range of tone, however, in orchestral music is

believed to extend from about thirty to eight thousand vibrations in a second.

253. "We put on our philosophical glasses and see the sound-waves in endless variety, emanating from these thousands of sonorous sources, in all directions, from every center, or at different amplitudes and wave lengths, meeting each other, crossing each other, at right angles, acute angles, obtuse angles, horizontally, vertically and obliquely, impinging upon each other, dashing, surging, retreating, by impulse and reaction, like a thousand wild animals turned loose in a menagerie, and yet amidst all this jarring and confusion, each storm-tossed wave going with accuracy and unerring certainty, unchanged and pure, straight from its source, to every point where an ear might be, and unloading its sonorous cargo all in good condition on the tympanic membrane." (Prof. Hand.)

254. If any independent, thoughtful man can indorse the wave-theory of sound, as at present taught, he deserves to be decorated with the insignia of the championship of the world for credulity immeasurable and stupidity unparalleled. But we believe the mode of motion theory and the wave-theory of sound are now in the agonies of death. All hope seems to have fled.

255. The prospective mourning procession will be long and stately, headed by distinguished personages, representing the colleges, universities and theological seminaries of Christendom, and closed up in the rear by a vast number of their respective alumni.

CHAPTER XVIII.

CLASSIFICATION OF ENTITIES.

256. Theologians have classed all things in nature under the two terms, matter and mind, or material and spiritual substances, or real objective things, generally called entities; and thus excluded, as non-existent, the large and important class properly termed immaterial. Some scientists have ignored the fact that substances are material or immaterial. If spiritual entities are not material, they must be immaterial substances, or else no substances at all.

257. Sir William Thomson, President of the Royal Society of Great Britain, affirmed at the Birmingham Institute that "Magnetism is nothing more nor less than the rotary motion of the particles of the steel magnet." How the particles of steel can pass and re-pass through an impervious plate of glass and lift the steel needles vertically toward itself that are underneath the glass, Sir William has not told us. About the same time Mr. Tait, the distinguished Professor of Physics in the Edinburgh University, came out fully in favor of heat being a real substance in direct conflict with his previous theory and teaching—that of all the colleges—that heat is a mode of motion, a nonentity! The professor's leap from nothing to a substantial something was very great, and courageously taken; and is characteristic of an honest mind. It is equivalent to

throwing down the gauntlet to all the materialists of the world.

258. The great mass of professors of physics in the colleges and universities throughout Christendom maintain that matter and motion constitute the universe; hence they deny the existence of soul, of spirit, and of God.

259. The great German atheistical scientist, Professor Haeckel, says, and it cannot be logically denied: "The only logical conclusion deducible from the teaching of the colleges concerning the physical forces as modes of motion is, that the life, soul, and mental phenomena are but corresponding modes of motion of organic matter, and consequently that there is no God except the normal motions of matter under the natural laws and forces." Such is the logical result of the materialistic teaching of our colleges that are furnishing the Haeckel and Huxley schools of atheists with their most powerful dynamite for their morally insane attempt to overturn the facts and claims of Christianity. And there are hundreds of secular and clerical teachers to-day who stand ready with sneers and ridicule to brand the men who call in question such college teaching ignorant, cranks, lunatics, and traitors to humanity and religion; and thus aid the crafty enemies of God and man in their denial of the existence of the soul as a real personal being, or anything capable of salvation, and also in spreading their terribly destructive doctrine—that death ends all.

I shall now direct your attention to the three great departments of the universe, so far as human knowledge has been able to determine:

260. 1. The material realm of substance, consisting

of various degrees of grossness and refinement, as the metals, minerals, earths, organic structure—as animals and plants—liquids and gases, including odor that seems to be about the dividing line between the material and the immaterial.

261. 2. The immaterial realm, in which there are various classes of substantial entities, or real substantial existences, of different degrees of refinement or sublimation, such as the physical forces—as heat, light, gravitation, magnetism, sound, electricity, cohesion, chemism, which includes chemical affinity.

262. 3. The spiritual realm, including life, mind, soul and spirit, angels, and even God himself.

Christian science recognizes a world of immaterial substances, rising from the lower to the higher grades, corresponding to those of the material world, and which are necessarily as real and indestructible as matter itself. If all matter is absolutely indestructible, as all atheistic and Christian scientists agree, then the immaterial entities, from which the material derive their very existence, must inevitably be indestructible also; for “the worlds have been framed by the word of God, so that what is seen hath not been made out of things which do appear,” Heb. xi. 3; the immaterial being prior and superior to the material, as much so as the cause is superior to the effect. If matter shall never cease to be, shall not the intelligent, personal, substantial soul that controls, directs, and manipulates matter, and thus proves its vast superiority to it, also live forever? Common sense must answer, Yes. Here, then, we have a logical scientific proof that if the one exists forever, the other must. This, so far, harmonizes with the teaching of the Bible—that the soul will live forever—

but where and in what condition is for each person to determine.

263. The faculties rendering science possible are the five special sense-organs: seeing, hearing, tasting, smelling, and feeling, all of which are modifications of the sense of touch. Each of these sense-organs requires actual contact with the substance adapted to produce the appropriate sensation. Substantial light must photograph the image of the external object upon the retina of the eye to produce vision. The substantial soundpulse must impinge upon the auditory nerve to produce the sensation of hearing. The flavoring substance must come into actual contact with the gustatory nerve to produce the sensation of taste. Emanations from the odoriferous substance must come into contact with the olfactory nerve to produce the sensation of odor. Something must impinge upon the natural covering of the body to produce the sensation of touch. In addition to these material sense-organs, man has the mental organ of vision—reason; and the spiritual organ of vision—faith (Eph. i. 18; John vii. 17); all of which are designed to work in harmony with the forces in the physical, vital, mental and spiritual realms.

264. Reason seems to chiefly consist in the power to keep certain thoughts in the mind, and to change them at pleasure, instead of their flowing through the mind as in dreams; also in the power to see the difference between one thought and another and so compare, separate, or join them together afresh.

265. With respect to reason and faith, I understand reason to be a revelation of God in man, and, within the limits of his personality, subject to his free and voluntary activity; and that man is consequently inherently

adapted to revere the authority of the Divine revelation. Hence, generally, when the reason approves of the evidence laid before it, belief is the result; and, particularly, where the reason, enlightened and aided by the Holy Spirit, cordially approves of the evidence of Divine truths, of facts above reason, and of unseen realities in the eternal world, Christian faith is the result; and the convictions resulting from this approved evidence produces trust, and out of trust springs hope, Rom. viii. 24. Hence saving faith—the fruit of obedience—is to the spirit-world what sight is to this, John vii. 17; II Cor. iv. 18.

CHAPTER XIX.

IMMATERIAL FORCES.

266. The immaterial forces are divided into four classes : Physical, vital, mental, and spiritual.

267. The physical forces manifest themselves to our intelligence through the five senses ; as, gravity, light, heat, sound, color, odor, cohesion, chemism, electricity, magnetism, etc. That gravital force is not a property of matter is evident from the fact that it will act on distant bodies through a vacuum. Physical forces are always at work in every living organism.

268. Not a thing moves or can move in the universe, except as induced to do so by force of some kind. If gravity pulls a stone to the earth then gravity is the force which causes such motion, while the motion is simply mere position in space changing. That force is distinct from motion, and often antagonizes or completely arrests it, the engineers on our steamboats, and the brakemen on the railway trains, can testify from daily experience.

269. No finite entity can stir or move itself ; it can only move as compelled to do so by some force above or behind itself. The train moves, but back of it is the moving engine ; the engine moves, but back of it is the moving piston ; the piston pushes, but back of it is the pushing steam ; and back of the steam is the great heat-force imparting to it terrific energy, as destructive

as the obstructed lightning flash that tears to splinters the majestic oak of a thousand storms. For an illustration of physical force, we will take a common-sized locomotive boiler, carrying one hundred pounds pressure of steam to the square inch ; such a boiler has bottled up within it an invisible force equal to sixty thousand tons, which is rather increased than diminished at a high speed. Though such steam is invisible to the physical sense, who that respects his intelligence would say that it is not there—that it is not substantial ? The same may be said of mental-force, soul-force, and faith-force—one of the mightiest derivative spiritual forces known to us, Heb. xi. Electricity cannot move along a wire or flash from a cloud, only as it is driven to do so by a force behind it. Magnetism cannot reach out its invisible fingers to pick up the steel needles at a distance unless it be moved to such activity by some force back of itself. Substantial light could not travel a rod from the sun or planet, only as a force behind it drives or urges it forward. And substantial sound, even could it be generated, would fall dead where produced, and instead of going through the air eleven hundred and twenty feet a second, and through solid iron nineteen thousand feet a second, would not go at all, only as coerced by a real and superior force behind it.

270. That light, heat, electricity, magnetism, chemical affinity, etc., are equally immaterial there can be no reasonable doubt. The correlation (or conversion of one force into another), and conservation (or the undiminished quantity) of forces are more and more establishing the unity of all the forces, and thus showing that they are merely different phases of one great

original force. For instance, heat may be converted into light, electricity, magnetism, or chemical affinity; just as electricity can generate heat, light, magnetism, etc. Light itself is composed of seven different elements; and yet of and in itself, light is said to be invisible; it always requires actual contact, obstruction, and reflection to produce the sensation of sight. As spirit manifests itself through matter, so light manifests itself through or by means of its material surroundings. In fact it is affirmed that all the above forces can be obtained from a single ray of sunlight, and which very sensibly aids electricity in affecting the galvanometer. A single ray of natural light is composed of seven smaller rays, as red, orange, yellow, green, blue, indigo and violet. Hence the fountain of each is one and the same; and why may not the same principle apply to all forces? The truth is, all investigation of dynamics, or moving forces, tends more and more to show that all forces are uncreated, immaterial, homogeneous (consisting of elements of the like nature), and indestructible entities; and consequently and necessarily have their origin and unity in one great Intelligent Personal Will-Force. Or in other words, Force is the omnipotent and omnipresent energy of an All-wise Creator, who upholdeth all things by the word of his power, Heb. i. 3. Even the Duke of Argyle says: "If we cannot certainly identify force in all its forms with direct energies of one omnipotent and all-pervading Will, it is, at least, in the highest degree unphilosophical to speak or think as if all forces of nature were either independent of or separate from the Creator's power." Who knows but that Paul referred directly to the immaterial, intelligent, and omnipotent

Will-Force of the Almighty who upholds, guides and governs not only our world but the entire universe, when he said : "The invisible things of him from the creation of the world are clearly seen, being understood by the things that are made, even His eternal Power [strength, power, ability, efficacy, energy] and divinity," Rom. i. 20. It seems to me that no terms could be more appropriate and expressive of the material, the immaterial, and the spiritual realms, and of the nature, attributes, and qualifications of the Infinite Personality required to originate, uphold and govern all things visible and invisible in the universe.

CHAPTER XX.

VITAL OR LIFE FORCE.

271. The great fountain of life-force is the infinite, omnipotent and omnipresent God, Psa. xxxvi. 9.

Whence had life, or life-force, its origin? This is the great question that completely confounds the materialistic scientists of to-day who discard the teachings of the Bible. Life not only exists, but it is the great architect which, out of matter, constructs all organic forms. The intelligent life-force which out of two atoms of protoplasm which, so far as the most careful inspection can discern, are exactly alike, in their constituent elements, builds from the one a jelly-fish and from the other a man, thus this life-force demonstrates that it is something distinct from the material, out of which it builds—that it is infinitely superior to the material elements that compose the protoplasm. It is a fact that life and thought and conscience do exist, and we ask the materialists to scientifically account for this fact aside from an infinitely wise Creator of all things.

272. It is a well established fact that all vegetable life comes from the seed, which consists of the outer hull, the inner kernel, and the vitalized or living vegetable germ. That all animal life comes from the egg

or ovum, which consists of an outer shell or skin, of the inner albumen, etc., and of the vitalized or living animal germ. That all that is visible to the naked eye or to the highest powers of the microscope in the ovum or egg of the elephant, man, or dog, is the infant food of the new invisible being in the vital germ.

273. The life-force is not only a cause of vital phenomena, but is a distinctive, intangible, invisible, immaterial, substantial Something that pervades an invisible organism. It is always transmitted from, through, and by, previous life, lodged in a germ, as in a sacred casket, in seed, egg, or ovum, as the case may be, with all its inherent powers, awaiting the required conditions of development into a complete self-acting and self-subsisting individual form of energy.

274. Though the life-force incased in the germ cannot be seen, felt, or detected by any means known to man, chemically, microscopically, or otherwise, it is yet there—the molding, constructive energy that has within itself the power to select, appropriate, assimilate, and vitalize the right kind of matter, and shape it into the specific nature and form of the parent plant or animal. The germ of the seed or the ovum is therefore the ark in which the mysterious, divine life-principle is deposited; and all its manipulations of plastic matter in selecting, appropriating, shaping, directing, controlling, and beautifying its organic mansion may be regarded as the appropriate functions, or activities, of the life-principle, in which all the vital forces inhere.

275. Such is the nature of even the vegetable life-force that the germ in which it is lodged is unspeakably more durable than the albumen or infant food and its

protective covering ; these may decay and perish, but the casket containing the precious life-principle may be imprisoned deep in the earth for thousands of years, and yet when restored to light, air, warmth, moisture, and electricity, it will expand, develop and flourish in all the glory of plant life—a fit emblem of the resurrection of man.

276. As there can be no existence without substance of some kind, and no substance without form or body, so without life there could be no physical senses, and without these there could be no knowledge of anything ; nor can there be any effect except by and through something real as a cause—something substantial though immaterial.

277. Though the life-principle is intangible to any of our physical senses, which deal with matter, it is in its generic or most comprehensive sense the most real thing in existence, as including not only plants and animals, but man, angels, and God ; for it alone can recognize existence. And it is the only producing power known to us, all other forces being plainly traceable to life as their cause. What the skillful potter is to the plastic clay, so the life-principle is to plastic nutrient matter, molding, shaping and building it into a beautiful, artistic, organic residence. It not only constructs the organisms of animals and plants ; but it does so by counteracting the law of gravitation, and coercing the force of cohesion out of its normal physical groove into its assimilating service in the work of building up and cementing together material substance for organic structures, as in the forcing of sap to the top of the highest trees ; but in the case of the human organism it preserves it by holding in subjection chemical affinity ;

for the gastric juice always stands ready to destroy it. This is proved by the fact that if a healthy, vigorous young man, having an empty stomach, be very suddenly killed, his stomach is quickly perforated with holes. Hence the life-principle not only manipulates matter, but, within given limits, controls chemical forces. In Lev. xvii. 11, it is said: "For the life of the flesh [animal life] is in the blood." The Hebrew noun rendered "life," signifies soul, life, vital part; it is from the verb "ne-phesh," to refresh, revive, replenish, re-animate. This passage taught over four thousand three hundred and ninety years ago what physiological science teaches to-day—that the blood is the vehicle of the sustaining, nourishing elements, including electrized oxygen, absolutely necessary to the continued union of soul and body, and nutriment from the vegetable and animal kingdoms, from which is derived the plastic material for the integrity of its organic abode. Animal life-force is therefore one of the highest orders of immaterial substances. God himself being the great primordial or original fountain of pure life, the foundation and support of all life, vegetable, animal, and spiritual: for "in Him we live and move, and have our being." Acts xvii. 25-28.

278. The preservation of the species cannot be satisfactorily accounted for except by reference to the distinctiveness of the life-force which prepares what is necessary for assimilation and development. This distinctive life-principle not only exists individually and independently, but is the moving force back of all the life processes and functions, and the molding power that defines and preserves the species. The same kind of food will develop the different species; and though

the various life processes may be very similar, the results are very dissimilar, as evidenced by man, dog, and cat. The cause of this difference is not in the food they eat, but in the life-principle resident in the germ of the ovum.

279. In the earliest developments of animal life, the first rudiments of a nervous system are found in the low types, in ganglionic points; then higher up there are lines of nerve matter; then rings. Next a system of nerve centers; then a spinal cord, followed by the brain at the back of the head; and finally a complete brain and nervous system. The vital cause of the process of this functional development, of the preservation of the identity of species, of the specific molding, forming power is the distinctive, individual, intangible, immaterial, invisible, substantial life-principle, secreted in the egg or ovum.

280. Animal, or physiological life is distinct from metaphysical, or soul-life, as much so as mind is distinct from the brain. Human or animal life is in the blood; it gives vitality to all the organic cells, in which work the microscopic bioplasts of nerve, of brain, of bone, of muscle, and of all the various tissues of the body, each one of which produces only its own kind of vitalized material, and is not interchangeable with any other. The cell or bioplastic life is that which is "even as a vapor that appeareth for a little time, and then vanisheth away; but the metaphysical or soul-life—the living soul made in the image of God, was designed to be indestructible and immortal." Jas. iv. 14.

281. All vegetable and animal structure is but the multiplication of the organized cell as a unit—that is, cell added to cell until the whole is complete; and the

constructive life of the plant or animal is that of the vitalized cells which compose it, and in them or by them all its vital processes are carried on. Animal cells are generally smaller than vegetable cells. Their sizes vary greatly, but they are generally invisible to the naked eye, ranging from one five-hundredth to one ten-thousandth of an inch in diameter. About four thousand of the smallest would be required to cover the dot put over the "i" in writing. The external stimulants of the life-principle are heat, light, electricity, food, water, and oxygen. And under these favorable conditions the life-force acts throughout the whole vegetable and animal kingdoms, working in co-operation and in unison with the physical force of cohesion : as the laws in the physical domain of nature apply with equal force to the realm of vital, mental, and spiritual phenomena. The vital force of every tree, for example, at its very start exists in perfect structural shape in its germ as the incorporeal (not material) organism of the future tree to the exact form and outline of such development, even to its twigs, buds, leaves, blossoms, and fruits, or otherwise there would be no pattern or guide for the collection and deposition of the surrounding material elements by which such progressive organic structure could be produced and its specific character be maintained.

282. The human life-germ, from the moment of conception, contains a perfect human being, with all the elements and possibilities of complete humanity, as much so as the acorn contains the accurate, though unseen, miniature of the future oak, with all its future possibilities. To unnecessarily destroy the impregnated human life-germ is to destroy a human being, bearing the

Divine Image, and destined to an unending existence, and is consequently murder in the first degree, and ought to be so punished. Any one so destroying the human embryo is as much a murderer as though he had slain a peaceful citizen in the street, and, it would seem, according to Divine law, deserves the same penalty. Death was inflicted for a less though somewhat similar crime. Gen. xxxviii. 9-11.

283. "The specific vital and mental form of the infant, as perfect in all its parts as at birth, exists in the ovule as an immaterial, or incorporeal entity, before the bioplasts in the mother's circulation had made the first move at constructing the embryonic body. Indeed the entire substantial form of the grown man in all the minutia of his organism was doubtless therein the ovule as a highly concentrated immaterial entity, when that ovule was but the one-hundred-and-twenty-fifth of an inch in diameter." (H.)

CHAPTER XXI.

HUMAN LIFE FORCE.

284. All finite life, so far as known to man, comes from pre-existent life. The Divine "I am," is the uncreated, self-existent, inexhaustible perennial source of all life—vegetable, human, angelic, and spiritual. Life-force is an invisible, intangible, immaterial, substantial, self-moving, directing and controlling force, created and ordained by God as one of the highest, important, and most mysterious forces of Nature, and endowed with its own peculiar mission to animate matter, mold it into various gradations of organic forms, and adapt each one of these to show forth the wisdom, power, and goodness of the Creator, and thus to ceaselessly praise him. Psa. cl. 6; cxlv. 10.

285. "Thus far scientific investigation has established the fact that physical life has its basis in the protoplasm, but what the absolute nature of that life is and where, how or why it has its beginnings thus, is, a profound scientific mystery" (Prof. Kephart in *Microcosm*).

286. "Life is said to be inseparable from the protoplasm, but dormant unless excited by some stimulant external to itself, such as heat, light, electricity, food, water or oxygen" (Dr. Mott in *Microcosm*).

The ovum or the seed is the seat of the vitalized germ.

Its infant food is all that is visible to the highest powers of the microscope.

287. Though the life principle cannot be discovered by any means yet known to man we know that it is the unseen moving, molding, and fashioning cause of all organized things. The life-force manipulates matter as the most skillful potter manipulates the plastic clay. "In all the actions peculiar to life-force we see atoms uniting to form cells, cells uniting to form organs; these uniting to form organisms, and with the highest organisms the human."

288. By life-force is meant that really substantial life-principle within us; though invisible and intangible like magnetic rays, it moves, directs, and controls all the multiplied movements of the millions of vital constructive bioplasts of the human body, and on this oneness of the life-force is based our identity down to old age. This life-force that moves, directs, and controls the vital particles and organs of our bodies is as real substance as the steam that moves the piston, the water that turns the wheel, or the spring that moves the clock. We cannot form a mental concept, or idea, of the steam, the water, or the spring, except as a substance; nor can we of the life-force as the cause of motion in our bodies. Life-force is, in its highest sense, the source of all forces, of all action, and of all organization. Though independent of matter, it is here manifested through it; and must therefore be an immaterial substance, and belong to the immaterial realm of Nature. All existence implies substance in some form, each kind after its type-pattern. Gen. i. 21-25.

289. Life is an active motor-force and presides over

nutrition and organisms ; while mind or instinct directs and governs life-force. The former takes the impressions made on the material sense-organs and conveys them to the brain—the seat of mind ; the latter interprets them and responds accordingly.

290. Living matter is continually undergoing change—taking in new matter, decomposing it, adding such portions to itself as are necessary for repairs and development, and expelling the remainder—in fact, it is perpetually changing, yet preserving its identity. The whole body is said to change about once every year, and some parts of it, as the heart and the brain, frequently within that period. Mysterious as are these constant changes, we ourselves are the subjects of them.

291. What mysterious processes in the digestion of our food, in the separation of the chyle, in the circulation of the blood, and in its transformation into bones, ligaments, tendons, muscles, membranes, arteries, nerves, tissues, etc. How mysterious the phenomena of the intellect, the union between the will and the brain—between matter and mind

292. Life is developed and sustained by what it selects and appropriates out of matter ; it exists without mind ; it moves within certain prescribed lines like a machine that has all its movements fixed, its powers applied, and its activities producing and reproducing the same results. It has no power in itself to bring about, control, or change the necessary conditions or surroundings for its activities. Not so with mind. It feeds on knowledge acquired through the sense-organs and by its own innate action ; it is not developed by life, nor by that which develops life ; it exercises control over both life-force and matter in its own domain.

Mind in its own sphere is an impelling, directing, controlling power—a self-exerting energy—capable of originating, directing, and controlling action, and differing from mere life as much as man differs from a machine.

293. To the pysical senses life is only known in its connection with matter, or by its effects. It alone recognizes existence, and must therefore be a real entity.

294. With respect to the material organization, the involuntary system of motion, including the heart, the lungs and the general circulatory system, is the bond of organic union with the source of life. The rest or repose of this system is death. Acts xvii. 25; Psa. civ. 29.

295. Let us glance at the high estimate placed on the life of man in Gen. ix. 4-6: “And surely your blood of your lives will I require—rather, of your life-blood will I require an account.” Again, in Lev. xvii. 11, “the life of the flesh is in the blood,” and “it is the blood that maketh an atonement for the soul.” The life of the sinner was forfeited, and the scheme of redemption required that his mind should be deeply and constantly impressed with this lamentable fact; and that a substitutionary life must be offered up if his life be spared. The sinner must himself bring the sacrificial victim, must confess his sins over its head, and must slay the animal before the tabernacle of the congregation; thus must he be taught that the life-blood of the offering was taken and accepted, in the stead or place of his own forfeited life—for he was already dead in law.

296. The life-blood of the sacrificial victim was a material, visible, tangible substance, and was the vehicle for conveying all the nutritive elements necessary to sustain the life-force in the material organism, and was the very best, if not the only, available means by which a deep and lasting impression could be produced upon the mind and conscience of the guilty party through the material sense-organs, and, thus being constantly brought into the presence of death inflicted by his own hand, he would have constantly placed before his eyes the fearful nature of sin and the appalling penalty thereof: Rom. vi. 53; Ez. xviii. 4, 20; I Pet. iii. 18.

297. The life-principle, being immaterial, consequently invisible and intangible, could not affect the material sense-organs; hence the life-blood must flow, must be visible on the horns of the altar, and be sprinkled seven times before the Lord. This visible material blood of the animal offering aptly represented the invisible, immaterial life-force; and both typified the Lamb of God that taketh away the sin of the world—the great sacrifice of infinite dignity and worth—the God-Man—who would, in the fullness of time, give his own life-blood for the ransom of humanity; for without the shedding of blood there is no remission of sin. Lev. i. 1-6; iv. 1-7; Ez. xxx. 10.

CHAPTER XXI.

MIND FORCE.

298. Mind-force includes animal, human, angelic, and divine. We have the immaterial and substantial physical forces, as sound, light, heat, electricity, magnetism, gravitation, cohesion, and chemism. We have also a higher and more refined order of invisible and immaterial substantial entities, as life-force, instinct, mind-force, psychic or soul-force, and spirit-force.

299. Mind-force rules matter so far as it can acquire organic union with it, and often even by mere mechanical relation to it; it also brings vital-force under subjection, as vital-force compels cohesive-force to do its bidding. Taking up its residence in the living mass which the vital-force has organized into an animal form it compels it to move bodily hither and thither, and to accomplish a great variety of mechanical results, of a vastly higher order than mere vital-force can possibly do, as illustrated by the gigantic engineering works of man. This intelligent, voluntary power to move living organic masses of matter hither and thither at will we call mind-force.

ANIMAL MIND-FORCE.

300. The difference between the mind-force in human beings and the mind-force in brutes is very

great. The real and essential difference between man and the lower animals is not confined to the erect position, beauty of form, and Godlike countenance, but mainly consists in the fact that the lower animals receive at birth their specific stores of knowledge suited to their condition and surroundings (without the capacity of teaching or being taught, except to a very limited specific extent), thus adapting them exclusively to this single state of existence. Not so with the human being; it receives no knowledge at birth—not a single idea of inherited intelligence—but an unlimited blank capacity for being taught, having an interior organism capable of being cultivated and expanded to eternity. This alone constitutes a wall as broad as the earth and as high as the heavens between the mind-force of the man and the mind-force of the brute.

301. “The difference between man and all lower animals is so wide it cannot be measured—an enormous gulf, a divergence immeasurable and practically infinite. Man alone employs articulate language; he alone comprehends himself; he alone has the power of abstraction; he alone possesses general ideas; and he alone believes in God” (Max Müller). The brute lacks the portion of brain that is necessary to the very existence of the moral faculty, and therefore can have no moral powers, no moral sense of right or wrong, no ability to discern spiritual and eternal things, no conception of the Divine Being, or of His character and government, no proper conception, and no knowledge of or longings for a future life of conscious activity; all of which are realized by the human mind in a very superior degree.

302. Eccle. iii. 21: “Who knows the spirit of the beast that is going down below to the earth?” It

simply states a fact; that the spirit of the beast departs, goes down, but to what place it does not say. Hence, as the vital and mental powers of the lower orders of animals are as truly and really substantial as are their bodies, and equally indestructible, we conclude that the vital and mental forces, having served the purposes of their manifestation here, must at once return at the death of such animals to that particular force-fountain from which the vital and mental powers of all living creatures must originally come. Reasoning from analogy, we may justly infer that, as there is an inexhaustible fountain of physical forces, as, for example, of light, heat, and electricity, so there may be a like fountain of animal, vital and mental forces, from which they are re-manifested as needed in the animal world. A convenient ascending scale of forces is, physical-forces, vital-forces, emotional-forces, mental-forces, spirit-forces, and moral-forces. These forces can be recognized or realized through the appropriate physical sense, or normal reason, or God-given faith.

HUMAN MIND-FORCE.

303. Etymologically, mind is the principle of volition, and psyche—soul—the principle of animation. “I mean to go” was originally “I mind to go.” Soul, at first identical with self, is from *sellan*, to say, the faculty of speech being its special characteristic. Hence, the spirit residing in and making use of an immaterial organism was and is called “soul,” or “embodied spirit.” The material body is the tightly fitting robe of the soul (II Cor. v. 2, 4), and is shaped by it, and the gleamings of the countenance are the reflex scintillations of the soul through the fleshy veil. I understand the inbreath-

ing of the breath of life into the vitalized organic form of Adam to consist of a specific portion of mental, spiritual, and moral energy in pure, self-conscious, personal form; and this personal spirit-form in the Creator's image as His representative, took up its residence in an organic spirit-body (I Cor. xv. 44) from which it never departs, and which is the only source of all that is transmitted from parent to child. Doubtless, the spirit of man has an immaterial, substantial, personal form of its own, inasmuch as it was made in the image and likeness of the Infinite God. The term "image" naturally implies a substantial form of some kind, and the term "likeness" as naturally expresses similarity of moral qualities inherent in that form. It is reasonable to conclude that the spirit of man has a refined, immaterial, organic body adapted to all the spirit's requirements in its embodied state as soul, in any sphere in which it may be during its endless existence—a body from which it never departs. Hence the spirit clothed with this refined, immaterial, but substantial organism constitutes the soul, the embodied spirit, the true man, the "inward man," of which Paul speaks in II Cor. iv. 16, and which constructs for itself a temporary material residence during its period of probation, from which it departs at death. This view is confirmed by the Hebrew term, "mooth," to die, dissolve, depart, return, Isa. xxvi. 14. How expressive! the animal life-force, or cell-life ceases; the union between body and soul is dissolved; the soul departs from its earthly house, II Cor. v. 1, and the spirit returns to God who gave it, Eccl. xii. 7; Psa. xxxi. 5. As does also the Greek term, *ex-odos*, a going out, a departure, decease, used in reference to the death of Christ, Luke ix. 31; of Peter i. 15, and of Joseph,

Heb. xi. 22. In each case it refers to the departure of the self-conscious personal being from the material body of flesh, blood, and bone. If the Bible does not teach this I am unable to understand its language.

304. The inspired writers frequently use the terms soul and spirit interchangeably to designate the entire immaterial part of man's nature, where no regard is had to its distinct functions, or the natural action of any particular power or faculty. But where this immaterial substance is viewed as sentient (perceiving), emotional, living being, psyche, commonly rendered soul, is the term employed to designate it; but when viewed as exercising reason and the moral powers, *pneuma*, or spirit is used; nevertheless, with respect to the scheme of redemption, soul and spirit are practically identical.

305. We must not forget that force is whatever causes motion in matter or mind. "All motions or phenomena of substances or entities are the effect or result of force as a cause; for no finite entity, or real being, can move itself only as compelled to do so by a force external to and above itself." For illustration: "Men and beasts are but living engines, moved by the force of vital steam, generated by the force of vital heat, and governed by mental-force as the controlling engineer. A great portion of our muscles contract and relax in obedience to our wills. What the engineer is to the engine so the mind-force as concentrated in the will is to the body in which it resides. But the finite mind, the governing (not the propelling) force of these vital engines, is an entity, a real, substantial, conscious, intelligent being, and yet it cannot move or act only as caused to do so by a force behind it. What is this force

that moves the substantial mental powers of man and beast, converting them into intelligence? I answer, It is a force from the Original Fountain-head—God himself. Acts xvii. 24-29; Col. i. 16, 17.

306. The material vital organic structure of man is pervaded by a number of substantial and distinct forms of force, such as vital or cell-force, life-force, mind-force, soul-force, and spirit-force, though these terms are frequently used interchangeably. Indeed man, in his probationary state, is the center to which physical, mental, spiritual, Divine, and even Satanic forces converge, as the rays of light converge to a focal point. The following, with many other passages, sustain this view: Gen. vi. 3; Ex. xxviii. 3; Judges vi. 34; II Chron. xxxvi. 22; Matt. x. 1; xii. 45; Acts ii. 17; xiv. 14; Rom. viii. 16; Eph. ii. 2; vi. 12; Matt. iv. 1-11; II Cor. xi. 14; James. iv. 7.

307. The constructive and assimilating cell-force in all its innumerable centers of organic activity is directed and controlled by the life-force.

308. The nerves are to mind-force what the telegraphic wire is to electricity, or the telephonic wire to sound—the highways of travel. Special nerve matter is necessary for the special senses, as the optic nerve in relation to light; auditory nerve in relation to sound; and special brain matter, for brain organs adapted to certain mental functions, as memory, calculation, tune, etc.

309. The mind of man is especially adapted for cultivation, expansion, development, and endless progress. And having a spiritual nature, pervaded by religious instincts, and animated by divinely inwrought aspirations after something higher, nobler, and holier

than himself, he sighs for something beyond the bounds of time. His mind can clearly and satisfactorily apprehend the great truths of the spiritual world—truths perfectly designed and adapted to the religious and spiritual faculties and susceptibilities of the human mind, satisfying the hungry and thirsty soul in its intuitive longings after the true, the beautiful, and the good—the Infinite Good. All these facts constitute a title-deed to a future life, and a guarantee of man's immortality.

310. But what is that mysterious force or entity we call the human mind, or rather soul, in which inheres the immaterial, conscious, intelligent personality of man? I reply, It cannot be defined. It can only be known by what it does—like magnetism and gravitation,—by its modes of personal motion or activities, as feeling, thinking, perceiving, reasoning, judging, willing, loving, hating, desiring, believing, etc. As to its nature, the conscious self in man is immaterial, and therefore not subject to the laws of matter; it is substantial, and therefore has a spirit-form peculiar to its nature that animates the soul-organism, or spirit-body, called by Paul the “inner man”—the subject of love, joy, peace, etc.—Eph. iii. 16; II Cor. iv. 16; that bore the image and likeness, mental, moral, spiritual, and substantial, of Elohim, Gen. i. 26; termed in Acts xvii. 29, the offspring of God; and in Peter i. 4; I John iii. 3, 9, 24, that which partakes of, or shares in, the Divine nature.

311. The Creator breathed out of himself into Adam the spirit of lives or souls; and thus as the Infinite Creator was the primary source of life to Adam and the race, so Adam was endowed with capabilities of becom-

ing, in a secondary sense, the source of life to all his descendants, Gen. ii. 7. Though finite, he was made in the image and likeness of God, and thus he bears a like finite relation to God, his creative Father, that children sustain to their parents, so beautifully expressed in the sublime prayer taught by our Saviour: "Our Father, who art in heaven," etc. Matt. vi. 9.

312. It is reasonable to suppose that as the Creator formed the body of Adam out of the dust of the ground—gross material substance, and organized and vitalized it with animal-life, James iv. 14, so he formed the spirit of man out of refined, immaterial life-substance, organized and vitalized it with pure spirit-life, that it might be a "living soul" in the animated material body. And that the personal spirit-form, endowed with reason, will, affection, moral principle, conscience, religious instinct, and endless existence, was constituted, essentially, the model or pattern of the soul-body, and the soul-body, in like matter, the model or pattern of the material body—the "outer man" that fits the "inner man" like a closely fitting garment in which it must receive its education, serve its period of probation, and fit itself for a glorious future of happiness or death, as it chooses to serve God or the devil. Even Acts i. 10, 11, seems to confirm this view of the human form. As an illustration, I refer to the vegetable kingdom. A grain of wheat, for instance, has the vegetable life-principle, the organized germ in which it inheres, and the external organized covering.

313. If the form of the human body here be not essentially the form of the one in the future world, why is it that modest, retiring saints are sometimes before their departure, and while all their senses are in

a natural condition, permitted to see heavenly visitants around them, essentially human in appearance, but transcendently beautiful? I myself have been present on one such occasion, when the lady, a few hours before her death, felt somewhat distressed that her friends could not behold and enjoy with her the exceedingly beautiful and glorious angelic forms appearing around her. Her deathbed scene marked an era in my professional life, the remembrance of which has been a source of untold encouragement amid discouragements. Her last words—I am going to be forever with the Lord—were uttered in tones and accents that I never heard before, nor since, nor ever expect to hear again in this world. If what I there heard from the mortal lips of a modest, retiring, pious, dying mother be any indication of the capabilities of immortal vocal powers, it may assuredly be said: That the mind of man is utterly unable to conceive of what awaits the dying Christian. The I is the soul, the personal self, the man, the real man, the endlessly enduring man, for whom the blood of the Son of God was shed to redeem from sin and death.

314. This view of the future human form is in harmony with all we know of the higher types of animated nature with respect to simplicity of design, unity of purpose, and perfection of adaptation. As the complex nature of Adam was constituted, and invested with delegated powers and capabilities, within given limits, to continue the specific characteristics of the human race to the end of its probationary career, it is reasonable to infer that its essential form would continue in the future, and that such indications would be given in the Scriptures as we find in the case of Moses and Elias, Matt. xvii. 2; and the angels at the tomb, Luke xxiv. 4, with John xx. 12.

CHAPTER XXIII.

SOUL SENSES.

315. In Heb. v. 14, the Greek term translated "sense," is *aistheterion*, an organ of perception, to perceive; an internal sense, a faculty of the mind for perceiving, understanding, and judging. This sense is very materially improved by constant practice, habitual use, continued intellectual and moral exercise. "To discern" is from *diakrasis*, and signifies the act of discerning, of distinguishing: and in I Cor. xii. 10, the same Greek word translated "discernings" signifies the faculty of distinguishing and estimating.

316. Whatever affects our physical senses is substantial, and whatever affects our soul-senses, as thought, conception, idea, etc., are real mental objects. What our bodily senses are to the understanding, so our soul-senses are to reason and faith. Hence, in common language, when we understand a thing we say we see it. The five special senses of the material organism are avenues or organs through which the soul-force manifests its powers and becomes acquainted with its material surroundings, and from which the understanding gathers its varied treasures of knowledge, designed to lead to higher views of, and more ennobling feelings toward the Infinite Creator, and purer filial affection toward a loving and long-suffering Father. As the

material human body needs proper food to nourish, strengthen, develop, and fit it for the fullest activity of mind-force ; so does the mind need food suited to its nature ; and whatever elevates it nearer to, and renders it more like the loving and holy God, in thoughts, feelings, purposes, aspirations, and activities, constitutes its appropriate food, whether gathered from Nature or Revelation, or both.

317. We generally refer to the bee and the beaver as examples of instinct ; to the horse and the dog as examples of animal mind ; but to man as having intellect, mind, soul, and spirit.

318. The center of mind-force is the brain, and that of life-force, in all probability, the *medulla oblongata* at the base of the brain, while the center of vital or cell-force is the heart. The brain is most abundantly supplied with blood, the amount sent to it having been estimated as high as one-fifth of that contained in the whole body.

Vital force is the constructive or physiological life-force of the organism ; it is the servant of the life-force proper, and depends upon the normal blood of the body for its activity, and is intimately related to electricity. While the superior life-force is inherent in the soul, as applied to human beings, and manifests itself in mind. The one is related to plastic matter, the other to self-consciousness and thought.

319. The brain is the instrument of the mind, including the dispositions as well as the intellect. It varies in different races both in size and weight. The following weights are in ounces : Scotch, 50.0 ; Germans, 49.6 ; English, 49.5 ; French, 47.9 ; Zulus, 47.5 ; Chinese, 47.2 ; Italians, 46.9 ; Hindoo, 45.1 ; Gypsy,

44.8; Bushmen, 44.6; Esquimaux, 43.9. The space occupied by the brain in cubic inches is, in the Anglo-Saxon, 105; German, 105; Negro, 96; Ancient Egyptian, 93; Hottentot, 58; Australian native, 58. In all races the male brain is ten per cent. heavier than the female. The highest class of apes have only sixteen ounces of brain.

320. Man's average brain, it is estimated, consists of three hundred million of nerve cells, of which over three thousand are worn out and removed every minute. If this be so, every person, under ordinary conditions, has a new brain about every sixty days. The waste is increased by excessive labor, want of sleep, restlessness, anxiety and incessant worry. After the age of fifty the brain is said to lose an ounce every ten years. To keep it in a healthy condition for all the normal activities of the mind or soul, it requires a large amount of pure blood constantly passing through it. To furnish this supply, over six hundred millions of minute air cells in the lungs are constantly at work, by night and by day, eliminating impurities and carrying to the vital principle electrized oxygen. The united surface of these lung cells is estimated at fifteen hundred square feet.

321. The brain is made up of nerve fibers which seem to originate in the *medulla oblongata* or capital of the spinal cord, and radiate to the surface of the brain, where it appears as gray matter; it radiates something like the cauliflower which grows from its stem and forms a mass much resembling the human brain.

322. The amount of mental-force does not depend upon the mere size of the brain mass, but more largely upon the fineness of its texture, its density, and the

length of its fibers; as the length, the size, and the quality of the spokes show the character of the wheel. In 1820 many anatomists stoutly denied the fibrous nature of the brain, but now all anatomists teach it. Though the human mind-force is a unity—one immaterial spiritual substance—it has, what is called for convenience, many faculties or powers, and the presumption is that each faculty and propensity has its special organ in the brain, as each function of the body has its specific organ adapted thereto; as, the eye to light, the ear to sound, and the olfactory nerve to odor, and so of the other organs.

323. If this were not so each person would exhibit the same amount of mind-force on all subjects, as, mathematics, mechanism, music, drawing, painting, memory, courage, etc., which is far from being the case. The same is true of the special senses, as, the organ of seeing, of smelling, of hearing, of tasting and of feeling which are varied in the same person; these powers being each dependent on different organs. These facts seem to be clearly indicated in I Cor. xii. Even the one entitative life-principle in each person—the soul itself is but an organ receptive of higher forces more vital than itself. “For it is God who holdeth our soul in life,” Psa. lxvi. 9; “for with Thee (God) is the fountain of life,” alluding to waters constantly flowing from a fountain, so does the life-force constantly flow from God. Psa. xxxvi. 9; civ. 29.

By the materialistic scientist we find a confusion in the use of the words mind and brain which we all do well to avoid. In order to support their false and atheistic scientific theories they purposely use the terms synonymously and make no distinction between them.

The brain is simply the physical organ through which the immaterial but real mind-force acts. We find a similar analogy throughout the realm of nature. Gravitation only acts through two material conditions; light and sound need physical structures through which to manifest their natures, but no person would think of confusing terms so as to make the falling stone synonymous with gravitation, or the sonorous bell or radiant carbons synonymous with sound or light.

MIND FOOD.

324. As the blood vessels are specially adapted for carrying food to the vital principle, so the nerves, like tramways, are adapted for carrying food messages to the mind. For illustration, we will take the special senses in order, beginning at the lowest, the sense of touch. It is adapted to the actual contact of solid bodies to produce the tactile sensation; the sense of taste is adapted to the actual contact of bodies having the properties of sweet, sour, bitter, etc., to produce the perception of taste; the nasal membrane and olfactory nerve are adapted to the actual contact of odor to produce the sensation of smell; the auditory nerve is sensitive only to the substantial contact of sound; and the optic nerve is sensitive only to the substantial contact of light. So of all the special senses. The nerves of each sense, in connection with those of animal perception, are adapted to feel the properties of objects appropriate to each sense-organ as stimuli, and thus produce the perception appropriate to each sense. Each sense must have substantial contact with its proper object to excite it into proper action. Light cannot produce the effects of sound, nor sound those of odor, etc. These

and other so-called laws of nature are but the expressions of the will-force of the Infinite Creator.

325. The will-power, which is applied mental energy, is as wonderful as it is mysterious even in man. Dr. Buchheister has carefully calculated that a man weighing one hundred and sixty-eight pounds, who ascends a mountain seven thousand feet high, actually expends a will-force in connection with physical energy equal to lifting one million one hundred and seventy-six thousand pounds one foot high. Compare this with a vast army in fierce conflict all directed by one will-power.

326. Mind-force is concentrated in, and directed by, the will, and though immaterial, intangible, and invisible, it is nevertheless a substantial spirit-force that rivals the speed of electricity. Many thousands of miles are traveled by thought-force in an instant of time. By what means do we, during the hours of sleep or rest of the brain organs, visit far distant regions of the globe, personally known to us, and behold with lifelike vividness, the places, persons, and scenes familiar to us in former times, and intensely enjoy the company of friends dear to us, and highly prized in by-gone days.

327. One of the grandest manifestations of mental-force, or rather power, being applied mental-energy, is the measuring, weighing, and analyzing of the far distant telescopic orbs of light; and where telescopic reason finds its limits, it snatches up faith, the higher reason, and, in regions yet immeasurably beyond, gazes upon Deity encircled in all the glory of His sublime nature, and there, reverently bowing before Him, exclaims—"The heavens declare thy glory, and

the firmament showeth thy handiwork;" "For thy invisible things since the creation of the world are clearly seen, being perceived through the things that are made, even thy everlasting power and divinity." Psa. xix. 1; Rom. i. 20.

We are now, I hope, prepared to profitably consider spiritual-force in relation to moral character.

CHAPTER XXIV.

SPIRIT FORCE.

328. We must remember that force is that substantial agent that produces or causes change in some other substance, material, immaterial, or spiritual. Spirit-life is the highest form of force known to us, and will never cease its activity.

329. The Deity is the personal embodiment of pure life, pure mind, and pure spirit; and, for myself, I cannot doubt that the Scriptures justify us in believing that, in connection with these, he possesses an organized immaterial form, glorious beyond all finite conception, and yet so similar to the bodies of the glorified saints that he is abundantly justified in calling himself "Our Father." He possesses within himself these forces to an immeasurable extent and infinite perfection. "For He upholdeth all things by the word of His power"—applied energy. "In him we live and move and have our being," as fish live in the water, and birds live in the atmosphere. Indeed we are encompassed by him as matter is encompassed by gravitation. Heb. i. 3; Acts xvii. 28.

330. The finite spirit-force in man is in nature so like the infinite spirit-force of God that the regenerated soul is said to partake of the Divine Nature; and it moves the "inner man" as the mind moves the "outer man," and adds to the mental nature the higher element

of a rational and moral power, rendering man a responsible and an accountable personality, in which reason, will, conscience and a moral faculty inhere; the latter giving birth to feelings of obligation that right ought to be done, and wrong ought not to be done; that virtue is right and vice is wrong; and directly points to a divine moral standard by which all our words, thoughts, feelings, intentions and actions will be judged. This sense of moral obligation pervades every moral and accountable being. The feeling that we ought to do right and ought not to do wrong implies an infinite moral Governor at the back of it, who is the great Original Fountain of the moral and spiritual force that pervades and directs every moral subject of his government, as magnetism pervades and directs the magnet. A man may sever life from the body but he cannot sever the sense of obligation from the soul; it is as omnipresent in the soul as the Creator is omnipresent with humanity. Indeed it is the effect of the ever present moral and spiritual will-force of the infinite God acting on the soul, urging it to its highest duty, and like an invisible, but mysterious cable binding it to a future tribunal, where it must listen to an impartial verdict according as it has acted a loyal or disloyal part here.

331. These four forms of force combined, namely, vital-force, mental-force, moral-force and spirit-force, are capable of lifting humanity above material conditions, and by the very careful training they give it during its period of probation, prepare and qualify it for a realm of perpetual activity and advancement in wisdom, loving service and enjoyment, beyond the bounds of mortality.

332. There are two distinguished antagonistic

spiritual personalities—one infinite and the other finite—each the possessor of spiritual energy and power, and who are constantly and energetically at work in man's probationary domain, and have him for their special object—one impelled by love to save, the other by bitter hate to destroy, John iii. 16, 17; xiii. 8; I Pet. v. 8; Eph. vi. 11; Luke iv. 2. That we may have definite ideas of these persons and their respective influence on mankind let us appeal to Divine Revelation as our unerring guide.

333. In Rom. i. 16, Paul speaks of the Gospel of Christ being the power (*dúnamis*) of God. This is confirmed and explained in John vi. 63: "The words that I speak unto you, they are spirit (*pneuma*), a spirit, a life-principle. *Zo-e*, life, deliverance from the proper penalty of sin: that is, the Divine meaning of the Saviour's words is the medium through which the Holy Spirit by his energy imparts a Divine spiritual life to the soul, called a "spiritual creation," "a new creature." II Cor. v. 17; Jas. i. 18; John iii. 5, 6. In other words, Gospel truth correctly understood, John vii. 17; viii. 32; xvii. 17, 19; heartily received, Acts viii. 37; Rom. x. 10; Acts xxviii. 27; II Thess. ii. 10; trustingly believed, John iii. 15, 16, 18, 36; v. 24; Rom. i. 16, 17; and lovingly obeyed, John xiv. 15, 21, 24, is that through which spiritual life is imparted to the soul, previously dead in sin, and liable to soul death; II Cor. iii. 6. In II Cor. xii. 9, Paul says: "Most gladly therefore will I rather glory in my weakness, that the strength (*dúnamis*) may rest upon or cover me." The Greek verb *episkenoo*, properly, to live in a tent; to inhabit, dwell in; hence, figuratively, to remain in, to abide upon; the prominent ideas are

that the invisible spiritual energies of Christ would pervade and encompass him for physical protection, official guidance, evangelical success, and mental, moral, and spiritual advancement in the Divine life. In Rom. xv. 13, the apostle prays that the Christians "may abound in hope, and in the power (*dúnamis*) of the Holy Spirit. That is, they should so live that they would be pure, zealous, and shining examples of consistent followers of the Lord Jesus Christ, and thereby become instrumental mediums of those enlightening, converting, and sanctifying energies of the Holy Spirit, Matt. v. 16; James v. 19, 20. Again, in Acts i. 8, Jesus said to his disciples: "Ye shall receive power (*dúnamis*), when the Holy Spirit is come upon you." The term rendered "receive" means to take, to take up, to take into the hand; figuratively, to give mental reception to, to be the recipient of; hence to be the recipient of mental, moral, spiritual and miraculous energy, including ecclesiastical authority, John xvi. 13; Matt. xvi. 19; xviii. 18. The apostolical qualifications were about three years' special mental, moral, and religious training by the Redeemer, and then the loving reception of the Holy Spirit into the soul as a permanent residential teacher, guide, and comforter, accompanied by all necessary energy and authority. The Greek word rendered power in this verse is different from that in the preceding one. *Exousia*, means God the Father's authority over all times and seasons with respect to the period of human probation; *dúnamis*, in this case, is limited to the necessary qualifications and requirements of the apostles as special commissioners of the Divine Head of the Church to the utmost limits of humanity, and specially embraces physical, mental, moral, spiritual,

miraculous energy, including governing authority of which the Holy Spirit was constituted the medium, and of which the Trinity in Unity is the infinite fountain.

334. The giving of the law was the birth of the Hebrew nation; and the Pentecostal descent of the Holy Spirit, accompanied by a sound from heaven as of the rushing of a mighty wind, and of tongues parting asunder, like as of fire—was the birthday of the Christian church. Both were the opening of the flood-gates of the long pent-up compassionate energy of God the Father, intensified by Divine love, John iii. 16, that should spread out until the entire human race should be enriched by the overflow, Matt. xxviii. 19, 20.

335. The “breathing” of Elohim into the face of Adam was a symbol of the imparting of that substantial, immaterial, invisible spirit-form in which was reflected the Divine image and likeness, to the “inner man”—the interior real man, the true Adam. This breathing indicated that the invisible physical atmospheric-force was not only an evidence of, but was subjected to, and largely controlled by, a higher invisible, intangible, and substantial vital force; and these symbolic, representative forces clearly pointed to the divinely imparted spirit-force, whose holy activity manifested the God-like personality within, Gen. ii. 7. In the Pentecostal descent, the mighty rushing wind symbolically represents the extraordinary impartation of Divine energy—that Divine power with which they were apostolically endowed from on high, Acts i. 8. “Tongues parting asunder, like as of fire;” fire is the symbol of Deity as the fountain of light and knowledge, and of mental and spiritual illumination; and heat that purifies what is most precious, and consumes what is worthless; it

represents a purifying force by which the child of God may be changed from spiritual character unto spiritual character, even as by the Spirit of the Lord, II Cor. iii. 18. And tongues parting asunder, symbolically represents articulate vocal sounds—signs and signals of intelligence and affection—that would be vehicles of the Gospel-life force, John vi. 63, to the outer circle of Adam's sin-cursed race, Mark xvi. 15. Thus the Divine spiritual energy applied by the Holy Spirit to the souls of men through the Gospel of Christ would become an enlightening, converting and sanctifying energy in personal experience, a constraining spiritual force to individual activity, and to carry or send, at any sacrifice, like blessings to humanity in regions yet beyond its possessors, II Cor. v. 14.

336. The extraordinary miraculous energy imparted to the apostles, seems to have been directed and controlled, to some extent at least, by sanctified human wills in perfect and joyous harmony with the Holy Will of the Infinite Head of the Christian church. Even the ordinary impartation of this spiritual energy, when heartily welcomed by, and resident in, a human soul, often becomes to its possessor a tremendous power for good. In the case of Elijah, the idolatrous legions, in the presence of its manifestation, cried out, "The Lord he is the God!" With respect to Daniel, the vast Babylonian heathen empire confessed its Divine supremacy. Luther was a wonderful medium of this Divine energy, and he so centered it upon the great scarlet whore seated on the seven hills that she gnashed her teeth like a hungry tiger deprived of its prey, because she could not destroy it. What led the British Queen Mary to quail before Knox, the courageous reformer, and fear

him more than a hostile army? It was the Divine energy that responded to his faithful prayers. Better trifle with an electric-light wire than with it. For a like reason, in the case of Bunyan, the Bedford authorities retired from the conflict in shame and disgrace.

CHAPTER XXV.

SPIRIT FORCE.

337. If the Christian church would only accept the doctrines, precepts, and examples of Jesus Christ as a perfect standard of Christianity, and each member would daily embody them in thought, purpose, feeling, action, and aspiration, how soon would it rise to the highest plane of moral power, spiritual excellence, and Paul-like zeal, and its march would be signaled by a continuous shout of victory, until the kingdoms of this world would become the kingdoms of our God and of his Christ. Then would the great floodgates of iniquity be closed, and the gushing fountains thereof be dried up ; then the death requiem of drunkards would cease, the plaintive wailing of heart-stricken widows would be hushed, the scalding tears of orphans would scarcely flow, and the hallelujahs of Zion would be long and loud. This Divine energy is the strength, purity, and glory of the church : without this, it is only fit for divine cremation. A church without the indwelling of the Holy Spirit is a Godless church, and is like a majestic ship broken from its moorings, and drifting before the winds of human self-will, the storms of passion, and blind selfishness, to be inevitably wrecked on the rocks of unbelief, self-sufficiency, and atheism.

338. In Rom. xv. 13, the apostle prays that the Chris-

tians may abound in hope, and in "the power (*dúnamis*) of the Holy Spirit." The "power" here spoken of is a Divine gift of moral and spiritual energy that gives birth to lively trust, high expectation, courage in meeting opposition, perseverance in overcoming difficulties, and patience in enduring trials and afflictions.

339. It is opposed to doubt, to fearfulness manifested in timidity or cowardice, and impatience which are often exhibited in shrinking from or declining difficult or dangerous service in the Lord's cause, as in the case of the friends of Paul respecting his going to Jerusalem, and those of Luther dissuading him from going to Worms. In Eph. iii. 20, the true Christian is represented as the recipient and instrument of Divine energy: "Now unto him that is able to do exceeding abundantly above all that we ask or think, according to the power (*dúnamis*) that worketh in us:" "worketh" is from *energeo*, to effect; to communicate energy and efficiency; as a participle, as here, energy in action, efficiently moving all the powers of the soul; and as the soul is of such a nature that it cannot be killed by material instruments, nor by any human means, Matt. x. 28; it follows that the energy so active within the soul must, like it, be invisible, immaterial, and spiritual, and superior to it, as magnetism is superior to the magnet which it pervades, or the life-principle is superior to the material body it animates. It must therefore be an invisible, immaterial, spiritual personal energy guided by intelligence and design, and operating in and through true Christians for the accomplishment of the grand purpose of God respecting the salvation of sinners for whom Christ died. Again, Paul desires that the Ephesians, iii. 16, should "be

strengthened with power (*dúnamis*) through his Spirit in the inward man." "Strengthen" is from *krataioo*, to grow strong, constantly acquire new power ; *i. e.* increase in Christian knowledge, in clearer conceptions of Divine truth, and in firmer convictions regarding the reality of the unseen, and in deeper personal experience of the abounding riches of Divine grace, Heb. vi. 1, 11.

340. This mental, moral and spiritual development of the interior man—the soul—through the constant inflowing of the energy of the Holy Spirit to co-operate with the loving, obedient efforts of the possessor, in order that Christ may dwell in the heart, that the soul may be rooted and grounded in love, that it may understand more and more of the inexhaustible nature, extent, richness, and fullness of Christ's love until it realizes all the fullness of God the Father. Every Christian should through loving and believing co-operation with the Holy Spirit be so filled with Divine light, truth, love, holiness, and bliss, as to become, in his finite nature, like him, and shine in the glory of the Divine image even here, preparatory to the greater glory that awaits him. To do this, the gifts of thought, of speech, and activity must be sanctified and trained for usefulness in the Master's service : also the personal graces, such as become, not a fashionable dude, but a Christian lady and gentleman ; and let these be crowned with a holy life within ; this will surely be the result of personal co-operation with the sanctifying, efficacious activity of the Divine energy constantly flowing into the soul, Eph. iii. 7.

341. This spiritual force emanating from the Holy Spirit as an inexhaustible fountain, is properly termed energy, and as moving the soul to activity it is termed

power, Rom. xv. 13-19. Hence Paul was pressed (*sunexo*) in spirit; literally, held together, held fast as a prisoner; figuratively, he was mentally distressed on account of the moral and spiritual condition of the Jews, his mind and heart were painfully affected through an anxiety to preach the Gospel to them. As powerful constraint acted on the body, so the spiritual condition of his people acted upon his mind. In II Cor. iii. 6, 8, the Spirit giveth life through a knowledge of the design, the end, and the meaning of the Gospel; which is emphatically "a spiritual dispensation, administered by the Holy Spirit, giving life to the soul—the inner man." These, and many other passages, express the spirit-force that is ever active, influencing, purifying and directing all the highest functions of mind and spirit with respect to moral and spiritual relations sustained to humanity and divinity, to the here and the hereafter. The first Godward thought, the first penitential tear, the first Christward sigh, the first broken accents of prayer, are evidences of the presence and activity of the energy of the Spirit, as much so as when Paul exclaimed—"I have fought the good fight," etc.—"Thanks be unto God who giveth us the victory," etc. Wherever the Holy Spirit acts he is; and where he is, he exerts his spirit-energy for the good of fallen man. "Because I live, ye may live also; but without me ye can do nothing"—are perfectly helpless and hopeless.

342. Let us look for a few moments at John i. 4, and vi. 63. Here Christ is set forth as the fountain of all life-force, especially moral and spiritual—the crowning glory of human creation and redemption. And this life-force is the means of mental illumination, and spiritual

knowledge to men. In the latter passage, the words of Christ "are spirit and they are life;" that is, they are the medium of the Divine ideas and of the Divine Spirit-force that quickens the dead soul into spiritual life. What the telephone wire is to sound the meaning of Christ's words are to the causes of spiritual life—the Divinely appointed and conditioned medium. God is the inexhaustible source and ever-flowing fountain of both spiritual light and life. And when the spiritual meaning of God's message to man is correctly understood, believingly received, and lovingly obeyed, it results always in spiritual life and vital union to Christ. What the body is to the soul, so the verbal word is to the spiritual meaning which it embodies. What natural light is to the bodily eye, so spiritual truth is to the human spirit. What animal life is to the material body, so spiritual life is to the soul. The immaterial and intangible natural light-force beautifully represents that higher spiritual light-force only recognized by the spirit-vision; for God is only visible in his own light. To expect to see God in his word without the aid of the Holy Spirit is as wise as to expect to see the telescopic stars without removing the cap from the instrument!

343. When the Divine spirit-force of which the Holy Spirit is the channel between the Father and the sinner is cordially welcomed into the soul, it imparts a spiritual vitality, Phil. ii. 13; Eph. ii. 1, 5; Col. ii. 13; its spiritual organs and functions starts into new activity, and are purified, expanded, elevated, invigorated, and refined; its faith-vision immediately recognizes more distinctly its relations, obligations, responsibility, and accountability, and perceives them invested with

momentous importance ; and beholds with exalted interest the nature, character, forbearance, long-suffering, and the compassionate love of God.

344. This Divine spirit-energy, force, or power in all its variety and extent, is perfectly adapted to all the necessities of the soul, whether escaping from the slavery of sin on the one hand, or fighting its way to eternal glory on the other. The worst cases of soul-darkness, doubt, despair, and spiritual death are within the sphere of its Divine activity, to give all needed light, purity, confidence, and hope. It stimulates the understanding to seek after Divine knowledge, the judgment to decide righteously in the fear and love of God, the affections to go out after holy objects, the rebellious will to yield prompt and loving obedience. It stimulates the moral faculty, quickens and purifies the conscience. It produces an intense longing after all the fullness of God. *Psa.* lxiii. 1 ; cxix. 20.

345. This spirit-force or Divine energy blends so delicately with human-force or energy that it really appears to be all human. The former, like magnetism, is both attractive and repellent. It attracts whatever is like its own nature and tendency—the holy, the Godlike ; or whatever has a tendency to spiritual life. It is repellent of whatever has a tendency to the impure, the unholy, and the devil-like. Like cohesive force it binds like to like regardless of position, wealth, and poverty. Like chemical affinity it binds in one brotherhood the different nationalities and colors of humanity the world over. Its presence is known by faith, love, hope, and holy activity. Its highest complete assimilation to God's likeness. *Psa.* xvii. 15.

346. This spirit-energy is secured from the Father for

sinful men by and through the Redeemer, John iii. 16-17; xiv. 26-27; xv. 26; xvi. 8-11; it is embodied in the Holy Spirit, who directs, controls, and sustains it. Imparted to man, it produces sensibility, activity, and knowledge. Its entrance into the soul is like turning the full focus of an electric light on all the mental and moral activities thereof. It adds a new power to the mental and spiritual telescope, that reveals new wonders, new beauties, and new glorious objects in the far distant regions of the once invisible realities. It adds an additional power to the soul's moral microscope that clearly reveals an indefinite number of little blessings unthankfully received, of little acts of unkindness that cannot be undone, of little sins that excite the blush of shame, of little caustic words that cannot be recalled. It moves the soul up to a spiritual Pisgah, from which it can by faith survey the vast possessions of the future to which it is heir. And there it becomes entranced with the kaleidoscopic character of what God has in reserve for those who love him, and it exclaims in holy ecstasy—"Nearer my God, nearer to Thee," Psa. cxxx. 6; cxli. 1.

347. All Scriptural worthies have testified to the reality of that invisible substantial spirit-force or energy of Jehovah that sustained them, especially Noah, Abraham, David, Elijah, Daniel, the three Hebrew children, the Saviour and Saul, and hosts of others.

CHAPTER XXVI.

THE GREEK TERM DUNAMIS.

348. This is one of the most important terms in the New Testament and deserves to be very thoroughly understood. Its definition is beautifully natural, very comprehensive, and complete ; it is admirably adapted to show the intimate relation that exists between the physical, vital, mental, and spiritual forces ; and these again as related to, and directed and controlled by, the Trinity in Unity in the scheme of Redemption. Each specific member of the definition is related to the generic term, power, as each child in a family is related to the parent. We now turn to the definition of the term as applied to the Father, Son, and Holy Spirit in the New Testament.

349. *Dúnamis* signifies faculty, ability, energy, power and strength, efficacy, authority. This definition implies an organized, intelligent person or being, who is a source of energy which manifests itself in power or force ; a cause which produces effects. As applied to God, it implies a Supreme Being, having an organized, immaterial, substantial, spiritual personality—the creator, upholder, and controller of the material universe, and Supreme Moral Governor. This is all clearly and necessarily implied ; and as necessary to a correct understanding of the term as the foundation is to the superstructure. Though the primary meaning is power directed by intelligence for a given purpose, I shall

take the definition in the order here given, with a few proof passages appended.

350. Faculty is a power derived from an organized intelligent being, having a substantial form of some kind, as in the case of man, who is endowed with the faculties of seeing, hearing, feeling, thinking, reasoning, etc. As applied to God, the Creator, and the Father of mankind, it implies the possession of similar essential faculties adapted to his Spirit-nature, only unlimited in their nature, both in degree and perfection. Matt. v. 18; vi. 30-34; xxv. 34-40.

351. Ability has reference to the active exercise of the faculties. It always supposes something to be done, and the power of doing it. As applied to God, it is expressive of his capability of exercising all the productive attributes of his infinite nature in doing all possible things in the best possible manner, so as to merit the designation "very good." Gen. i. 25; Matt. vi. 6, 8, 30; vii. 11; xxv. 16; iii. 9.

352. Energy is a capacity for acting, or producing an effect; and is expressive of all those physical forces in nature, as light, heat, sound, electricity, magnetism, cohesion, etc. As applied to God, it comprehends all forces in the material, immaterial, and spiritual worlds; all of which are laid under contribution for the welfare of his own children; as, in the deliverance of his people from bondage, the vindication of Moses during the rebellion, the deliverance of Daniel and his brethren, the rescue of the apostles from prison, and the healing of the sick and the raising of the dead. But the highest manifestation of moral and spiritual forces is exhibited in the salvation of sinners. Col. i. 29; II Tim. i. 7.

353. Power is applied energy or energy in action,

and the cause of motion in the material, immaterial and spiritual realms. As applied to God, it specially refers to his omnipotence in upholding and controlling all things in each of these departments, Rom. i. 16; I Cor. i. 18, 24; iv. 20; Phil. iii. 10; I Thess. i. 5; II Tim. iii. 5. Strength, or the power to resist force, is specially applicable to animated nature.

354. Efficacy, literally effecting or accomplishing what is desired or intended. As applied to God, it has reference to the grand results of all the combined means employed by the Trinity in Unity, especially in the moral and spiritual departments of His vast empire. I Cor. iv. 19, 20; Phil. iii. 10; I Thess. i. 5; II Tim. iii. 5.

355. Authority may be parental, civil, moral or spiritual. It should always be founded on right, and based on the law of God, who is the source of all law that bears the imprint of His goodness, His power and His wisdom. As applied to God, the Revealer of the Scriptures, it regards him as the Supreme Source of all laws in the universe, but particularly of moral and spiritual laws of which he is the administrator. Matt. iv. 36· ix. 1; xxvi. 64; Mark xiv. 62· Luke xxii. 69.

CHAPTER XXVII.

SATAN AS A SOURCE OF WICKED SPIRITUAL ENERGY
OR FORCE.

356. Satan as a proper name occurs in the Old Testament four times, Job i. 6, 13; ii. 1; Zec. ii. 1; Chron. xxi. 1. The term at first meant simply an "adversary," as in I Sam. xxix. 4; I Kings v. 4; Psa. cix. 6, etc.; in Matt. xvi. 23, its original sense is still found. Satan in the New Testament is termed *Diabolos*, the primary meaning of which is confined to the act—the endeavor to break the bonds of friendship between others and to set them at "variance;" the secondary meaning includes both the act and the instrument by which the act is performed—by slander: hence the full meaning of the term is, to endeavor by slander to break the bonds of friendship between others and to set them at variance. The name *diabolos* is therefore aptly descriptive of the nature of Satan—an accuser, a calumniator and a slanderer.

357. There is, strictly speaking, but one devil. He is called the "God of this world," II Cor. iv. 4; Eph. vi. 12; Prince of the power (*exsousia*) of the air, Eph. ii. 2; the Power (*exsousia*) of darkness, Luke xxii. 53; Belial, II Cor. vi. 15; the Father of lies, John viii. 44; Beelzebub and Prince of demons, Matt. xii. 24-6; xxv. 41; Rev. xii. 7, 9; an Adversary, I Pet. v. 8; an Accuser, Rev. xii. 10; a Murderer, John, viii. 44; the

Tempter, I Thess. iii. 5 ; a Spirit, Eph. ii. 2 ; and a Serpent, Rev. xii. 9 ; xx. 2.

358. If language means anything, all the above terms combined unmistakably express an immaterial, substantial, though invisible, fallen spirit, having a spiritual-organic personality, of superhuman energy, intelligence and power ; and of superior mental attributes and organizing capacity, of vast experience, and of untiring and bitter hostility to God and man.

359. The personal existence of a spirit of evil is clearly, though gradually, revealed in Scripture from the first temptation of Adam and Eve in Eden. Humanity should have received and profited by the information. Though Satan's subordination and inferiority are clearly expressed, the New Testament represents him as having a vast empire, ceaseless activity, great ambition, ferocious daring, I Pet. v. 8, and terribly destructive influence. The whole description of Satan's personality shows that he is independent of material conditions. Matter in any form, living or dead, does not hinder or impede his movements ; nor is he affected by the physical forces, as gravitation, heat, electricity, etc.

360. The general object of Satan is to break the bonds of communion between God and man, and the bonds of truth and love which bind men to each other, in order to rob God of his glory and man of purity and happiness here and hereafter. The slander of God to man is best seen in the words of Gen. iii. 4, 5. He attributes selfishness and jealousy to the Giver of all good ! The slander of man to God is illustrated by the book of Job i. 9-11 ; ii. 4, 5. He is thoroughly double-faced, and he has many agents, some professedly Christian, that closely copy his example.

361. Satan's usual method of attack on mankind is by temptation to sin. Hence the advice: "Resist the devil, and he will flee from you," James iv. 7; "Whom withstand steadfast in the faith," I Pet. v. 9. He may and will tempt to sin, but force to the commission of it he cannot.

TEMPTATION.

362. To tempt is to entice, to solicit, Gen. xxxix. 1-20; Jud. xiv. 15; James i. 14; to put to trial, to test, to prove, Gen. xxii. 1; to incite, to instigate, to suggest, I Chron. xxi. 1; Luke iv. 13; John xiii. 2; Acts v. 1-6. Sometimes Satan tempts directly himself, at others through his agents, as demons, fallen spirits, or wicked men, and specially false Christians—the most dangerous of all human tempters to young Christians. The devil uses them as the sportsman uses his decoys. He also acts through the senses and external objects, as well as the appetites, passions, propensities, and temperaments, as in the case of Eve, Gen. iii. 6; Samson, Judges xvi. 1; David, II Sam. xi. 2; and Judas, Matt. xxvi. 15; James i. 14.

363. Satan marshals all his forces at the most vulnerable points of human nature; here he gains his most numerous and lamentable victories. Here fathers and mothers, husbands and wives, sons and daughters, legal luminaries and pulpit orators, the victorious general and the mighty king, have fallen before his fearful, insidious, carefully timed, though invisible onsets, and the moral battlefield is red with the blood of the slain, and pestilential through the decomposing carcasses of the dead. Whisky, lust, pride, fashion, infanticide, ambition, and hypocrisy have slain millions.

364. The devil's intelligence is superhuman; his malice, or spiteful disposition to injure others is very great; his jealousy and rage are equal to his malice, and his vigilance is untiring. Hence the momentous import of the Divine precept—What I say unto you, I say unto all, Watch, Mark xiii. 35–37; Watch and pray that ye enter not into temptation, Mark xiv. 38; that is, secure Divine energy to assist you against so powerful a foe; for without me ye can do nothing, John xv. 15. There is a volume of paternal solicitude and Divine love in the above councils that I have never realized as I now do. They could only be the outflowing of infinite love.

365. The ideal of goodness is made up of the three great moral attributes of God—love, truth, and purity or holiness; the opposite of these qualities characterize the devil and his agents, John viii. 44. Take this fact in connection with another momentous one—that every sin committed increases in the spirit of man a positive tendency to evil for the future, which increases sympathy with, and aids the temptation of the evil one; and this tendency co-operating with the persistent tempting energy of Satan thus binds fast the sinner, as a slave, with chains voluntarily forged by himself, with Satan's invited assistance, so that nothing short of the infinite perfections of the Divine Trinity, exercised through the sacrificial death of the Son of God, can possibly set him free. John viii. 34; Rom. vi. 16.

366. New Testament proof is abundant of the malicious nature of the energy of Satan exerted for the destruction of all good and the production of all evil, in order to ruin the souls of men that God designed for companionship with himself in holiness and happiness.

367. In Luke xxii. 53, Christ said to the Jewish priestly authorities that went to arrest him: "This is your hour, and the power (*exsousia*) of darkness." This is not only the time in which you are permitted to exercise and exhaust your own malice, but also that of the power (*exsousia*) of darkness. This Greek word *exsousia* is from *exsestí*, and signifies, it is possible; it is permitted; it is lawful. The root-word strongly implies two or more personalities: one superior, and the other inferior; one the source of power, and the other acting by permission by delegated power. It occurs in the New Testament about sixty-six times, and in about sixty instances it implies or expresses inferiority or delegated power. In other respects *exsousia* is mainly the same as *dúnamis* with respect to energy, faculty, ability, power, and efficiency, but with the prevailing idea of inferiority as to its source and control. Hence man being created a free moral agent, his will was self-determining and self-executing within finite limits, and therefore his exalted personality, akin to Deity, necessarily exposed him to the possibility of temptation, and which was, for wise purposes, permitted.

368. In Acts xxvi. 18, Jesus said to Saul, "I will send thee unto the Gentiles to open their eyes, that they may turn from darkness to light, and from the power (*exsousia*) of Satan unto God;"—"open their eyes," excite their mental faculties in favor of Divine truth; "darkness," the mental, moral, and spiritual ignorance induced by heathenism; the mental, having reference to non-recognition of the Creator's activities in his works and providences; moral, referring to the moral law as expressive of man's moral relations, obli-

gations, and responsibilities; spiritual, to an absence of that knowledge that can only spring from holy communion with the Divine Trinity. "Darkness" includes not only degrading ignorance as the cause, but also the effect—the vice, misery, and hopelessness resulting therefrom. "Power," has reference to the degrading subjection of mind and heart to self-will and the service of sin and Satan, Rom. vi. 16, 20; II Pet. ii. 19. In Col. i. 13, this spiritual energy is called the "power (*exsousia*) of darkness;" that is, the energy of Satan is exerted as power, authority, and rule of evil spirits and wicked men. He was the author of the rebellion in heaven and the originator of moral and spiritual ignorance and the consequent vice and misery among men, II Pet. ii. 4; Jude 6; Rev. xx. 5; Matt. xxv. 41. The absence of physical light is darkness to the organic visual organ; so the absence of mental, moral, and spiritual knowledge is darkness to the spiritual visual organ—Christian faith. The term *phos* signifies, light, radiance; the meaning of Divine truth transferred to the mind, spiritual illumination. *Phaneroo*, to make manifest, visible to the eye, to make known to the mind, Eph. v. 13, where these terms are used. "For everything that is made manifest is light;" that is, by the agency of light material things are rendered visible to the bodily eye, so the meaning of divine truth conveyed to the mind and conscience by whatever agency is light—the medium of communication with the human spirit. While darkness conceals the nature, variety, magnitude and beauty of the myriads of material objects by which we are surrounded, light reveals and manifests them. As darkness conceals the many beauties of material objects, so ignorance conceals

the nature, adaptation, intrinsic value, and glorious character of spiritual things.

369. In Eph. ii. 2, it is said that the physically living while spiritually dead conducted themselves in harmony with the principles and practices of the age, and the "chief, prince, or ruler of the powers (*exousia*) of the air (that is, of the dominion of evil spirits whose abode is the air), of the spirit that worketh in the sons of disobedience:" "worketh," is from *energeo*, to exert one's energies, to impart energy, to operate, to render active, to effect something. This passage shows the constant diligence of Satan in the work of destruction.

370. The devil as a tempter operates by his spiritual, malicious, persevering energy on the human soul in an inconceivable number of ways, always watching for the weakest place—the most vulnerable point; sometimes approaching disguised as an angel of light, and at another, as a roaring, ferocious lion. He suits his attacks to all the varieties of temperaments, constitutions, conditions, and circumstances of his coveted victims. On the appetites and passions, the will's solicitors, he ever keeps a watchful eye; because the will, being the executive power of the soul, was designed to be the director of motives and the controller of appetites and passions. There is abundant reason for the apostle's exhortation in Eph. vi. 11, 12, 13. For so appalling is the devil's malignant, subtle, invisible energy by which he seeks to destroy humanity, that ceaseless watchfulness, determined and unyielding resistance, with constant believing prayer for Divine assistance, only can save us from the octopus-like clutches of so powerful, so cunning, so deceptive and invisible an adversary.

371. Perhaps the spiritual energy or force of Satan as exerted on the souls of sinners may be best illustrated by an expert mesmerist, who is the source of a remarkable amount of animal magnetism, through which he affects the bodily organism and controls the thoughts and actions of his subjects. Perhaps the finest illustration of spiritual energy or influence yet known is that of magnetism as manifested by a good magnet.

372. A graphic illustration, in part, of the "wiles" and "depths" of Satan is seen in the jugglery of the so-called Spiritualist. See Luke xxii. 3, 31; John xiii. 2, 27; Acts v. 3; II Cor. xi. 14, 15; xii. 9.

373. If Satan's subjects, or agents, have such great knowledge and power as set forth in Matt. viii. 31; Mark v. 12; Luke viii. 29; Rev. xvi. 14; xviii. 2, is it not reasonable to infer that their prince possesses similar, if not very much greater knowledge and power?

A large number of persons have testified to the reality of an invisible, substantial spirit-force or energy of the devil. Examples are Cain, David, Jonah, Judas, Pilate, and innumerable others.

THE DEVIL'S AGENTS.

374. They are demons, or fallen spirits, akin to the angels in their immaterial nature, intelligence, and spiritual energy, but which are employed in positive and active wickedness. Matt. xxv. 41; II Pet. 2, 4; Jude 6.

They are very numerous, and, being immaterial, they sought, in Christ's day, their favorite abode in organized animated matter, both of swine and human beings,

though independent of all the conditions of matter. Mark v. 9, 12; Luke viii. 30, 32, 33.

They believe in the power of God and tremble. James ii. 19.

They recognize the Saviour as the Son of God. Matt. viii. 29; Luke iv, 41.

They acknowledge the power of Christ's name in exorcism. Acts xix. 15.

They had fearful forebodings of coming judgment. Matt. viii. 29.

The advance guard of Satan's agents consists of false religionists, of whatever name, who substitute the traditions of men for the commandments of the living God. Then comes the vast army led by the devotees of fashion and pleasure.

CHAPTER XXVIII.

INSTINCT.

375. Instinct, a natural impulse, an unreasoned prompting, is manifested by the ant in providing its winter supplies; by the bee in constructing its cell; by the beaver in building its dam; by the bird in migrating to a milder climate; by the young of animals in seeking the breast of the parent; by the bird that builds its nest and hatches its young; by the parent bird in affecting to be crippled in order to protect its young; by the spider in weaving its web to catch its prey; by the infidel when appalled by immediate danger he instinctively calls upon God for help.

The Creator does not mock the lower animals; as a rule, they invariably realize the object to which their instinctive activities pointed. If He thus takes care of animals and remembers even the hairs of our heads, will he mock our intense longings after another life when this closes? Shall all our aspirations with respect to the future be disappointed? If the bird instinctively flies south, it is because there is a south that awaits it; if the new-born babe instinctively turns to its mother's breast, it is because there is a supply of appropriate food provided. So it is with respect to our spiritual longings and aspirations; there is a corresponding provision made for them.

CHAPTER XXIX.

WHY ROB GOD OF A BEAUTIFUL FORM?

376. Rev. Prof. John Campbell, LL. D., in his opening lecture at the Presbyterian College in Montreal on October 2d made this emphatic statement: "There is darkness in the world, but it is not of God; there are curses loud and deep, but the Father blesses." "Too long, through imperfection of human thought and speech, has the Father been clothed with attributes foreign to His holy nature. We want new Luthers, as deeply convinced of satanic workings as if he held the arch-enemy bespattered with the contents of the ink-horn. Justice will never be done to God until the devil has his due in our apologetic systems, our pulpit ministrations, [and] our common thought and daily life."

This statement is worthy of being printed in letters of gold and placed over the mantle in every Christian home. The professor's statement is a fit introduction to the next subject in alphabetical order—the Christian's God as revealed in the Holy Bible. All I ask of my readers is a prayerful and thorough investigation of the subject in the light of the facts already made known in this Philosophy in connection with the passages of Scripture referred to.

THE CHRISTIAN'S GOD OF THE BIBLE IS THE GOD AND
FATHER OF OUR LORD JESUS CHRIST, AND
THE FATHER OF HIS PEOPLE.

377. Our Father-God is *not that shadowy, ghostly indefinable something* that so many believe him to be. God is *Light*, is a *Spirit*, is *Love*, is a *Shield*, a *Rock*, and a *Father*. These terms are very comprehensive, and give us a remarkable set of ideas about God. A simple child can grasp them, and a philosopher cannot exhaust them. A revelation is to make manifest to the understanding the necessary knowledge needed by a dependent and obedient child. I maintain from personal experience and prayerful study of the sacred Scriptures that this necessary knowledge has been abundantly revealed so that he that runneth may read; for "The law of the Lord is perfect, converting or restoring the soul: the testimony of the Lord is sure, making wise the simple," Psa. xix. 7 with II Tim. iii. 16, 17. By prayerful searching or diligent inquiry the sinner may learn all that is necessary to induce him to believe, love, and trust the Holy One who comforts more tenderly than the most affectionate mother; to enable him to do his Heavenly Father's will and pass triumphantly through this world to one of blissful immortality. Man not only lives, and moves, and has his being in God, but all his constitutional attributes, mental, moral, and spiritual capacities and powers, are abundantly provided for in the Revelation of God to man, even should he live a thousand years instead of threescore years and ten. John vii. 17; James i. 5.

378. Every object in Nature represents a materialized thought that once existed as such in the mind of the Creator, and is designed to be an object-lesson for our

careful study and mental elevation, Rom. i. 20; xv. 4. Indeed universal humanity possesses an innate idea or an intuitive conviction, an instinctive consciousness of a Superior Being, the Creator and Upholder of all things, who is able to help the needy; or why in the presence of sudden and appalling danger is there an instant cry for Divine help?

God has so constituted the human mind that by virtue of its own activity, in a normal and healthy state, it perceives that there is, and must be, a cause of all existing things, and that such a cause is itself uncaused. The senses and reason deal with matter and things that surround us; but these are effects, not causes.

379. I do not believe that a normally thinking man ever was, or ever will be, a genuine atheist. He has two natures, a mental and a moral. Between these there will ever be a conflict until the Holy Spirit is welcomed to His rightful place in the soul in regeneration. It is true, that the "fool hath said in his heart, there is no God," Psa. xiv. 1; "fool," from *naval*, foolish, insensible, impious. But why does the sinner say so in his heart—his affections, his emotional moral nature, the seat of his likes and dislikes, of love and hate? Because he dislikes, or refuses, to retain the thought of God in his mind, Rom. i. 28.

380. "Our physical senses, imperfect and limited as they are, satisfy us of the existence of material things. None the less do our mental faculties assure us of the existence of a supreme, intelligent, first cause. But men generally, who dislike Bible truth, or are ignorant of it, form their conceptions of God and the attributes they ascribe to him after their own ideas, sentiments, and

character. The mind can attribute to God no quality of which it has no conception, and will attribute to him such qualities as predominate in itself. Hence the vast difference in the character of Deity as conceived by the lowest savage, by the civilized pagan, and by the cultured Christian" (Prof. Klephart).

381. "Is it rational to believe that the Infinite Mind, unlike all created and finite minds, occupies no visible medium or form, and has no residence other than infinite space?" To me it is wholly irrational. "Indeed it is hardly possible to conceive of a mind, whether finite or infinite, that dwells in no tenement whatever and that has no organs of vision, speech, or hearing."

382. "It is an accepted tenet of Christians that God is a substance, as the Nicene Creed, drawn up in A.D. 381, taught that Christ was one substance with the Father, but the subsequent tendency of theological science has been so much in the direction of spiritualistic interpretation of everything concerning the Infinite God that any proper idea of substance, as once held by the Church Fathers, has been very largely spirited away or almost entirely ignored by the world's most popular and influential theologians. But you say, Does not the Bible say that God is a spirit? It does; but it also says, That God is Love, is Light, and is a Rock; so is Christ called a Rock as well as Life and Light. You may have an image and likeness of the substance rock, but who can give us an image of pure spirit, of love, and of light? God is indeed a spirit, but he is just as really a substance—an immaterial substantial spirit" (Dr. Swander).

383. "Both experience and observation teach us that a present will, an emotional nature, with intellect

and a moral faculty, all together constitute true personality. Paul speaks of an 'inward man' and an 'outward man;' and in Heb. i. 3, God is represented as speaking to us by his Son, who is 'the express image of his person.' The word *charakter*, here translated 'image,' means not only image as the impression on a coin, or a peculiar mark of distinction; but also the peculiar nature and character of a thing. What that nature was we learn from the word rendered 'person,' *hupostaseos*, steadfastness, endurance, firmness, base, bottom, support, stay; it signifies the solid part of anything, as opposed to that which drains off—my body is as running water, compared with the rocky soul beneath or within. It means a real being as opposed to mere appearances, hence called, in our New Version, substance, as if all else were but shadow. Thus God is a spirit and also a substance" (Dr. Hamlin).

384. "We cannot conceive of a substance possessing the characteristics of personality that has no form and that is not concentrated more in some one place than in another. Hence we do not and cannot intelligently believe in the omnipresence of God as to his personality, but only as to the reach, and sweep, and all-pervading presence of his attributes, and all-powerful instrumentalities, such as the angels who are ministering spirits, sent forth to do service for the sake of them who shall inherit salvation—agents of Providence and ministers of grace.

385. "Our only conception of the worship of God is that he is an Almighty personality definitely located as to his personal presence, but capable of hearing our faintest whisper of prayer, recognizing the first penitential tear and desire for pardon, and who can, through

His all-pervading vision and intelligence, see the sparrow fall, or number even the hairs of our heads. This is the Scriptural God that meets all the wants of humanity made in His image. This God we are encouraged in that inimitable prayer taught by the Saviour to address as our Father. So that if our hearts are sad with suffering and sorrow, it is a comfort to appeal to a God who has a heart to feel for and sympathize with his wretched, suffering creatures. The human mind can only be satisfied with contemplating him as a Person, as a Father, as a Friend, and as a real Sovereign seated upon the real throne of the universe. Our ideas of his majesty and grandeur, as well as his wisdom and goodness, are enhanced by contemplating him as a definitely located Person, somewhat similar but superior, to Christ's glorified personal presence, with all-penetrating attributes, through which, and the immaterial forces of Nature, he exerts His power and supervises by His intelligence to the utmost bounds of creation.

386. "The sacred writer could scarcely have selected stronger or plainer language to justify our view of God's real personality than when he speaks of Jesus as the express (exact) image of his person or substance. The very idea of image necessarily implies form and confirms the view here taken that God is not without body, parts, and form. We doubt not that God Himself is a real personal being, of inconceivable beauty, definitely located as to His immaterial organized body in some central part of His dominions, where, upon His glorious throne, He sends forth through His attributes the messengers of force, power, and life, if not of providence and grace, to the utmost bounds of creation.

387. "But as man is God's offspring, by searching

man we can find out something about man's Father. For man has no attribute, no capacity, no power of any kind that is not derived from his Father, hence whatever of these we find in man in a finite degree, must exist in God in an infinite degree" (Elder Miles). Again, our higher reason convinces us that an essential attribute of spirit is ceaseless activity, and so far as we know this is an attribute of the human spirit; and whatever weariness is experienced, or rest required, or recuperation necessitated, is owing to the material organism which constitutes the medium of its activities with respect to the outer world. As made in the image and likeness of God, the spirit of man is, and necessarily must be, possessed of ceaseless activity and endless existence. The whole scheme of redemption presupposes a similarity of nature, faculties, and functions, in the Infinite Father and the finite offspring. If God does not possess a similar nature with all the essential faculties and functions of the human soul, how can there be that intelligent, loving, sympathetic communion with the Father that the true, devoted servants of God in all ages have found to be an accompaniment of that life of faith, obedience, love, trust, and hope that is hid with Christ in God? In harmony with Revelation I must believe that God possesses in an unlimited degree all the mental, moral, and spiritual faculties and functions found in the highest developed state of the regenerated soul, and that he exists in an immaterial organized, spiritual body, perfectly independent of material conditions, as gravity, etc.

388. "Jesus Christ was 'God manifest in the flesh,' 'the exact image of his person,' a finite manifestation of the invisible God. We must study Jesus to find out

God, and not heathen, nor infidel, nor material philosophy. We must study the Son to know the Father, for He is the visible image of the invisible God. I cannot conceive of God except as an organized being having form and parts. Certainly this is the Bible representation of God" (Elder Miles). When I think of my Heavenly Father, I think of Christ Jesus, the Son of God, glorified in His transfiguration, and extend that beauty, condescension, and glory illimitably, and that Divine personality I claim as my Father.

389. The Holy Scriptures plainly accord with this view of God's being our Creator and Father, and occupying an exalted residence in some appropriate locality. For Christ said to his disciples, "In my Father's house are many mansions"—"I go to prepare a place for you." The very idea of house, mansion, place, etc., implies a Personal Resident and a definite locality. When Christ taught his disciples to pray—"Our Father who art in heaven," he evidently meant to impress them with the idea that their Father, though in heaven, their final home, was deeply interested in their well-being here as His children.

390. "I cannot begin to conceive of a being capable of thinking, seeing, hearing, feeling, and materializing mental ideas unless he possesses the actual personality and faculties which we know to be necessary for such mental and physical acts on our part."

We therefore believe that the God of Revelation is a Personal, Substantial, Organized, Spiritual Being, having eyes, ears, hands, arms, vocal organs, etc., and located, as to His personality, somewhere in a definite part of the universe called "heaven."

391. The following beautiful illustration of how God

may be omnipresent while personally seated on his throne in heaven, is given by Dr. Hall, merely as an aid to our contemplations on the subject: "A bouquet of flowers might be definitely located upon the pulpit, and yet might be really present in every part of the largest church by the emanations of its substantial odor. The sun has a definite location in the center of the solar system, and is also substantially present throughout that system by means of its light and heat. So God may now be personally seated upon Alcyone, the center of the stellar universe, created and adorned for His residence, and from this shining, glorious throne, through His substantial attributes and wonderous ubiquitous forces of Nature, He may make His presence felt throughout infinite space: gravitation may be the medium of His power, electricity of His vitality, heat of His love, and light of His wisdom, and all these, with other substantial forces we know not of, may act as the real emanations of His personality, and in this substantial sense may He be omnipresent, while, personally, He may be only seated upon Alcyone's great central summit as the throne of the universe."

392. From a very careful, and I trust prayerful, investigation of this subject in the Hebrew of the Old Testament and the Greek of the New, I am compelled to believe that the Christian's God of Revelation is a substantial spiritual being; that he is the Living God, the inexhaustible fountain of all life, all wisdom, all love, all purity, and the infinite first cause of all things; that he is invisible and intangible to material sense organs; that he is infinite in all the attributes, powers, and capacities of his Divine nature; and that he possesses an organized immaterial body that justifies us in

calling him "Our Father"—a body somewhat similar in outline to the Saviour's glorified body, with all the parts, faculties, and functions necessary for originating, upholding, and governing his universal dominions, material, mental, moral, and spiritual; and that his immaterial body is transcendently symmetrical, beautiful, and glorious, clothed in light as with a garment, and too glorious for mortal eyes to endure, or Paul could have gazed upon the glorious luminosity of the Saviour without having the film-like covering of his eyeballs destroyed, and thus remain blind until the vital-force, under miraculous impulse, replaced them. No; mortal eye cannot gaze uninjured upon that which is brighter than the sun.

393. Though this article specially refers to God the Father, it equally applies to each person in the Divine Trinity, God the Father, God the Son, and God the Holy Spirit. I have purposely ignored all human creeds, and like Samuel, I have endeavored to carefully, prayerfully, and reverently inquire what God's thoughts are as expressed in language, and how they harmonize with those expressed in substance in the God-Man, Christ Jesus.

394. With respect to the Trinity, it seems to me that the Bible very clearly teaches that it consists of three separate and distinct Divine personalities, alike in nature—uncreated, immaterial, substantial, spiritual beings, self-moving, self-conscious, and self-manifesting, infinitely perfect in all their physical, mental, moral, and spiritual attributes; and that they choose to be harmoniously one in affection, one in design, one in purpose, and one in activity; and though each is infinite in all that constitutes personality, they affection-

ately unite in appropriate official limitations for the purpose of working out the highest good of fallen man through the scheme of redemption, which was originated by the Father, John iii. 16; made possible by the Son, John iii. 16; xiv. 16; Rom. v. 8; x. 9; and realized through the agency of the Holy Spirit, John xvi. 8; Rom. v. 5; II Thess. ii. 13.

I shall close this article containing the germ-thoughts of the most profound uninspired thinkers of the past, with a very few of the many confirmatory passages respecting the immaterial organism of Deity. The words to which special attention is requested are printed in *italic*.

CHAPTER XXX.

WHY ROB GOD OF A BEAUTIFUL FORM ?

395. GOD is a *person*: I am that I will be; having thought, reason, will, speech, power, and is self-manifesting—the ever-living God and infinite source of all life, and Creator of all things, Ex. iii. 14; iv; Gen. iii. 14–17; Matt. iii. 17.

Is a *social* being: And God said, *let us* make man [-kind] in our image after our likeness, Gen. i. 24; ii. 18.

(a) Has *form*: While my glory passeth by, I will put thee in a cleft of the rock, and I will cover thee with my *hand* while I pass by; and I will take away my hand, and thou shalt see my *back parts*; but my *face* shall not be seen, Ex. xxxiii. 21–23; Heb. i. 3; Col. i. 15; Phil. ii. 6; John xiv. 9–11.

(b) Has *vocal organs*: God *spake* all these words, saying, etc., Ex. xx. 22; xix. 3; xxiv. 12, etc.; Gen. ii. 16, 18; xviii. 26. Speech is the proper mode of spiritual manifestation. Thinking, feeling, willing, and acting proves the presence of spirit, and speech shows that which is thought, felt, willed, and done. As the Spirit of God is that which thinks, wills, and acts, so the spiritual *form* of God is that *in* or *through* which the Spirit speaks, and otherwise meets the observations of his intelligent creatures. The great points in which man resembles God are, *form, reason,*

will, speech, power, moral nature, and capacity for endless life, Gen. i. 3; iii. 8; ii. 16; Ex. xxxiii. 11; Matt. iii. 17.

(c) He has a *face*: Thou canst not see my *face* and live: "face," *paneħ*, face, countenance, *glory*. Ex. xxxiii. 20; II Chron. xxx. 9; Matt. xviii. 10.

(d) He has a *mouth*: I will speak to my servant Moses *mouth* to mouth, Num. xii. 8; Deut. viii; Isa. i. 50; Micah iv. 4.

(e) He has *eyes*: When I *see* the blood, I will pass over you, Ex. xii. 12, 13; Deut. xi. 12; Psa. xxxiv. 15.

(f) He has *ears*: He who planted the ear shall he not *hear*? He who formed the eye, shall he not see? "planted," placed, fixed; "formed," devised, delineated, fashioned, formed. We have here the thought, the mental delineation, the materialized model, and the living eye, Psa. xciv. 9; Ex. vi. 5; Deut. ix. 20; I Sam. viii. 22.

(g) He has *hands*: The tables were *written* on both their sides . . . and the tables were the *work* of God, and the writing was the *writing* of God, *graven* upon the tables, Ex. xxxii. 15, 16.

(h) He has *arms*: Thou hast a mighty *arm*, strong is thy hand, and high is thy right hand, Psa. lxxxix. 13; Job. xl. 9; Jer. i. 9.

(i) He has a *heart*: And it repented the Lord that he had made man on the earth, and it grieved him in his *heart*, Gen. vi. 6; viii. 21. "Heart," as applied to man, embraces his mental, emotional and moral nature, Deut. vi. 4, 5. Here it applies to God in the same sense, only man is finite, and God is infinite. His holy nature was grieved that the *conduct* of man had

placed Him under the moral necessity of punishing him. This passage should be studied in connection with Eze. xviii. 32, and John iii. 16. Also Num. xxiii. 19; Isa. xiv. 24; xlvi. 10; Mal. iii. 6; Eze. iii. 16-21; xxxiii. 11; Luke xii. 32. The word translated "repented" is *nacham*, (1) he grieved, lamented, etc.; (2) he repented, etc. This does not and cannot mean any change in the Divine nature, or of the principles of His moral government; but merely an obligatory change of conduct as Moral Governor toward impenitent sinners. Yet the language records real mental and emotional processes of the Divine spirit analogous at least to those of the human—actual facts respecting the substantial, spiritual personality of God, His freedom and holiness.

(j) He is a *Father*: Psa. lxviii. 5; Matt. v. 16; vi. 8; xxiii. 9; as a Father, He is merciful, Deut. iv. 29-31; loving, John iii. 16; sympathetic, Isa. lxiii. 9; faithful, Deut. vii. 9; all-sufficient, Deut. xxxiii. 25; II Cor. xii. 9; and has made ample provision for all his children, John xiv. 2.

These are only a very few passages that might be named in favor of our heavenly Father having an immaterial but substantial organized bodily form.

396. We have examples of Jehovah appearing to Abraham in material human form, Gen. xvii. 1, 22; xviii. 1-33; to Jacob, Gen. xxxii. 24, 28-30; xxv. 6-15.

We have a beautiful example of the immaterial, substantial spiritual body in human form in the risen Saviour, John xx. 19, 26; in which he ascended to heaven to appear before the face of his and our Father as our advocate and friend. In this glorified body in human form shall He return to call His loved and loving children home, where they shall see Him as He is, and be like

Him, Heb. ix. 24; I John ii. 1; iii. 2; Rom. i. 20. And why should he not thus appear in human form before the Father? Even the "outer man" is fearfully and wonderfully made; so curiously wrought by the Divine hand that centuries of physiological and anatomical research has not yet discovered in the normal human body a constructive defect, even in its sin-cursed condition. As a masterpiece of Divine workmanship, it was specially selected by the creative-Father as the material form in which His own beloved son, as the redeemer of man, should reside as a "brother," and for a space of about thirty-three years sojourn among us, and in and through which He should reveal and manifest the nature and character of His Infinite Father—or, in which He should uncover, unveil, disclose, and render evident to the senses the necessary attributes of the invisible and eternal God to fallen man. The "outer man" is capable of being the reservoir of amazing forces of which science can give as yet no satisfactory solution: as in the case of Mottero, who displayed his wonderful powers over nervous diseases in Paris in 1853; and Mrs. Abbott, an American lady, who exhibited such mysterious and amazing phenomena before the public in 1890, neutralizing the gravital-force of eight men, and the vital-force of six men. Though small in size the lady seems to be a wonderful reservoir of electro-magnetic force, combined with vital force, and the whole to some extent directed by mental force, with a completed circuit. It is characteristic of magnetism, under certain conditions, to neutralize gravital force within given limits; and of electricity to require free conduction. The electricity may become electro-magnetic through the life-forces

in the body. If such be the capabilities and possibilities of the "outer man" that is "decaying" day by day, what must be the capabilities and possibilities of the "inward man" that is daily renewed? II Cor. iv. 16.

397. Were the body perfectly transparent we should see microscopic particles of matter of various kinds adapted to various parts, selected and carried to their appropriate destinations by an invisible vital-force, to form, enlarge, repair bone, muscle, ligament, hair, nails, nerve, brain, etc. This vital-force is constantly active during an entire lifetime in selecting, appropriating, assimilating, and vitalizing whatever is required for each and every part of the body. Indeed so perfect is the human body in its sinless state, that it seems not unfit for the temporary abode of the Son of God, and the medium of the Father's manifestation to the wayward children of men.

398. Could we clearly see the constructive grandeur, the perfection of adaptation, the mysterious harmony of all its parts, including the vast network of nerve-lines, flashing thought-messages to and from the temple of the soul—the brain—we should be overcome with amazement and be ready to exclaim—the undevout anatomists and physiologists must be morally insane!

399. I will close this article with a very remarkable passage in II Sam. xxiii. 1-3: "The Spirit of Jehovah spoke by or through me; his word was on my tongue. The God of Israel said, the Rock of Israel spoke, or expressed thoughts to me, He who ruleth over man, is just, He cometh, ruling in obedience to God." Isa. ix. 6, 7; Micah v. 2; Matt. xxi. 1-9. I think the above rendering is very faithful to the original. "Spirit,"

rooach, when connected with Jehovah or Elohim, always signifies a Divine person of the same nature, equality, and duration. "Rock," *tzoor*, a refuge, shelter, protection; figuratively, the Messiah, or rock of our salvation, Deut. xxxii. 4, 15. "Rock" is characterized by solidity, stability, durability, and defense, and was highly prized by the Israelites as a shelter from the burning sun and the destructive storm; and as a refuge and protective fortress against their enemies. The passage represents that what the rock was materially to the needy Israelites, so Jehovah was to them physically and spiritually. The term indicates, as a central thought, the substantial and unchangeable nature of Jehovah, and his unalterable ability and readiness to protect all who shelter in him. "Ruleth over man." Ruleth, *moshall*, from *mashall*, to rule, have dominion, to possess power and authority; to be chief, wise, great; to teach, instruct, be a model of. How admirably this definition harmonizes with the nature and character of Jehovah, the Lord of the Old Testament, and the Messiah of the New; the Lord, ruler and model of his people. "The Just One," *tzaddik*, pure, just, upright, straight, equal as balances; from *tzadak*, to acquit, pronounce innocent. Here we have the nature and character of the Ruler, and the functions of the Judge; for the Father hath committed all judgment unto the Son, John v. 22, 27; Acts ii. 36; iii. 14; vii. 52; xxii. 14. "Fear," *yirath*, fear, reverence, love, obedience. Such fear became him who was our substitute, who bore the consequences of our sins in his own body on the tree; for as a man he could surrender his own precious blood and life as a substitute for our lives forfeited by sin; and, as God, he could

satisfy all the demands of a violated holy law, vindicate the character of the Lawgiver, and demonstrate the fact that the moral law was and is a reflection of the Divine Nature, and, as such, must forever remain untarnished by sin, and the penalty of its transgression must reverberate through the moral universe—the soul that sinneth shall die. Doubtless the Rock and the Just One mean one and the same person, and that person the Messiah, the Christ, the Anointed, who was the Divine Ruler of humanity, in a substantial though immaterial organic human form, changeable at will into a visible, tangible body, by the same power by which He multiplied the widow's oil, increased the loaves and fishes, walked upon the water, and changed the water into wine.

400. It is indeed impossible to conceive of a human personality apart from a substantial form. It is impossible for me to believe that God has revealed Himself unless in a way that I can form a possible conception of Him as an object of love, of worship, and of trust. This He has certainly and fully done, if we will only throw aside all prejudice, preconceived notions, and vain philosophy, and take Him at His word. I think of God the Father, as I think of Jesus Christ who revealed, manifested Him; there my anxious questionings are satisfied, there all my hopes center, and there I behold Him who was the brightness of the Father's glory, and the exact image of His person; and there I patiently await until called to see Him as He is, and be with Him where the wicked cease from troubling. Yes, it is enough; He has revealed Himself in a form, of all conceivable forms the one most lovely—that of a loving and forgiving Father.

CHAPTER XXXI.

SOUL.

401. I am fully assured, far beyond even the shadow of a doubt, that the Triune Authors of Nature, in all its varied and wide extent, were also the Authors of Revelation. No two wheels were ever made with more perfect adaptation, the one to the other, than were the Holy Scriptures designed and adapted to all the needs, longings, and aspirations of man, from the cradle to the grave, and the invisible world beyond. Let us see what the Divine Creators of man have to say about the nature of the soul, and how it harmonizes with our own consciousness. For I am convinced that the Biblical mine of moral, legal, religious, and scientific truth is by no means exhausted.

402. I cannot resist the conviction, notwithstanding all that has been written against it, that the Scriptures do express a distinction between soul and spirit, though both constitute one undivided, ever-enduring personality. Let us examine a few passages on this point. In Gen. i. 26, 27, the term "likeness" is from *damah*, which signifies likeness, resemblance, similitude, thought, purpose, meditation, imagination. This term appears specially to be expressive of Adam's mental and moral nature—a finite counterpart of his Creator's infinite mental and moral nature. "Image," from *tzelem*, signifying image, picture, representation,

shadow; implying that Adam's form was modeled after the substantial form of God, as to his real manhood—the "inward man," Rom. vii. 22; II Cor. iv. 16. In Gen. ii. 6 and 7, it is said: The Lord God . . . breathed into his nostrils the spirit of lives, and Adam shall exist a living soul: that is, an embodied spirit, a spirit speaking through an organism—a person. The "spirit," and the "lives" are two distinct entities; the former the source of the latter, and the latter the product of the former. Hence, I understand that the spirit in which inhered the moral likeness of Elohim, animated an invisible and intangible, but substantial organism perfectly adapted to all the activities of the in-breathed spirit, and the spirit residing in this invisible organism constitutes the living soul—the "inward man" of Paul, which is enrobed in an outer material garment—called the "outward man," II Cor. iv. 16.

403. The spirit is manifested in self-consciousness, perception, thought, reason, judgment, free-will, memory, reflection, and the moral faculty—in the apprehension of moral and religious truths, in the investigation of the relation of cause and effect as exhibited by the visible and invisible, material and immaterial entities of creation; in the exercise of Christian faith, love, trust, and hope with respect to the unseen and eternal realities. This I conceive to be the spirit's special realm of activity; for in this field human reason reflects the Creator as the dewdrop reflects light. But the soul, as such, acquires knowledge from the material world exclusively through the five senses, by observation, instruction, and experience, and is limited to material and sensuous objects; it is the seat of appetites, passions, and affections, in common with the lower animals.

404. In ordinary generation and development, the soul directs and controls all the vital forces and constructs after its own pattern an outer body of flesh and blood, like a closely fitting garment—termed the “outer man.”

405. Though God is a Spirit, he is also body, life, mind, and soul, *nephesh* (Lev. xxvi. 11, 30; Isa. i. 14; xlii. 1; Jer. v. 9), as well as spirit; and, as spirit, he thinks, reasons, wills, speaks, and acts, Gen. i. 3, 4, etc. The spirit and soul of man resembles, in a finite sense his Creator's, in self-consciousness, thought, reason, will, moral powers, speech, and activity. So far as we know, the spirit can only, personally and socially, manifest itself though immaterial but substantial and material organs, adapted to all its activities in the mental, moral, and spiritual domains.

406. The mind of man is adapted to physical, moral, and spiritual facts and truths, and to the investigation of the whys and wherefores in relation thereto. The sensuous perception is the connecting link between the world without and the soul or mind within, and furnishes information to the understanding; and the understanding informs the reason; and the reason informs the will; and the will chooses, determines, and resolves on what, how, and in what direction the soul-energy shall act, and whether it shall be for or against its own best interests. Hence man, in his threefold nature of body, soul, and spirit, is a rational, personal, and responsible being, having a capacity to live forever after leaving this corporeal body in which he has resided during his probationary career.

407. Spiritual beings existed before Adam; animal natures had been called forth from earth and sea; and man

had in part, on the human side, an animal nature related to the lower animals; but his spiritual nature on the divine side was in the image and likeness of his Maker. The spirit-life imparted to Adam by God Himself is said of man alone, for it was a finite part of divine energy in a personal form, which distinguishes his life from that of all the inferior animals, and fitted him to become the founder of a new race, next to the angels in rank, with higher privileges than they, and directly related to God, his Father and Friend, who constituted him a subordinate ruler of this material world.

408. This view of the soul and spirit seems to very beautiful harmonize with the old definition of soul—embodied spirit—as well as with express passages of Scripture, such as Luke i. 46, 47: “And Mary said, My soul (*psyche*) doth magnify the Lord. And my spirit (*pneuma*) hath rejoiced in God my Saviour: here the term “magnify” is expressive of bodily and lively external manifestations of gratitude for the Lord’s goodness in the presence of friends and neighbors; that is, the spirit was manifesting itself through the material organs; while the term “rejoiced” is expressive of an internal exalted spiritual enjoyment, and holy inspiring communings with her Saviour. The former called into energetic activity the highest organic functions of the soul exhibited through the natural body; the latter was the resident spirit’s heavenward communings, permeated with the tenderest love of a pardoned, trusting soul basking in the assuring smiles of a loving Saviour. In Phil. i. 27, the Apostle exhorts believers to stand fast in one spirit (*pneuma*) with one mind (*psyche*). I understand the former to have reference to the state of the soul, including motive, purpose, or design Godward;

and the latter, to mental activities respecting doctrines, duties, and obligations as Christians in the midst of enemies.

409. Again, Heb. iv. 12: "For the word of the God is quick and powerful, and sharper than any two-edged sword, piercing even to the dividing asunder of soul (*psyche*) and spirit (*pneuma*)," etc. This appears to mean that such is the silent, powerful, penetrating, searching, and revealing energy of the Holy Spirit that accompanies the divine word that it is like focusing an electric light on all the secret hiding places of the soul, revealing the entire man to himself with startling clearness, whether connected with the psychical or soul-body, or the higher functions of the rational spirit as manifested in reason, will, and conscience—the Godlike essence of the real man. The Apostle Paul says: "I pray God your whole spirit (*pneuma*) and soul (*psyche*) and body (*soma*) be preserved blameless unto the coming of our Lord Jesus Christ." The meaning evidently is, that all the spirit's powers and capacities specially concerned with man's moral relations, obligations, and eternal interests be kept in harmony with the will of God, as required by the first table of the law; and that all the mental and affectional activities of the soul in relation to our fellow-men be preserved in harmony with the second table of the law specially adapted to man's present material surroundings; and the living human body "considered as the seat and occasion of moral imperfection, as inducing to sin through its appetites and passions, must be kept pure as the temple of the Holy Spirit, Rom. vi. 12; vii. 24; viii. 13; xii. 1; I Cor. vi. 13-50; ix. 27. Paul desires that the entire inner and outer man be daily consecrated to God and alike holy to the

Lord. *Psyche*, soul, nowhere implies anything material, but is contrasted with the material body just as directly as the spirit is, Dan. vii. 15.

I think the above examples are sufficient to justify the idea that the Scriptures do make a distinction between soul and spirit.

410. The material organic body was endowed, like the seed-germs in the vegetable kingdom, with power to impart and continue its own spirit and soul-germ, infolding a latent self-conscious, self-moving, self-thinking, and self-developing, human personality, having an immaterial but substantial organic form, essentially an exact pattern of the material body called the "outer man." The spirit-personality was a finite emanation from Jehovah Elohim, Gen. ii. 7; and the immaterial substance of the soul-organism doubtless had the same origin. Spirit-personality seems to necessarily require substance of some kind through which to manifest its energy. Hence I believe that the soul-body exhibits the highest organic wisdom and the most artistic perfections of the Creators, who constituted it a perfect and beautiful instrument of the spirit, amid all the changes that await it, whether in the material body or out of it. There is a distinction between the organism and the outer body, as in Dan. vii. 15; and by the Saviour in Luke xii. 4, 5. "Be not afraid of them that kill the body, and after that have no more that they can do. But I will warn you whom ye shall fear: Fear him, who after he hath killed hath power [and authority] to cast into hell." The outer man may be imprisoned, chained and killed, but the dungeon has not yet been built, nor the chain forged, nor the weapon made, nor the fire kindled, that can confine, hold, kill,

or burn the inner man. All the hosts of hell aided by the infernal inquisition have failed!

411. There is a psychical, or rather a soul-body, and there is also a spiritual, or rather a spirit-body: I Cor. xv. 45; II Cor. v. 8; James ii. 26; I Thess. v. 23.

We will notice a few of the leading characteristics of the human soul on divine authority that harmonize with our self-consciousness.

CHAPTER XXXII.

SOME OF THE FUNCTIONS OF THE SOUL.

412. It—

1. Thinks : to think, consider attentively, meditate, Mal. iii. 16 ; Eph. iii. 20.

2. Receives : to receive, give reception to, accept mentally and morally, John xx. 22 ; Acts. i. 8.

3. Knows : experiences, understands, discerns, distinguishes, discriminates, Gen. iii. 7 ; Prov. xxxi. 23.

4. Understands : to understand, apprehend, have a knowledge of, Acts viii. 20.

5. Reasons : to contend, reason, convince, decide, determine, Isaiah i. 18.

6. Judges : to judge, sift, discern, examine, weigh, determine, Ex. xxi. 22 ; Jer. v. 28.

7. Remembers : to remember, keep in mind, regard as a memorial, Ex. xx. 5.

8. Chooses : to choose, prefer, desire, approve of, select, Job vii. 15 ; Josh. xxiv. 22.

9. Wills : to will, exercise the self-determining energy of the soul, determine, consent, acquiesce, John v. 40 ; vii. 17.

10. Reflects : to consider carefully what is past, review, Isaiah i. 3 ; v. 4.

11. Repents : to sorrow and regret for sins committed, a growing hatred of it, and turning from it, Isaiah lv. 7 ; Luke xiii. 3.

12. Believes : to believe, give credit to, receive mentally as true, heartily confide in, Acts. ix. 42 ; II Cor. iv. 13 ; Rom. x. 9, 10.

13. Loves : to love, value highly, esteem, feel a tender and generous concern for, delight in, Mark xii. 30, 31 ; Luke vii. 47.

14. Hates : to hate, greatly dislike, regard with ill-will, mental hostility, Lev. xix. 17 ; Psa. xcvi. 10.

15. Rejoices : to be lively physically, experience joy and gladness in a high degree, give outward expression to joy, Isaiah xli. 16 ; Luke i. 47 ; Ex. xv ; Isaiah xxxv. 10.

16. Grieves : to grieve, mourn, be mentally pained, afflicted, Jer. xlv. 3 ; I Sam. xv. 11 ; Dan. vii. 15.

17. Suffer : to feel pain of body or mind, endure loss, experience ill-treatment, Mark v. 26 ; I Pet. ii. 19 ; I Cor. iv. 12.

18. Is of great value : to be highly prized, of great importance and value, unspeakably precious, I Pet. i. 18 ; Mark viii. 37.

19. Is in great danger : to be liable to the penalty of sin, be in danger of hell, be exposed to damnation, Matt. xxiii. 33 ; Mark iii. 29.

20. Fears : to have a painful emotion respecting real or supposed danger, be afraid, terrified, alarmed, Prov. i. 26, 27 ; Ex. xv. 14-16 ; Isaiah ii. 10 ; Heb. x. 27.

21. Is in bondage : slavery, servitude, Gal. iv. 3 ; II Pet. ii. 19 ; Rom. vii. 14.

22. It has been redeemed : to redeem, buy back, ransom, rescue, deliver from the bondage of sin and its penalties, Isaiah liii. 4 ; Matt. xx. 28 ; I Cor. vi. 20.

23. It is capable of conversion : conversion is the result of a divinely implanted life or quickening-force

which produces motion—a turning about, a turning toward God, from sin to holiness, Matt. xviii. 3; Acts iii. 19.

413. 24. It can exercise saving faith : There are two kinds of faith, one a mere mental act, as faith in our own senses, in the laws of Nature, for example, as the rising of the sun and the return of the seasons; and in historical facts, as that Plato once lived and that Christ was born in Bethlehem ; but this faith is a mere mental act ; it does not include the heart and therefore does not reform the moral life ; while Christian saving-faith embraces the intellect and the affections, and consists of a firm persuasion that Christ died for me ; an assurance that I have passed from death unto life ; a firm conviction that I am a child of God, and a steadfastness in such faith respecting all the promises of God ; it is the evidence of substantial realities not seen. Mental faith—John x. 38 ; xiv. 11 ; iv. 42. Saving faith—Acts xvi. 31 ; Rom. x. 9 ; Heb. x. 39 ; xi. 1.

25. It is capable of holiness : that is, separated from sin, dedicated to holiness of heart and life ; consecrated to God and his service ; pure in body, soul and spirit. Rom. xii. 1 ; vi. 12, 22 ; I Cor. vi. 20 ; II Cor. vii. 1 ; I John v. 18 ; Heb. xii. 14.

26. It is defiled by sin : to stain, tinge, color, defile become filthy ; morally wicked, shameless, abandoned, Titus i. 15.

27. It can come out of, and enter into, the body again, I Kings xvii. 21.

28. It does not die but departs from the body : Gen. xxxv. 18 ; Luke xxxi ; II Pet. i. 15.

29. It is liable to be lost : Matt. x. 28 ; xvi. 26 ; Luke ix. 25 ; Matt. xxiii. 33 ; John v. 29.

30. It may be indestructible : John x. 28 ; viii. 51 ; Rev. xxi. 8 ; xx. 10 ; Matt. x. 28.

31. It is capable of immortality : Luke xx. 36 ; I Cor. xv. 53 ; Rom. ii. 7.

Man lives and moves and has his being in God, and consequently is accountable to him for all purposes formed, all words spoken, and all deeds done.

414. From a survey of all the above passages, and many others not named, we are forced to the following conclusion : That the real man, the "inward man" is an immaterial, invisible organism, animated by a personal spirit, self-conscious, self-moving, and self-developing, called a "living soul," and having essentially a human immaterial form, with all the necessary members, organs, and faculties to constitute an "inner man," intelligence, reason, affection, memory, imagination, a moral faculty, conscience, and a consciousness of self-identity amid all changes of the outer body during its lifetime, and is thus constituted a human personality, a finite counterpart of the Infinite God, and the subject of moral and spiritual relations, obligations, responsibilities, and accountability. Such I believe is a faithful epitome of Bible-teaching with respect to the real immaterial, substantial inner man—the living soul—made in the image and likeness of God.

415. I am pleased to find the above views of Bible-teaching substantially confirmed by that thorough student and independent thinker, the celebrated Dr. Joseph Wild, in his comment on I Cor. xii. 10. He says : "The soul is the dwelling place of the spirit, as the outward physical body is the dwelling place of the soul." (*Canadian Advance*, p. 138, Jan. 7, 1891.)

416. Though the bodily eyes cannot see the soul de-

part from the body at death, no more than they can see the air we breathe, or the steam that moves the piston, or the electricity that carries the telegraphic message, or the magnetism that lifts and holds suspended a massive block of iron, or the gravital force that pulls down the mighty destructive avalanche ; but the immaterial and substantial soul is as really present as an organized personality as are the forces of nature, and alike the object of faith.

417. The bodily eye is necessary to visual perception of an external object, as a horse ; and the mental reality of the horse is based upon our faith in the normal condition of the organ of vision. The mental or soul-eye is necessary to what I will venture to call the logical perception of reason, by which we instantly conclude that two and two equal four, and that every effect must have an adequate cause ; but the mental reality of these facts rests on our faith in the normal action of reason. Again, the spirit-vision illuminated by divine light is necessary to the spiritual perception of the higher reason, as, without holiness no man shall see the Lord, in my Father's house are many mansions, etc. ; but the existence of the unseen and eternal realities, as revealed, are assured to the mind through faith in the Divine Revealer. How true ! that we live by faith, gain knowledge by faith, trust through faith, and die in hope based on faith in the unseen !

CHAPTER XXXIII.

SPIRIT.

418. The Hebrew term *rooach* signifies air, wind, breath, spirit, soul, mind : spirit, as applied to God, is always connected with Jehovah or Elohim, as in Gen. i. 2 ; vi. 3 ; II Sam. xxiii. 2. In the New Testament, the Greek term *pneuma* means, wind, breath, spirit, soul, Holy Spirit : John iv. 24 ; Matt. iii. 16.

419. *Rooach* is derived from a verb signifying, He quickens, animates, enlivens, strengthens, etc.; it is strongly expressive of God being an uncreated fountain of all life, thought, energy, will, and power, embodied in an immaterial organism, adapted to all the functions of such a self-conscious, intelligent, independent personality as He must be. And as the same term is applied to man, clearly and forcibly indicates that man is a finite counterpart of the Creator, made in his image as to his essential form, and in His likeness as to His mental, moral, and spiritual nature. It also emphatically implies a highly organized immaterial form through which the pure spirit manifests itself to sentient, intelligent beings.

420. To quicken, as proceeding from God to man, implies a source of life and energy, and the imparting of this energy to others, and this implies thought, and thought implies a mental faculty and a corresponding organ through which the bestowment of this quicken-

ing energy is determined. It implies a self-conscious, intelligent, ever present personal source, Eph. ii. 5 ; Col. ii. 13. Hence, "in Him we live, and move, and have our being;" "for of Him, and through Him, and to Him, are all things," Rom. xi. 36. Of Him as their source, through Him as their adjuster, upholder, and preserver, and to Him as the manifestor to His intelligent creatures of His nature, attributes, and design. Num. xvi. 22 ; Luke xxiv. 39 ; Acts vii. 59, 60.

421. In Job iv. 13-16, the description of Eliphaz harmonizes with what the above language expresses and implies. He describes a spirit as being the source of a mysterious, invisible, penetrating, overawing, and overpowering energy that alarmingly affected both mind and body. He was conscious that some invisible but substantial form passed before his face, and then stood still ; but he could not discern or distinguish the face, or countenance thereof ; an image (or shape, form, or likeness) was before his eyes, there was silence, but I heard a voice, saying, " Shall mortal man be more just than God ?" Eliphaz was conscious that a substantial speaking form was before his eyes, so immaterial, or gossamer-like, that he was unable to distinguish its nature.

422. Man, with whom we are specially concerned, is a microcosm—a little world. He is not only body, soul, and spirit, but even the first is a museum of physiological wonders that led the Psalmist to exclaim : I am fearfully and wonderfully made. His body is a rare cabinet of chemical elements, divine in their origin and mysterious in their nature. He is the center of immaterial forces, physical, mental, moral, and spiritual, that tend to life, holiness, God, and heaven ;

and also of forces that tend to death, sin, guilt, and punishment. Man in his complex nature is the great moral battlefield of life and of death; and he alone can determine which shall win.

“Surely the spirit of God is in man, and the inspiration of the Almighty giveth him understanding,” Job xxxii. 8. “Then shall the dust return to the earth as it was: and the spirit shall return unto God who gave it,” Eccl. xii. 7.

MIND—THOUGHT—CONSCIOUSNESS.

423. By mind is meant a faculty of the soul, the immaterial, intelligent personal self, the originator of thought; the subject of capacities for various thoughts of different kinds, sometimes called functions, as, hearing, perceiving, thinking, willing, understanding, reasoning, remembering, etc. This personal self is embodied in the expression, I, my Self, the “inner man” of Paul, the subject of consciousness, which represents the spiritual essence of the soul.

424. Consciousness is defined to be the effects produced by causes. It is the spirit’s functional power and act of knowing itself in its thoughts, emotions, and volitions. Or it is the spirit’s power and act of self-recognition of what is real. The brain is the medium of its manifestation. What sensibility is to the body consciousness is to the spirit. All that we can truly learn of mind must be learned by attending to the various ways in which it becomes conscious. For the mind must see itself in its attributes, as unity, identity, and activity, or we can have no consciousness of its existence. Consciousness may be represented as mind passively knowing itself in every successive moment; and

thought as the mind active, giving expression to consciousness.

425. The human mind is a finite portion of Divine spiritual energy in an organized form, properly called soul, or speaking spirit, and made after the image and likeness of the Divine Trinity. It directs and controls brain-work, and so produces or generates thought, and back of thought is consciousness. For illustration, the light impinges on the retina back of the eyeball, and there follows, (1) consciousness of the impingement; (2) thought, I think there is light. The two are nearly simultaneous, but in point of fact, consciousness precedes or goes before thought. Thought then is the active mental expression of consciousness, or the mental activity of an immaterial thinker, as words are expressions of thoughts. A word is a sensuous sign of an idea—the embodiment and expression of a thought. But we go back of the idea or thought, and we find consciousness, of which the thought is an expression. (Myrick.)

426. “The soul, the personal self, is itself, self-active, self-conscious, self-developing, and self-determining within finite limits, as of thinking, reflecting, reasoning intelligence, capable of acting contrary to disposition and affection,” Rom. vii. 15 to the end. (J. Hoffer.)

Mind is comparatively unlimited in its immaterial activity. The universe is its field of activity, and neither past nor future can set bounds to it.

The distinction between mind and soul is beautifully exemplified in Christian faith.

There is a faith that is nothing more than a simple mental act, having neither moral character nor moral influence; as when we believe in the rotundity of the earth, or that Queen Victoria is Empress of India: such

faith differs little from intuition, as two and two equal four. It does not include the whole of the soul, nor the most important part of it. The mental act in itself is only the product of one function of the soul. The soul is more than mind, as the mind is more than mental activity: it includes love—God-given love. Intellect may give us conviction, but love alone can give us spiritual life.

The mind is merely one of the primary faculties (attributes or powers) of the soul. The soul is an immaterial, but substantial, organized, living, self-moving, self-conscious, immaterial, spiritual, intelligent personality, a source of spiritual energy, and mental and physical forces, having four primary essential faculties through which the soul—the self-conscious personal self—manifests its energies; namely: 1. The mental faculty, employed in thinking, judging, reasoning, etc.; 2. The affectional or emotional faculty, exercised in loving, hating, hoping, fearing, etc.; 3. The volitional or self-determining faculty, whose functions are specially manifested in volitions, choices, intentions, purposes, etc.; 4. The moral and religious faculty, specially concerned with moral relations and obligations, and reverential worship of a Supreme Being, distinguished for wisdom, holiness, and benevolence. All these primary faculties united in one organic substantial intelligent spiritual self-conscious personality, the Scriptures term soul.

Sometimes one faculty of the soul and sometimes another, and sometimes more than one, takes the lead in the preliminaries necessary to the production of Christian or saving faith in the soul. In the case of Paul it was the will, prompt obedience; in that of

Lydia, the affectional—"the heart;" in that of the Eunuch, the understanding, he wanted a clear understanding of divine truth, and the same may be said of the Phillipian jailer; and in that of Thomas, perception and reason, or actual material contact confirmed by reason. In each and all three cases the same happy result followed: the origination of saving faith in the soul through the energy of the Holy Spirit unfolding and impressing the meaning of Divine truth upon the soul, aided by the earnest co-operation of the entire "inner man."

427. Let us turn our attention to the product of thought. We enter, for instance, the Machinery Hall of the World's Exposition, and our eyes are at once spellbound by a vast sea of whirling machinery; spindles spinning, looms weaving, printing presses giving expression to thought, and nearly every conceivable kind of machinery in motion, each turning out its appropriate article finished and complete. We ask ourselves, Why do these wheels whirl, these looms weave? What power gives motion to all these works of human art? A fellow observer replies, All these machines with their complicated parts are the results of chance. Another said, Nay—all these machines have inherent power of self-motion! We are amazed at such replies, and answer, Impossible! It cannot be! They must have a cause, and an intelligent cause. We soon stand before a massive steam engine; we hear its giant throb, we witness the revolutions of the mighty balance-wheel, executed with the utmost precision. We ask ourselves, Is the power in that wheel? Observation and reason alike answer, No; that wheel is but inert matter—motionless and dead. We look at the boiler

and ask, Is the power in the steam? and again the answer is, No; not necessarily so, for steam, without the necessary thought appliances, does not produce such results. Is the power in the fire? No; fire is only the rapid union of oxygen and carbon producing carbonic acid, and fire does not always produce such results as these. But wherein consists the power? Why does this engine puff, this machinery whirl and produce these wonderful fabrics? the answer is, Thought. Thought in the brain of Watt conceived a plan by which to utilize steam; thought constructed the mighty engine; thought arranged the complex machinery; thought produced the varied but harmonious motion; thought superintends it now; and the thoughts of active, vigorous thinkers have produced all these wonderful results. Motionless, lifeless matter is but a tool in the hands of living, acting thought.

428. Behold the vast number and the amazing variety of objects in Nature! they are materialized thoughts that first existed in the Divine mind. Consider the innumerable and mysterious forces, material and immaterial, each ceaselessly active in its own sphere, and yet all harmonious while accomplishing the design of each and all. "Think of those mighty orbs sweeping through space with the velocity of lightning, of the unerring precision with which they complete their vast and complicated cycles, enabling the astronomer to determine by actual mathematical calculations the day, the hour, ay, the very minute when eclipses of the sun and moon will occur for thousands of years to come."

429. If the construction of the massive engine, and the delicate machinery of the watch indicate artisans of

thought and skill, as every person of honesty and intelligence will affirm, does not the vast, the varied, and the beautiful works of Nature with their wondrous harmony unitedly proclaim personal, omniscient thought, and thereby demonstrate the existence of an Infinite, Omnipotent, Personal Thinker? Common sense and reason alike emphatically answers—They do.

430. But in material creation we have only the minor manifestations of God. Look at that crowning work of Creation—mind. Here we reach the grand consummation of creative skill; and here in this holy of holies let us reverently pause, as we think of the wonderful Godlike faculties of the soul, of its mysterious and amazing powers, and its vast capacities for endless progress, destined to live forever in the state in which it leaves this life. (Indebted to an article in *Microcosm* by Prof. Kephart, A.M.)

431. “Mind is the only substance in the universe that possesses inherent motion and living power.”

On the human side there are seven uniting mediums through which mind acts on dead matter: Thus, 1, the mind wills; 2, this will-force is creative; 3, this force stirs, directs, and controls nerve-force; 4, the nerve-force causes the nerves to vibrate; 5, this vibration contracts the fiber of the muscle; 6, the contraction of the muscle raises the bone of the arm; and 7, the arm raises dead matter. Hence mind is the first grand moving cause.

432. As thought is an expression of consciousness, so volition is an expression or act of the will, and will is the central point, so to speak, of consciousness—the self-determining power of the soul—or the originating power of the personal self. Assuming that

the will is a distinct power or energy of the soul, it is related to, and blends itself with, every other mental attribute or power, as, the sensibility, the reason, and the conscience, which may influence but cannot substitute it. The will has its own peculiar functions, and its own special province. Purpose signifies something set before the mind as an object of steady pursuit; it requires resolution, and always implies the use of some means to accomplish the object. Purpose is a step nearer to action than is intention. An intention is that act of the mind by which we contemplate and design the accomplishment of some end. Both in law and in morals, intention, according as it is right or wrong, good or bad, affects the nature of the action following.

433. “According to the Church of Rome, killing may be no murder, if done with the intention of freeing the church from a persecutor and society from a tyrant !” See the Archives of the Council of Trent, and the 3d Number of Cautions for the Times.—Archbishop Whately, D.D., of Dublin. The mental order appears to be, volition, intention, purpose, design, means.

434. The term “Thought” as used in our Authorized Version of the Bible, represents a number of different words in the original. I here give a list of the definitions of each kind, with one reference to each. But the context in all cases must be carefully studied in order to get the exact idea or ideas designed to be conveyed.

435. 1. Deut. xv. 9 (literally, expressed thought), here, thought, intention, purpose. 2. Dan. iv. 5, thought, conception, imagination. 3. Prov. xxiv. 9, thought, device, implying plotting, scheming, planning,

based on a purpose. 4. Judg. v. 15 (literally a cutting), decree, statute, resolution—the idea seems to be, that there were great deliberations, but nothing done to gain the necessary object. 5. Eccl. x. 20, knowledge, mind, 6. Job xvii. 11, possessions, inheritance, 7. Psa. x. iv, thought, purpose, device. 8. Gen. vi. 5, thought, imagination, purpose, device. 9. Psa. cxix. 113, thought, doubts, opinions, evil device. 10. Psa. cxlvi. 4, thoughts, purposes, machinations, devices. 11. Psa. cxxxix. 2, thought, will, desire, purpose, and implies a shepherd's thoughts and watchful attentions toward his flock. 12. Job. xii. 5, thoughts, purposes. 13. Dan. iv. 19, thoughts, depressing meditations. 14. Amos iv. 13, meditation, searchings, spiritual conversations. 15. Job iv. 13, thoughts (literally branches). divided thoughts, doubts, opinions. 16. I Sam. ix. 5, to be sorrowful, afraid. 17. Psa. ix. 19, doubts, opinions. 20. Matt. xv. 19, reasoning, cogitation, purpose. 21. Matt. ix. 4, thought, cogitation, reflection. 22. Luke xi. 17, thought, reflection. 23. Acts viii. 22, thought, contrivance, device. 24. Rom. ii. 15, computation, reckoning, cogitation. 25. Mark xiii. 11, to be very anxious beforehand. The above definitions are designed to impress the Bible student with the unspeakable importance of first ascertaining the full meaning of the word, and then the precise meaning required by the context. Such a course will well repay for all the time and mental effort expended.

PERSONALITY.

436. The three essential attributes of spirit are: free-will, to choose; wisdom, to plan; and power, to execute.

437. Human personality implies and includes a finite

portion of divine substantial, spiritual energy, breathed into an immaterial organized form, having faculties perfectly adapted for the manifestation of its mental, moral, and spiritual functions, such as thought, free-will, reason, and affection—a self-conscious living individual being, self-conscious as to moral state or condition; self-active, self-determining, and self-developing, with a keen sense of personal identity amid all changes of circumstances, conditions, and environments, including responsibility and accountability. All these endowments centered in an immaterial organism is called the mind, soul, self, I, me, the personal self or “inner man”—the personality. For I am conscious that I am a living being, that I am the possessor of those endowments, that I cannot deny the unity or oneness of my consciousness, that I am a person, and, as such, responsible for my choices or preferences, intentions, purposes, and conduct. Therefore I cannot be less than a person, constituted of body and soul, having a distinct and unchanging individuality—being the same from the cradle to the grave.

438. God the Creator and Father is an infinite personality, and Christ his only begotten Son was the exact image of his Divine Father, and yet, as incarnate, He sustained the relation of Son of man, being made in all things like unto his brethren, who were made in the image and likeness of Elohim, therefore a finite counterpart of the infinite personality of God.

CHAPTER XXXIII.

SUNEIDESIS—CONSCIENCE, WHAT IS IT?

439. The Greek term, *suneidesis*, signifies “a knowing with one’s self, that is, having a consciousness of one’s present thoughts, feelings, purposes, or convictions; present self-knowledge in reference to something else (as a standard). The English term signifies a consciousness of our present thoughts, feelings, principles, purposes, and conduct, being right or wrong compared with the moral standard of action in the mind.”

440. “Of late years, by the best writers, the term conscience, and the phrases moral faculty, moral judgment, faculty of moral perception, moral sense, susceptibility of moral emotion, have all been applied to the faculty, or combination of faculties, by which we have ideas of right and wrong in reference to actions and states of mind, corresponding feelings of approbation and disapprobation.” Dr. Whewell defines conscience to be, “The reason employed about questions of right and wrong, and accompanied with the sentiments of approbation and disapprobation.” By some writers conscience is regarded as being the function of the moral faculty, and as exactly coinciding with it; others that it is the result of a combination of faculties, and this view seems to be confirmed by Acts xxiii. 1, where Paul looking steadfastly on the council said, “Brethren, I have lived before God in all good conscience until

this day;" that is, I have as a subject of moral government done my duty to the best of my knowledge; also I Cor. viii. 7, "Howbeit there is not in all men that knowledge: but some, being used until now to the idol, eat as of a thing sacrificed to an idol; and their conscience being weak is defiled:" that is, all men do not realize the necessary distinction between the one true God as a real and substantial personality, and the idol that has no existence as God; and hence the "defilement" mainly consisted in unnecessary anxiety owing to the want of a correct knowledge of duty, and the supposition that the idol deities really existed as such, and their consequent superstitious reverence for them. They needed correct knowledge to guide the judgment aright. In the case of Paul, in the first instance, conscience is expressive of erroneous thoughts, impressions, and convictions respecting the nature of the service God required. Paul was following the dictates of a carnal and sectarian mind. Again in Acts xxvi. 9, Paul says: "I verily thought with myself, that I ought (was under obligation) to do many things contrary to the name of Jesus of Nazareth." Here, Paul was sincerely in error and unconscious of a bad state of heart, and these led him to increasing hatred to Christ's person, unyielding hostility to his teaching, and the direst persecution of his disciples; and yet his conscience approved of it, for he thought he was doing God service, though he was exceedingly bitter, and even mad against them. He compelled them to blaspheme, shut them up in prison, and when they were put to death he testified against them. Paul was then a pure, zealous, sectarian, bigoted Pharisee, and there are not a few in our churches to-day who would like to copy Paul's persecut-

ing example. See John viii. 9; Acts xxiv. 16; Rom. ix. 1; II Cor. i. 12, etc.

441. There has been a great want of analytical definiteness with respect to the nature and functions of conscience, so much so that "after all the labors of metaphysicians, theologians, and scientists the subject seems to be left involved in as much obscurity and mystery as ever; for the perplexing conclusions are not only widely divergent, but often diametrically opposite to each other."

442. Let us try to throw some light on this important subject, and thereby reconcile many apparent contradictions. Some have maintained that conscience "is a simple, innate faculty (born with us) of the soul, and enables its possessor to sharply draw the lines of demarkation between right and wrong, virtue and vice, justice and injustice, and to act as the vicegerent of God in the soul."

443. "Others, again, maintain that conscience is not an innate faculty, but is wholly the result of education and environments. The adherents of the Darwinian theory of evolution indorse this view, and further claim that conscience has been evolved through the associated action of the social and intellectual culture." It is true that "Education and surroundings can and do develop the powers of the mind; but all scientific facts that have been collated have most signally failed to furnish any data whatever to prove the evolution of a single faculty of mind, either in man or the lower animals." As both came according to their kind, constitutionally perfect in this respect from the hands of the Creator, so they have remained.

444. We cannot wholly indorse either of the above

views; but after long, earnest, careful thought and investigation, the following is the view we fully accept as the most natural, consistent, and most in harmony with the constitution of the human mind, as well as with facts and Scripture:—

445. “Conscience, strictly speaking, is not a simple or innate faculty; it is a complex product; and, as such, is wholly the result of education; and, therefore, cannot with certainty be a definite rule of right. But the moral or spiritual sense is an innate faculty—a moral and spiritual element in the mental constitution of man that dimly reflects the divine image in which he was made, and responds to the claims of the moral law. In no degree is this moral faculty or spiritual sense the result of education or environment; nor can it be educated in any way, only in the sense that it can be quickened into action by the Divine Word and Spirit, and through this quickening action acquire greater intensity, strength, and vigor. Under all circumstances, in all conditions of society, whether savage, civilized, or Christianized, it remains ever the same simple, native moral sense; and its sole function, its only power, is to incite, urge, encourage the individual to do right. Yet in and of itself it has no perception of what is right—no power whatever to determine it; that depends entirely upon the intellectual faculty acting under its stimulus, and whatever these faculties acting under the stimulating power of the moral sense decides to be right, the moral faculty receives as right. Hence the moral sense may properly be regarded as a dim reflection of the image of God in the soul.

446. "The legitimate and only function, then, of the moral sense is to urge the intellect to search, as in the Divine presence, for justice and right on every subject presented to the mind for consideration and decision; to weigh all evidence as an accountable being with the strictest impartiality; and the more vigorous and refined the moral sense, the greater the moral and spiritual force it brings to bear upon the intellectual faculties, imperatively urging them to be faithful, diligent, and persistent in their efforts to determine what is right, and what is duty.

447. "When the intellectual faculties, acting thus under the impelling force of the moral sense, arrive at a conclusion, that conclusion is accepted as a finality by the moral sense; it has no capacity to discriminate as to its accuracy or inaccuracy, and such is not its province; having exerted its legitimate and sole function in faithfully stimulating the intellectual faculties to do right, it acquiesces in whatever decision they arrive at with a satisfaction adapted to its nature. And this conclusion, which is the result or complex product of the action of the moral sense on the intellect, and the intellect on the evidence objectively and subjectively presented, becomes a fixed and determinate moral sentiment (thought and feeling combined) of the mind, and is so directly associated with the moral sense as to become authoritative whenever this innate faculty is called into action in reference to any decision that has thus been arrived at; and this definite moral sentiment—this product of complex action—is what is called conscience. Being a complex result, it is easy to perceive how one generation can conscientiously perform actions which another would as conscientiously denounce as unjust and

criminal—how, even in individual experience, positive moral convictions will change as new light and different or stronger evidence is presented to the mind.” (Mainly selected from an able article in the *Microcosm* by Mrs. M. S. Organ.) This sharp distinction between conscience and the moral sense beautifully and naturally harmonizes a great many conflicting views that now prevail. There can be no doubt that the above view will be fully indorsed by those thinkers best acquainted with the nature and the functions of the human mind.

448. This distinction between the moral sense and conscience clearly shows how Saul the persecutor, deaf to the cries and pleadings of persecuted humanity, afterward became Paul the Apostle, and tenderly wept with them that wept. It shows how John Calvin, “who was a man of strong moral sense, and rigidly conscientious in his actions,” could approve of the burning of Servetus. For the religious teaching of that age was, that a belief in certain theological doctrines was essential to salvation. When the question in regard to Servetus was presented to his mind, his active and vigorous moral sense at once asserted itself, uttering decisively its simple and only language—be right! be right! Believing as he did that the salvation of the soul depended upon the unqualified acceptance of the dogma that Christ was the Eternal Son of God, he decided that it was for the eternal interest of humanity that Servetus should die; for if he should continue proclaiming his doctrine that Christ was not the eternal Son of God, but only the Son of the eternal God, it would be the damnation of all who embraced it; and therefore it were better that one individual should die than that many souls should be lost through his per-

nicious doctrine. Were Calvin living among us to-day, and all aglow with love to God and the souls of men, his strong moral sense would still utter with imperative force, its simple language—be right! be right! But how different the sentiment that would influence him! Even in a true case of error, what would Calvin now do? Would he not be one of the first to say—Treat him kindly, Christ-like. Do not brand him, nor burn him: the former is barbarous, and the latter is devilish! I think the same may apply, to some extent, to the burning of witches. “Witchcraft was very generally believed in Europe until the sixteenth century, and even maintained its ground with tolerable firmness till the middle of the seventeenth. It was sincerely believed that the witches were possessed of supernatural power, and that it was obtained by entering into a compact with the devil.” The latest witchcraft frenzy was in New England, in 1692, when the execution of witches became a calamity more dreadful than the sword or pestilence. But it was evidently done on the same principle as Saul’s dragging men and women to prison, and Calvin giving consent to the burning of Servetus. It was doubtless sincere religious zeal, permeated with prejudice and superstition, and directed by ignorance.

449. Having these scientific data in regard to the real nature and function of the moral sense, and thereby being enabled to comprehend the true philosophical distinction between its action and that of conscience, we can readily understand how the conscience of an individual may at one time tell him that it is right to do a certain action, and at another time, through the influence of different surroundings and a higher grade of soul-culture, may tell him that it is right to do the very opposite.

450. While the moral sense cannot in any measure be educated, yet like all other faculties of the soul it can be increased in strength; and as it will become more refined in its nature and sensitively active in its functions by being brought into constant normal and vigorous action, so it will become degenerated and paralyzed through inaction or restriction.

451. As we cannot see without eyes, nor hear without ears, nor understand without mind, nor judge without reason, so we cannot perceive and distinguish right from wrong without conscience, and conscience can only be efficient by a high grade of soul-culture. The conscience is sufficiently under our control to render every person responsible for its condition; and the responsibility is always in exact proportion to the capacity, opportunity, and means of its education. Even the heathen, who have no revelation of the will of God, are accepted of him when their conscience bear them witness that they live faithfully up to the law written in their hearts; that is, up to their constitutional sense of right and wrong and their ardent longing to be truer, purer, and nobler than they find themselves, in connection with the use of the very best knowledge they can possibly obtain.

452. "When an individual allows the force of hate, revenge, pride, ambition, selfishness, love of riches, or the animal appetites, passions, or propensities to dominate, overpower, or stifle the voice of the moral faculty—to depress, or in any way restrict its God-designed activity—a diminishing in vigor, weakening in tone, and a decrease in sensibility will inevitably follow; the individual will become a moral idiot, of which there is an abundance. Vigorous, properly

regulated action is what every faculty of the soul, as well as every organ of the body, imperatively and unconditionally demand for healthful and symmetrical development." (Mrs. M. S. Organ, slightly changed.)

453. The moral faculty is the one spiritual sense that specially connects man with the "Father of Spirits." In Prov. xx. 27, it is said that "The spirit of man is the candle of the Lord, searching all the inward parts of the belly." "Spirit" is from *nishmath*, signifying breath, spirit, soul, a human being. "Candle" is from a word which properly means lamp, light, teacher, and Holy Spirit. The term rendered "searching," means to scrutinize, examine, investigate, discover, seek, search after. Inward parts properly means, chamber, inner apartment, belly, heart, inner man, seat of thought and feeling. Hence the sense is: "The spirit of man is the lamp of the Lord, searching and scrutinizing all the inmost thoughts and feelings of the soul [under the teaching and guidance of the Holy Spirit]: As clearly implied in the terms rendered "candle" and "searching," Job xxix. 3. It was by means of the light-bearing lamp that light was radiated and rendered visible all the sacred furniture in the holy place of the temple; so it is by the spirit that the soul knows itself—becomes conscious of the character of its own thoughts, feelings and motives, and their agreement or disagreement with the moral standard in the mind. The importance of Divine light in this soul searching and self-judgment may be seen in such passages as Matt. vi. 23; Luke xi. 34-36. What disease is to the material physical eye so sin is to the immaterial moral eye of the soul—the conscience; it discolors, disfigures, distorts, and misleads with respect to

all the most important things concerning this life and the next. Well might the Saviour say: If therefore the light that is in you be darkness (spiritual ignorance), how great is that darkness (spiritual ignorance)! If the moral standard of conduct in the mind be erroneous, how great is the error! If earthly treasures and pleasures appear of greater value than the soul's salvation with immortality and eternal life, how great, how fatal, and how irreparable the mistake! None but the Infinite God can tell! If conscience is, as we firmly believe, a complex product of all the mental powers, as before explained, and the result of surroundings and education, how important that the utmost attention should be given to soul culture by reverential, prayerful, and loving study of God's word, not as a denominationalist, but as an obedient child, seeking holy communion with, and complete assimilation to, the best of all chosen friends, infinite in attributes and holy in his nature, ever present to counsel, comfort and protect. It is of the first importance that we find out as near as possible God's own meaning of his own word.

454. For the understanding furnishes material for the judgment; and as the judgment decides so will the conscience decide. If a man believes in an act as right, the conscience approves; if he believes an act wrong, his conscience condemns it. Hence, as a man thinks (considers, estimates, decides, judges) so is he, Prov. xxiii. 7. Paul tells us that when he persecuted the church he did it ignorantly in unbelief; he was ignorant of the true meaning of the Old Testament prophecies and full of unbelief respecting the Divine person who was the subject of them, I Tim. i. 13, and he even thought that in so doing he offered service unto God, John xvi. 2.

“ But he ever after his conversion counted himself ‘ the chief of sinners ’ because he persecuted the Church.” “ The trouble was his judgment and affections were at fault. He ought to have known better, and respected the rights of others. Perhaps some of the subordinates who assisted in running the Inquisition and aided in torturing the children of God were as conscientious as Paul, while turning the wheels that dislocated the joints and tore their victims into pieces ; and listened to their groans, cries, and agonizing screams as to sacred music, because they thought they were doing God service ; ” but not so their principal leaders. Their judgment was wrong, terribly wrong, and the heart in a dreadful state. They ought to have known better, and doubtless their leaders were deeply conscious of being actuated by a malignant spirit. For there are men to-day, not a few of whom are professed Christians, that, if they had lived in that day would have gloried in the Inquisition. Even now, where churches are ruled over by a selfish, Gospel-hardened, sectarian ring, gross injustice is often lavishly meted out to opposers—though Stephen-like in piety and usefulness.

455. It is all important that the judgment be correctly educated, the affections purified and properly directed, and for this object God gave us a revelation of his will—the only correct standard of thought, feeling, and action, in all circumstances and conditions of life.

456. A varying conscience is no more certain guide with respect to what God requires of man than is a wind-vane to the temperature of the atmosphere. Church authorities frequently make a law to bind the conscience, ostensibly to insure rapid growth in grace, as the con-

fessional, and what is called the "class-meeting," which, when made a test of experimental Christianity, is essentially "modified popery." The real design, however, is to keep the parties safely within the denominational fence. What God has not made obligatory as necessary to salvation, no church has a right to.

457. Conscience, in and of itself, is not the voice of God in the soul, and never can be only as directed by Divine truth and aided by the Holy Spirit. Nor is it a shield behind which any transgressor can hide under the plea that his conscience "did not condemn him." The very worst acts in the calendar of crimes have been, and are, committed under the like plea; which is one of the devil's most convenient hiding places for his agents, both in the church and out of it. This plea and the law of libel become a very spacious shield for thousands of villains in church and state, and elsewhere, to prey upon society and deeply disgrace humanity. I Cor. ii. 11-15.

458 If man could have known unerringly what was right and wrong in every relation of life, toward God and his fellow-man, there would scarcely have been much need of a revelation, such as he has given us, with the express design that the man of God may be complete, furnished completely unto every good work, II Tim. iii. 17. Right and wrong, good and evil, are eternal principles in and of themselves, and the moral sense completely coincides with them. In all cases the Bible approves of an act because it is right, independent of time, circumstance or relations. If the Bible condemns a thought, feeling, or act, it is because it is wrong in and of itself. There is a sense of right and wrong, of justice and injustice, to some extent among all nations,

Rom. ii. 14. And I believe there are no more conscientious men and women on the face of the earth than are often found among the heathen. The Bible is designed to direct the conscience aright; but it can only do this by educating the mind and purifying the affections, and thereby correct the judgment, Deut. xi. 16-21.

459. Even our physical senses of seeing, hearing, feeling, etc., are liable to serious mistakes. They must be educated to wisely distinguish and recognize the variety of colors, sounds, odors, and the nature of objects that affect the tactile nerves, etc.; but when educated to the utmost practicable extent they are still liable to error. The mental faculties, such as perception, understanding, memory, judgment, are not infallible. The untrained mental faculties may perceive some truths, reason out some conclusions, and recall some facts, and judge rightly in some others, but the process and results are often confused. But when they have been trained to the utmost perfection, they are still liable to mistakes; so conscience, apart from Revelation and the aid of the Holy Spirit, is not, and never can be, an unerring moral guide. It is capable of approving the wrong and reprobating the right. It prompted Saul to consent to Stephen's death, and guard the clothes of the fiendish murderers of that holy man; and afterward to boldly reason of righteousness, temperance, and judgment to come, until Felix trembled, and to fearlessly preach Jesus and the Resurrection before Festus and Agrippa; and lift up his voice in behalf of Jesus of Nazareth in Imperial Rome, to the sacrifice of his own life. Though Paul was a distinguished scholar, a prince of philosophers, a

giant logician, and unrivaled preacher, his conscience, as Saul and Paul, varied between very wide extremes.

460. "All the mental and moral faculties of the soul must be educated and trained under the influence and guidance of Divine Truth and Spirit of God, in order to excel in the performance of duty. For it is by education and practice that the eye and ear distinguish the face and voice of a friend from those of an enemy; and the artist acquires such artistic skill in sculpture, painting, and music. By education and practice the skill of the florist excels with respect to color and fragrance, that the understanding of the philosopher excels in perception and reasoning, and the orator excels in rapidity of thought and fluency of expression and logical reasoning. And it is only by divinely directed soul-culture that the conscience can excel in moral and spiritual sensitiveness, and in quick and correct perception of purity and duty." (Largely selected from an article by Dr. Bates in *Microcosm*.)

461. The view of the moral sense and conscience, as set forth in the first part of this article clearly shows why and how "our decision on any subject will vary with the nature and extent of our information on it, or the thoroughness and candor with which we examine it." "And why decisions of conscience will be right or wrong on any given question, according as it is correctly or incorrectly instructed on that particular subject; and why it will change with every change in the amount of light or darkness that environs it. When one trained a Catholic emerges into the Bible-light of Protestantism, his conscience reverses its decisions on a variety of subjects; and when one trained in the sacred truths of genuine Protestantism comes under

the power of Catholicism, his conscience also alters its voice, and approves what it before condemned, and condemns what it before approved." Conscience in and of itself is no more a safe guide in morals than Ananias and his wife were safe guides with respect to truthfulness. And yet there is a grandeur about conscience that excites our admiration. For it required three years, more or less, of theological training, with many prayers, to so pervert the consciences of noble Christian young men with much mental suffering before even an implied approval of slavery could be wrested from them! Any conscience that can approve of, or connive at, the trampling under foot of that sublime precept of Christ: "All things therefore whatsoever ye would that men should do unto you, even so do ye also unto them," is already within the serpentine coils of the devil.

462. "Conscience, apart from Divine Revelation, has very erroneous, conflicting, and often degrading views of the nature, unity, character, and worship of the true God." Some believe in a God of wisdom, love and holiness as revealed in the Bible, while others believe him to be guilty of dishonesty, and of the grossest crimes. Some believe in worshipping the true God reverently in simplicity with clean hands and a pure heart; others believe in worshipping him with costly and showy pantomimic rites and ceremonies. Some believe in one God only, and others believe in many and of great variety. The forms of religious belief and practices are very numerous, and most of them erroneous, taking the Bible for our standard; yet they often seem to be held with as much firmness, honesty, and sincerity as were the radically anti-Chris-

tian views of Saul of Tarsus. How glad we are that our Heavenly Father has said—that he is nigh unto them that are of a broken heart ; and saveth such as be of a contrite spirit. Psa. xxxiv. 18.

463. Even nations that were made acquainted with the True God, glorified Him not as God ; but became vain in their imaginations and their foolish hearts became darkened. And not desiring to retain God in their knowledge, they changed the truth of God into a lie ; that is, for the materialized thoughts manifesting the true God in creation, they substituted idols representing the deep, dark, rampant corruptions of their own impure hearts and depraved minds ; their highest objects of worship were adulterers, fornicators, and prostitutes of the most infamous kind, supported and patronized by those more infamous still. Yes ; they worshipped the creature (created persons or things) instead of the Creator. And thus fearfully did their “mind and conscience become defiled,” “cauterized, seared as with a hot iron.” Study Rom. i. 18-32.

464. Even the most learned philosophers of heathen Greece and Rome in their golden-era of learning, philosophy, poetry, and eloquence, could not agree as to what was the chief good. For Cicero, speaking on this subject, says : “There is so great a diversity among the philosophers that it is almost impossible to enumerate their different sentiments.” Fletcher, who examined two hundred and eighty-eight of these theories, says that not one of them made the chief felicity (of man) to consist in the knowledge and enjoyment of God.

465. Even the Jewish doctors, favored with the instructions of the Old Testament Scriptures, while

teaching the people the obligation to love their neighbors, taught also the propriety of hating their enemies, and that the church, though terribly corrupt, had prior and stronger claims for support on the children than their own destitute parents! And Saul of Tarsus, one of the greatest scholars and religionists of his time, was an educated sectarian bigot who persecuted the disciples unto strange cities. Let us come down to later times, to the approaching noonday of Gospel light. In 1572, during the reign of Charles IX. of France, we have the brave old Admiral Coligni butchered in cold blood to gratify a Catholic bigot, the Duke of Guise, whose conscience, manipulated by Gregory XIII., demanded the sacrifice of the French Protestants. The murder of the admiral and the throwing of his body down into the street was the signal for the butchery of ten thousand Protestants in Paris alone in the short period of three days, and throughout France nearly one hundred thousand.

466. In our own day, Brown's conscience approved of murdering the white men of Virginia to free the blacks, and Guiteau's conscience claimed a divine commission to assassinate Garfield, but the consciences of twenty-four jurymen approved of hanging them as murderers.

467. Such a babel of discordant utterances does the benighted conscience produce on the most important of all subjects—man's relation to his fellow-man, to God, and to eternity, that it becomes one of the most dangerous of all guides; for it cries peace and safety while destruction is momentarily impending.

468. As a guide, when uninstructed by Divine Truth and unsanctified by the Holy Spirit, conscience

is about as unreliable as a wind-vane, now pointing this way and now the opposite, uttering through one person its approval of a given course, and through another its condemnation of it. Nor is the conscience in a nominally Christian community essentially different from what it is in pagan lands. Ignorance, conceit, pride, fashion, prejudice, selfishness, ambition, sect, order, and creed, all act, more or less, on most men as the wind acts on a weather-vane. But of all consciences to be objectively feared, that of the religious bigot who has held the truth in unrighteousness, and whose conscience has become seared as with a hot iron, until all moral sensibility, with respect to right and wrong, truth and error, sin and holiness, reverence and fear, has passed away, is most to be dreaded. It would be almost as wise to expect pure morality from a Tetzels, justice from a Tyrant, or mercy from a Nero. John xix. 6, 15, 18; Acts ii. 22, 23; iii. 13-17; iv. 55-60.

469. What cannot a perverted religious principle do when directed by an evil conscience, and reinforced by unbelief, ignorance, prejudice, a passionate zeal, restless ambition, and sometimes hatred. The subjects of such states of mind and heart are often capable of cruelty the most heartrending, and persecution the most diabolical, Matt. xvi. 21; John xvi. 2, 3; Acts xiii. 50; xvi. 23; xvii. 5; xxi. 27-36; xxii. 4.

470. Who can doubt that there is a religious instinct in human nature; for the universal systems of idolatry, with all their superstitions, cruelties, licentious ritualism, and sacrifices, animal and human, attest this fact. Of all wars, those in which the religious element is most prominent are most dreaded, and, generally, the most bloody. There is no meanness too base, cruelty

too inhuman, no death too horrible to inflict, that the conscience of a zealous, religious, sectarian bigot cannot approve of, as witnessed in the murder of our Lord and millions of his faithful servants. Rome stands historically charged with from fifty to a hundred millions, and other professed Christians have shared largely in adding to the number of martyrs. Very few churches are wholly free from the spirit of persecution. Wherever the boycott spirit is manifested against Christian liberty and right, there is the devil-spirit; and heathen and false religionist seems to have vied with each other as to which should be most devil-like. Think of professed Christians burning a parturient mother and then throwing the new-born babe into the midst of the fire! Think of fathers and mothers butchered in cold blood and the brains of their little ones dashed out on the rocks at the demand of a perverted religious conscience, as in Ireland, instigated by Popery! There is a class of refined religious persecutors, closely related to the old "Star Chamber;" compared with whom "highwaymen" are gentlemen; these are generally satisfied with the money; but the former would not only take character, reputation, social standing, subsistence, and hurry their victim out of the world, but even close the door of heaven against the ransomed spirit; and do all this in the name of Christianity!

471. Witness the persecutions by the Jews, and by the Papacy which commenced in the twelfth century under Pope Innocent (so-called) who incited the princes of several Catholic countries to commit to the flames the most illustrious servants of Christ; these persecutions were carried out in the most appalling manner in France, Germany, Italy, Spain, Hungary, Poland, Holland,

England, Scotland, Ireland, Spanish America, etc. In the last named country alone, in the space of about forty years, it is estimated that about fifteen millions of Christians were sacrificed by the Papacy. The massacre of Bartholomew in France on the 24th of August, 1572, remains to this day as an example of cold-blooded butchery without a parallel in the annals of the world.

472. "The brave old Admiral Coligni (*ko-len-ye*) presented a petition from the Christian Huguenots praying protection from popish persecution, and that they might be permitted to read the Bible, and hold religious meetings in open day. The popish reply was the plunging of a sword through the old hero's heart, and the throwing of his body out of the window, where every indignity that fiendish hate could invent were heaped upon it. Immediately from every part of Paris the ringing of bells, the crashing of doors, the sound of musket-shots, the rush of armed men, the shrieks of their victims, the groans of the dying, and, high over all, the yells of the frantic religious mob, fiercer and more pitiless than hungry wolves, created a tumult resembling an imaginary bloody-jubilee of hell." Oh! how appalling to the mind and sickening to the heart to read the record of that horrible slaughter! all done in the name of the meek and lowly Jesus who came to bring peace and good will to men.

473. Marshal Tavannes, the director of this Popish butchery, rode the streets with his sword dripping with Protestant blood, shouting as he passed along, "kill, kill;" and kill they did, until twenty thousand victims lay weltering in their blood! In his dying confession the marshal said that he looked upon his conduct on that memorable day "as a meritorious action, which ought to atone for all the sins of his life!"

474. "When the news reached Rome, Pope Gregory with his gorgeous procession of cardinals felt under obligation (that is, their consciences bound them) to march to St. Marks, and in the most solemn manner to give thanks to God for so great a blessing conferred upon Rome and the Christian world. Cannons were fired, the city illuminated with bonfires, great rejoicing, and a general jubilee published throughout Christendom, calling on the faithful to return thanks to God for the glorious extirpation of the enemies of truth and the church of France." Such is the fruit of a benighted, seared conscience, past feeling. What a graphic but sad commentary on our Lord's words: "Yea, the time cometh that whosoever killeth you will think that he offereth service unto God;" and, Why? "Because they have not known the father nor me," John xvi. 2, 3.

475. Now let us look on the other side. An enlightened and purified conscience, "void of offense toward God and toward man," exhibits practical Christianity in its sublime grandeur, and becomes the source of great moral power for good, and often results in true spiritual heroism. Examples are numerous. Noah shall head the list. For one hundred and twenty years he stood alone, doubtless laughed and jeered at as a crazy crank; yet he stood firm in his loyalty to the God of heaven and vindicated Jehovah's claims to the obedience of a rebellious and defiant world. Elijah arrays himself single-handed against four hundred and fifty of the nation's traitors, and challenges to immediate conflict on the very spot, and ere he sheathed his sword every one of them was slain at the brook Kishon. Thus was punished high treason against the Invisible King of

Israel, I Kings xviii. 25-39. And here is Jeremiah standing amid the rebellious authorities of the chosen people like a rock amid the ocean storm, persecuted, imprisoned, starved, threatened with death, but still loyal and true to duty. Daniel, the greatly beloved, assumed an immovable attitude against the combined powers of the Babylonian Empire in conclave assembled, and the savage lions waiting for their victim; but Daniel brought the rulers of the vast empire for the first time to acknowledge the One True God, the Creator of heaven and of earth. Paul, in defiance of persecution, suffering, and threatened death, planted the ensign of the Cross on the seven hills of Rome, and in the name of the King of kings annexed the whole Roman Empire to the domain of the Prince of Peace. And as he unfurled the Gospel flag to the breeze he triumphantly shouted—"I am now ready to be offered"—"For me to live is Christ, but to die is gain," for I see the victor's crown awaiting me. Need I speak of the immortal Bunyan in Bedford jail; of Knox whose prayers Queen Mary feared more than a hostile army; of Luther who put to flight the ecclesiastical forces of the Pope; of Huss, who, rather than to deny his Lord, chose to expire amid the martyr flames, kindled by the fiery breath of the same relentless foe of a free Gospel; and of Zuinglius of Switzerland, who laughed with holy scorn at the weapons of the popish soldiery by whom he fell, and, as he died, said: "They can slay the body, but they cannot kill the soul." Their vengeance was only appeased by burning his body to ashes. If we read the signs of the times aright, the rising generation of Protestants may, amid tears and blood, learn the priceless value of a free and pure Gospel.

476. What pain is to the body guilt is to the soul or spirit. A defiled, polluted, guilty conscience often becomes the cause of contemptible cowardice, sometimes of indescribable anguish even in this life, and often leads to self-murder. For a consciousness of guilt blended with the fear of punishment gives rise to despair, often resulting in remorse, the most excruciating pain known here to the soul. Only a few examples are here given in proof.

477. Cain said, "My punishment is greater than I can bear, and every one who findeth me shall slay me," Gen. iv. 13, 14. Joseph's brethren privately said to each other, "We are verily guilty concerning our brother—therefore is this distress come upon us," Gen. xlii. 21. Jonah in his confession said: "I am afraid of the Lord, the God of the heavens, who made the sea and the dry land," because "I know that for my sake this great tempest is upon you," chap. i, 10, 12. Judas, overpowered by the burning guilt of his unparalleled treachery, exclaimed, "I have sinned in that I have betrayed innocent blood; and he cast down the thirty pieces of silver in the temple, and departed, and went and hanged himself," Matt. xxvii. 3, 4, 5. John Randolph, the patriotic statesman, had so lived, that when he came to die, he cried out three times with a loud voice, "Remorse! Remorse! Remorse!" Perhaps the severest pain ever experienced in the great trunk-nerves of the body is the nearest approach we can make as to what remorse must be to the soul. After Charles IX. of France had long resisted the earnest entreaties of the Catholic cardinals to exterminate the Christian Huguenots—the very best citizens of France—he finally, after a painful struggle, yielded to their appeals, and

consented to the deed. Starting up suddenly in one of those transports of fury, to which he was subject, he declared, with fearful execrations, that not one Huguenot should be left alive in his kingdom to reproach him with the deed! And the Catholic party, being thus encouraged, so persevered with their entreaties, threats, and intrigues that he felt compelled to order the infernal butchery of those noble Christian people, who had so long manifested such uncompromising moral heroism. They so worried him, he gave the bloody order to obtain peace; but did he get it? This case reminds us of the noble Christians of "Tara" in Ireland, and their tragic fate. Crime and peace cannot unite. No. If there were no Huguenots to testify against them, there was an unseen God above and around them, taking a minute record of all their fiendish bloody acts; and a conscience within, whose scorpion stings would soon be felt to an extent that no language can express. Man can never get beyond these ever present witnesses, that cannot be spirited away, nor bribed, nor silenced. During the last hours of the French king, his agony was so great on account of his terrible crime that the blood not only poured out of his mouth, but in many places oozed through his corrugated veins. So unendurable does the mental pain inflicted by an outraged moral sense sometimes become, that the escaped murderer will, after traveling round the world and plunging into all the follies and vices of dissipation in search of peace, return to the scene of his crime, and give himself up with a request to be hung, hoping thereby to mitigate his sufferings; while others accomplish the same thing by poison, by drowning, by the revolver, or the dagger. The spirit (*roo-ach*) of a man will sustain or support

his sickness, disease, or pain of body, but a censured, condemned, punished spirit who can bear? Prov. xviii. 14.

478. When an abused moral sense is fully aroused, the will and all the mental faculties are utterly powerless, and the guilty wretch often seeks supposed relief by suicidally rushing into the presence of an outraged and Omnipotent God.

479. There is no ignorance so dangerous as that which proceeds from a benighted conscience ; being buttressed up by pride, conceit, obstinacy, and recklessness, all tightly bound together by self-will as by a massive ring of steel. So long as the unyielding resistance of the will continues, the soul simply cannot be saved. Hence the Saviour said : “ Ye will not come unto me that ye may have life,” John v. 40.

480. We cannot sever the bond that forever binds us to moral government ; nor can we escape the power or flee from the presence of conscience. It may be silenced for a time, may be put to sleep by persistence in ignorance, vice, neglect, or unbelief ; but, sooner or later, it will be startled into such energetic and ceaseless activity that sinners will say to the mountains and rocks, “ Fall on us, and hide us from the face of him that sitteth on the throne, and from the wrath of the Lamb,” Rev. vi. 16.

481. What pain is to the body, guilt and fear of punishment are to the soul ; what sensibility is to the physical body, consciousness is to the spirit ; what consciousness is to the spirit, conscience is to the moral sense and the mental faculties, and these again have direct reference to the Divine moral standard of thought, feeling, and action.

482. Consciousness is the spirit's functional power and act of knowing itself in its thoughts, emotions, and volitions. Conscience is the spirit knowing itself in all its moral relations, thoughts, feelings, choices, and volitions, with strict regard to the requirements of the Divine Law, with authority to command and approve the right, and to forbid and condemn the wrong.

483. A man's preferences determines the current of his thoughts, and these prepare the way for his belief, and belief gives birth to corresponding action, and repeated action forms character, and character determines destiny. Therefore every man is under imperative obligation not only to be sincere, but above all, to be correct in his thoughts, judgments, and feelings, that his convictions of duty may also be correct, measured by a Divine standard.

484. The sinner may say in his heart—There is no God; but in some unexpected moment that unseen Being may touch the secret spring of his conscience and compel the soul—the inner man—to see himself as he is. The result will be, the exclamation: O, wretched man that I am! encompassed by a life of sin, vice, and crime. O, whither shall I flee; an angry God above and a guilty conscience within—a stinging conscience within.

CHAPTER XXXV.

FAITH, WHAT IS IT?

485. Faith in its ordinary acceptation is a simple act of the mind—of a substantial personality. It was in this sense that Christ spoke of it in John x. 37, 38: “If I do not the works of my father, believe me not. But if I do, though ye believe not me (my declaration concerning myself), believe the works” (as right, great, and good; for such is the meaning of *kala erga*, v. 32).

486. The body is the instrument of the mind, and must do its commands; the mind is the agent of the spirit, and must carry out its behests; responsibility, therefore, in the last analysis attaches to the spirit, bearing the divine image in personality. Faith is the distinguishing power of the spiritual nature of man, as reason is of his mind and force of his body. As reason is superior to force, so faith is superior to reason. Faith enables us to grapple with our physical surroundings, control and subordinate them to our purposes. So reason enables us to grapple with our mental environments, giving us the mastery over principles which come within the domain of the mind.

487. Faith is a necessary element in all knowledge; they are inseparably united and cannot be divorced. Even our senses are not always reliable, and we must have faith in their normal action before we can rely upon their testimony.

“ Faith in the man and in the reliability and accuracy of his information are essential to the acceptance of the information he claims to impart, whether he be a messenger, teacher, scientist, philosopher, or historian.” The very food we eat is no exception. Indeed we live by faith as to our material bodies, and our social life is largely based upon it.

488. In this simple sense scholars often speak of faith. Richard Hooker says: “ Faith is the higher exercise of reason.” Prof. Virchow admits that “ faith is as necessary in science as in religion.” Prof. William Pierce says: “ Faith in the supernatural is as necessary in science as to the conduct of life; and the ripest scholar is not wise if he leaves behind him the filial spirit which says at every stage, ‘ Our Father which art in heaven.’ ” Prof. Gray says: “ Faith, in a just sense of the word, assumes as prominent a place in science as in religion. It is indispensable in both.” Prof. Cooke uses these words: “ Moreover, faith is not peculiar to religion. All our knowledge, not the result of personal observation and investigation, is held on faith, that is, on trust in other men; and absolutely all knowledge is held on trust in the authority of our own powers.” (Dr. G. H. McKnight.)

SAVING FAITH.

489. The Hebrew word *aman*, Gen. xv. 6, corresponds to the Greek word *pisteuo*, Gal. iii. 6; James ii. 23. The first time this Hebrew term, translated “ believed,” is used in the Bible, is in the above passage, “ And Abram believed in Jehovah, and it was counted [estimated, reckoned, accounted] to him for righteousness.” *Weheemin* is in the third person, *mas-sing* (*Pret.*

Hiph.), and is from the root *aman*, and expresses a Divine causative agent, co-operating with the immaterial, moral and spiritual personality of Abram, perfectly harmonizing with the New Testament declaration, that it is God who worketh in you both to will and to do of his good pleasure. The term "worketh" expresses a vivifying, or quickening of the soul by a Divine energy—or a Divine spiritual force—cordially welcomed into the soul to aid in its restoration to the Divine image in which it was created, Phil. ii. 13; Heb. xii. 2; Eph. ii. 8; Rom. viii. 26; James v. 16. The first thought Godward, the first desire for deliverance, the first longing for restoration to the Divine favor, and assimilation to the Divine nature are divinely originated. Indeed this must be so; for the sinner in and of himself is dead in trespasses and sins. Hence, the Scriptures affirm that the sinner is born again, "not of bloods"—natural descent, as from Abraham and Sarah, the boast of the Jews; "nor of the will of the flesh"—man's free will, which is carnal and corrupt, and hostile to God and holiness; "nor of the will of man"—the best of men as Abraham, David, and others who desire the salvation of their kindred; "but of God, who of his own will begat he us by the word of truth," John i. 13. And Paul confirms this when he says: "By the grace of God I am what I am."

490. Abram had been so mentally, morally and spiritually quickened that he realized in part the exalted nature of the Divine Being, beheld the spotless purity of his character, was assured of his comprehensive and unfailing love to man, was so fully convinced of his sublime and inflexible integrity and holiness that he believed with his heart and trusted in the Lord.

491. "*Weheemin*," he caused to believe, give credit to, confide in, lean on, depend on. His faith consisted in believing with the heart, resulting in joyful trust, that Jehovah was the promised Messiah—the divinely appointed author of salvation in the kingdom of God, accompanied with filial obedience to the Redeemer. Here all the intense longings and aspirations of Abram's spiritual nature found an unchanging and satisfying center of rest. His whole history proves this.

492. This faith implies that Abram believed: 1. That Jehovah was the "I am," the self-existent, independent, the source and producer of all life, and the rightful director of all its activities; the Moral Governor of the human race, and the prospective Lamb of God that should take away the sins of the world; 2. He gave credit to the revealed fact of his entire and continuous dependance on Jehovah for all that he needed in time and eternity, and the consequent obligations arising therefrom; 3. He trusted in the veracity, ability, and willingness of Jehovah to abundantly supply all the requirements of his material "outer man," and the substantial spiritual "inner man" here and hereafter; 4. He confided in and to him all the vast and inconceivable interests of the soul for time and eternity; 5. He leaned on him, as an ever present, never failing, and all sufficient support, amid all circumstances, and under all conditions; and 6. He depended on him as infinitely wise, omnipotent, omnipresent, merciful, faithful and loving Creator and Father.

493. In this incipient believing with the heart, the mind seizes the truth, II Thess. i. 10; Acts iv. 4; xxiv. 14; James ii. 19; and the affections embrace it, Rom. x. 9, 10; Acts viii. 37; Heb. x. 39. And this incipient

heart-faith is to Christian faith what the barely visible rosebud is to the full-blown rose; or what the infant is to the full-grown person. This faith ripens into Christian faith, an active and spiritual life-force, divinely produced; it incites to obedience, prompts to activity, promotes perseverance, works through love, purifies the heart, and leads to victory over the world, the flesh, and the devil. Under the influence of this faith and through its activities the soul becomes fixed and stable in its convictions, purposes, and determinations, implying the idea of a soul-seizure, and a moral and spiritual holding fast, leech-like to Christ, including the idea of confident realization, repose, and an abiding sense of security.

494. From the root of *weheemin* comes our "amen," meaning firm, faithful, trustworthy in fulfilling promises, "so it will be." This definition of the word is confirmed by the four ancient languages—Hebrew, Chaldean, Arabic, and Syriac. It is not a supplementary prayer as our dictionaries make it, "so let it be," but an expression of confidence and trust in the Divine Promiser to whom the prayer is addressed, and an assurance that the petition presented will be answered in some way most approved of by God the Father.

CHAPTER XXXVI.

THE HOLY SPIRIT, AND SIN AGAINST.

495. Three important considerations concerning the Holy Spirit: 1. Mind and the Holy Spirit are both invisible to man. Their presence can only be determined by the effects they produce. For example, cohesive force that binds particle to particle is not recognizable by any of our senses; but its effects are visible all around us. In each case the cause, whether material or immaterial, is alike real and substantial. 2. They are both indispensable to man. To be deprived of air for only a few moments is sure physical death, and to be destitute of the Holy Spirit, in the least degree, is certain spiritual death, with the fearful liability to the second death. 3. They are both independent of him; yet both are free to his acceptance, without money and without price.

496. Unpardonable sin against the Holy Spirit: Christ specially defines it as consisting in ascribing to Satannic power the miracles he was working by the power of the Holy Spirit. It was an evidence of perversity so complete that the man who committed it was utterly and forever forsaken—no mercy, no hope, and exposed to utter destruction.

497. Pardonable sin against the Holy Ghost: 1. Why hath Satan filled thine heart to lie to the Holy Ghost? It was with the deepest meaning

that this question was asked. Their dead bodies may be represented as still lying across the doorway of the Christian church.

2. We sin against the Holy Ghost when we indulge in wilfulness, for has He not come to us as our guide, able and willing to lead us in the way wherein we should go? "Wilfulness" grieves Him who would most gladly be our guide even unto death.

3. We sin deeply against the Holy Spirit when refusing to be comforted. He came to be the "comforter," yearning to soothe life's heaviest sorrows, and dry grief's bitterest tears. He is pre-eminently the God of all comfort.

4. We sin against the Holy Ghost in every form of untruthfulness, for over and over again does our Lord refer to him as the "Spirit of Truth."

THE BIBLE.

498. The temple of God's truth will stand in its symmetry and beauty and glory, and increase in each from age to age. Some of its scaffolds which men have erected around it, in creed and confession and interpretation will go down. Let them go. What man has made man may destroy; what God has given God will preserve. The grass of infidel oratory withereth, the materialistic scaling towers crumble away, theological kalsomining disappears, and the flower of Christian interpretation often fadeth, but the word of God shall stand forever.

499. For nearly nineteen hundred years the carnal Goliaths have made the Bible a target for their combined and varied forces, but in every age their batteries have been silenced, and they have passed away like the early

dew before the rising sun. Tyranny threw the prophetic history of the world into the lion's den, but an angel from Heaven rescued it uninjured. Popery has tried to reduce it to ashes, but like the burning bush of Moses it is still unconsumed, and still radiating light to the dark places of the earth. This Holy Book has been treated as an intruder, hated as a common enemy of humanity, thrown into the fires of criticism, and the furnace, like Nebuchadnezzar's, has been heated seven times hotter than it was wont to be, but it came out unhurt. Let the furnaces of the higher criticism be heated twenty-seven times hotter than they were wont to be heated, and the Bible will come out from the ordeal without the smell of fire upon its pages.

500. Let its sacred truths be to you and to me sweeter than honey, and the droppings of the honeycomb. Love it, embalm it in your memory, enthrone it in your heart, utter it on your tongue, embody it in your life, and immortality awaits you. For, as Gladstone truly said, "Talk about the questions of the day, there is but one question, and that is the Gospel. It can and will correct everything needing correction. My only hope for the world is in bringing the human mind into contact with Divine revelation." Inspired ideas clothed in human language, correctly understood, are the vehicle of Divine spirit and life, John vi. 63.

CHAPTER XXXVII.

IMMORTALITY.

501. "If God, as an intelligent Creator, can exist without a material body, does it not imply a very superior state of existence, and is it reasonable to deny the rational probability of the continued individual existence, under similar immaterial conditions and surroundings, of a personality possessing a nature precisely similar to that which must constitute the intelligent being of God." (Dr. Hall.)

502. "If God, as the Fountain of the universal force of vitality and mentality may exist, as a conscious personal being capable of designing and creating the world and the things therein, which few good thinkers now doubt, then surely it requires only a little extra effort to believe that human intelligences entirely Godlike in their nature and activity, only on a finite plane, may and actually will exist, when disrobed of mortality, with as true a personal and conscious individuality as does God himself." (Dr. Hall.)

503. "That there is a special use and even necessity for the life-force and mind-force of humanity retaining its individual personality after it leaves the material body it has inhabited here, and so on to eternity, would seem every way consistent with the nature of such rational, self-conscious and Godlike personality." (Dr. Hall.)

504. Why may not regenerated human souls, after their schooling isolation in the "human form divine," retain their individual forms and organized, conscious, intelligent personalities? Their Creator says they shall. For "we look for the Saviour, the Lord Jesus Christ, who shall change our vile body, that it may be fashioned like unto his glorious body," Phil. iii. 20, 21; "Neither can they die any more; for they are equal unto the angels," Luke xx. 36; and shall "shine forth as the sun in the kingdom of their Father," Matt. xiii. 43.

505. Immortality in the simple sense of being is one thing; immortality in the sense of *aionian* life, as the term is used in the Scripture, is vastly different. The inner, invisible, incorporeal being—the inward man—the soul is the true humanity. That is an emanation from the Divine Nature; it was breathed out of the Infinite Personality Elohim into the Adam; and this inbreathed spirit of lives constituted him a finite subject of moral government, with delegated powers to procreate other beings in all respects like unto himself. The sin of which he was guilty did not directly affect the duration of his being; but it did affect his physical, mental, moral, and spiritual condition with respect to sin and holiness, law and guilt, penalty and its execution. Though sin defiles, disfigures, and perverts the Divine image in man, it does not necessarily destroy it, or limit its existence. To change his condition in these respects in harmony with his moral nature was the great problem of the scheme of redemption—the central point to which all its provisions, agencies, and instrumentalities were directed. It was necessary for God to inbreathe the elements of His own nature into Adam to

render him capable of moral government, or to possess the faintest consciousness of moral obligation to an invisible Supreme Authority. God could not become incarnate in a being not bearing His essential form, and mental and moral likeness. Hence it became a physical and moral necessity that the Redeemer should be made like unto his brethren in all things, sin excepted. But even now, man may live forever. And though he has an instinctive anticipation of a future state of existence, it required a Divine Revelation to bring life and immortality to light. To supply this requirement, the Father sent his own beloved Son, and having assumed our fallen nature, he hastened to stand before bewildered humanity and unburden his soul by the grand announcement—"I am the resurrection and the life; he that believeth on me, though he die, yet shall he live; and whosoever liveth and believeth in me shall never die," John xi. 25. The Saviour not only conquered death in his own person for us, and put an end to the dominion of death over his own children, promising them final deliverance forever from its power; but he has revealed with greater clearness a future state of existence for humanity, and a state of incorruptibility and felicity into which all are invited to enter robed in the righteousness of Christ, and become sharers of spiritual (*aionian*) life and immortality," II Tim. i. 10; x. 28; vi. 47.

506. But what does the Bible say about "Immortality?" Let us see. The word is used three times in the Greek New Testament: *Athanasia*, deathlessness, immortality, I Tim. vi. 16; I Cor. xv. 53, 54. Another word is used twice, Rom. ii. 7; II Tim. i. 10, and rendered "immortality," namely, *aphtharsia*, incorrupt-

ibility, incorruptness, and, by implication, immortality. The term "immortal" is used once, in I Tim. i. 17, namely, *aphthartos*, incorruptible, imperishable, immortal, undying, enduring. I have already said that the context must be carefully considered in determining the precise meaning of words. Let us now carry out this principle with respect to the term "Immortality."

1. It is said in I Tim. vi. 16, that "God only hath immortality." Here the term (*athanasia*) clearly and exclusively refers to that life that has neither beginning nor end, of which God alone is the uncreated subject and source. This was His kind of immortality.

2. In Tim. i. 10, the Apostle tells us that Christ "brought life and immortality (*aphtharsia*) to light by the Gospel. Though they existed previous to that event they were then more clearly revealed and illustrated; and the great fact was more fully proclaimed that within every human being there is an immaterial spirit that is distinct from, and does not die with the earthly body, but may even be happy in paradise the very day of its departure from it, Luke xxiii. 43.

Inspiration teaches that we have an "inward man" and an "outward man," II Cor. iv. 16; and that while the latter is daily perishing, the former being regenerated is "renewed day by day." It was this regenerated "inward man" spoken of by Paul that was to "depart and be with Christ which is far better" than to continue in the perishing body. He who complies with the terms of the Gospel is now certain of eternal life, with all that it implies, John iii. 15, 16, 36; v. 24; vi.

40. But he who does not comply will be a certain subject of the second death, Rev. xx. 6, 14.

3. Christians are exhorted to "seek for glory, honor, and immortality," (*aphtharsia*), Rom. ii. 7, in order to gain "eternal life." Here the word evidently signifies that we are not to seek the praise that cometh from men, so natural to an unregenerate heart, John xii. 43, but seek that praise which cometh from God, Rom. ii. 20; Cor. iv. 5. This is the higher kind of immortality we are urged to seek after, in order to have rendered unto us "*aionian* life," namely, the Father's loving approval and Christlike nature—"Come ye blessed," endless well-being, and the imperishable and eternal honor of Divine fellowship, and the ceaseless increase in knowledge, love, happiness, and joy that cometh from God alone. This, in part, shall constitute the crown of glory that fadeth not away, and the boundless and glorious immortality that is the blood-purchased inheritance of every child of God. Gen. v. 24; II Kings ii. 11; Ecc. xii. 7.

507. This is the reward of those who believe with the heart unto righteousness, whose supreme passion is to love the Lord with all the heart, and with all the soul, and with all his might (Deut. vi. 5), and his neighbor as himself (Lev. xix. 18); and to dedicate body, soul, and spirit a living sacrifice, holy and acceptable unto God, in the name of Christ the Redeemer, and of the Holy Spirit the renewer and sanctifier, that he may experience with Paul that the life which he now lives is a life of faith that is hid with Christ in God, Col. iii. 3; Rom. xv. 16; I Pet. i. 2; I John v. 6, 7. This reward, which includes "*(aionian)* spiritual life" with all its inconceivable privileges, treasures, and

possibilities, is what we understand by Bible Immortality, which we are exhorted to seek. Instead of seeking this reward, How many of us are earnestly seeking death in the errors of our ways?

508. Is this state of existence unreasonable? The Creator and Father of the human race must certainly be distinguished for boundless knowledge, and must therefore be a person, for we cannot conceive of such a being except as a person having form. And if one intelligent person or being can exist, capable of thinking and knowing outside a material organism, why not more? Surely a number of intelligent persons, that no finite mind can enumerate, might live and die, and still exist as intelligent personalities, without possessing corporeal bodies.

509. "It is a scientific axiom that no entitative substance can be annihilated, hence the endless duration of the glorified spirit of man. All intelligent or candid scientists admit the possibility of a future state. Thousands of the best and wisest among scientific investigators have fully agreed as to its probability. And millions of the noblest of earth have maintained its certainty, even with their dying breath." (T. H. McMullin in *Microcosm*.) Jesus confirms it in John x. 27-29; xi. 25.

510. Immortality is not undying existence, for many spirits have existence in this world without the "life of God," Eph. iv. 18. Everlasting (*aionian*) life is not everlasting being, but everlasting well-being. Satan is not immortal in the Bible sense of the word, nor are his angels, nor are wicked human spirits.

I prefer to close this article with the declaration of the Saviour—one that has never been known to

fail the dying Christian. Of the millions who have rested on it in the last struggles with death, no well-authenticated doubt concerning it has come down to us. Jesus said "I am the resurrection, and the life; he that believeth in me, though he die, yet shall he live; and whosoever liveth and believeth in me shall never die. Believest thou this?" John xi. 25, 36. The intrinsic value of this life consists not so much in a promise as in an abiding union with and in Christ.

511. How Godlike the announcement! What an estimate placed upon the soul of man! How exalted the human form! And how glorious the prospects of sanctified humanity! And how sublime the halo of glory that encircles the three-one—Father, Son, and Holy Spirit! What a distinguished life awaits the faithful Christian!—life exalted, intensified, expanded, and ever enduring, mental freedom perfect, hidden things revealed, and the mental vision ever extending its horizon. It has not entered into the mind of man what God the Father has laid up for his children; how priceless the inheritance awaiting them! and how magnificent the mansion already prepared for them! Believest thou this?

CHAPTER XXXVIII.

MAN—HIS BODY, LIVING, DEAD, AND RAISED.

512. What is man (*enosh*) that thou art mindful of him? and the son of man (Adam) that thou visitest him? *Enosh*, a man, as diseased, mortally sick, miserable through sin. "Son of Adam, a fallen child of a fallen parent." Psa. viii. 4.

The above are the questions it is designed to answer in outline, as clearly as I can, but specially limited by what is expressed and implied in the original languages of the Sacred Scriptures and made known by true science. I have since early youth had great pleasure in contemplating the nature of the Creator as He has manifested Himself through His materialized thoughts in creation, and its special adaptation to the material, vital, and mental organization of man; and still more pleasure in studying Divine Revelation as an absolutely indispensable supplement to His manifestation in nature, and as specially and completely adapted to all the extreme requirements of man's spiritual and moral nature in his fallen condition. True science and Divine Revelation are bound together by bonds that never can be severed asunder; therefore, what God hath joined together no Darwinian, Evolutionist, or Materialist need attempt the impossible task.

MAN'S RELATION TO THE MATERIAL WORLD—WHAT IS
MAN ANATOMICALLY?

513. 1. Bone, muscle, nerve, and sinew; 2. Artery, vein, and capillary; 3. Blood, water, and lymph.

The average weight of the body of an adult man generally is one hundred and forty pounds six ounces, and of an Englishman particularly one hundred and fifty pounds. The skeleton is composed of two hundred and forty-six bones, including the thirty-two teeth, and measures one inch less in height than the living man, and weighs about fourteen pounds.

BONES.

514. The bones are the framework of the body, and give strength and solidity to the whole; they are equally adapted, by their numerous divisions and mutual suitability, to fulfill every movement which may tend to the comfort, utility, and preservation of the living creature. In the limbs they are hollow cylinders, admirably calculated by their conformation and structure to resist violence and support weight. They are composed of about one-third of animal substance, which is almost completely reducible to gelatine by boiling, and two-thirds of earthy and alkaline salts, as lime, etc.

MUSCLES.

515. The muscles are divided into voluntary and involuntary. The voluntary are the muscles of animal life, whose movements are subject to the will, as the muscles of the vocal organs, face, arms, and legs. The involuntary muscles are those of organic life, which are not under the control of the will, such as the intestines and the heart, which goes on contracting month after

month, and year after year, sleeping or waking, never stopping while we live.

The muscles are estimated at four hundred and eighty to five hundred, and to have upward of fourteen thousand intentions, designs, or purposes.

Every muscle is a bundle of tens of thousands of fibers, which vary in thickness from one five-hundredth to one fifteen-hundredth of an inch in thickness, and are made up of fibrilæ (thread-like fibers) only one twenty-five-thousandth of an inch in diameter. What each ultimate fiber or fibril loses in length during contraction it gains in thickness. Their power to contract depends upon the normal quantity and quality of arterial oxygenized blood and nerve stimulus. The muscles of the heart are exceedingly sensitive to the regularity of these supplies. Faintness or a slight tremor indicates a lack of them. Both sound and heat are produced by muscular contraction. Muscular contractility remains for a short time after death, for by the proper application of galvanism the motions of the body will often resemble those of life. "Five hundred and twenty-seven of these motor muscles, embracing all the lean, fleshy portions of the body, enter into the human formation, existing in various forms, taking directions the most opposite, yet wisely and beautifully adapted to the specific purposes for which they were designed." In the living body the will acts upon the muscles through the nerves to produce contractions and relaxations, and exerts an important influence in their manifestation of power. The distinction between voluntary and involuntary is not scientifically correct. "The voluntary muscles frequently act in opposition to the will, as in excessive fits of passion, where the will has no power to restrain

the violent contortions of the trunk and limbs of the body. However, the voluntary muscles are doubtless dependent for most of their movements upon the mind. The more intimate, healthy, and well-balanced the connections in the living subject, the more beautiful and perfect will be the muscular display, as may be seen in the graceful movements of a symmetrical and highly accomplished young lady, the astonishing feats of a star gymnast, the inimitable musical execution of Ole Bull, and the entrancing song of Jenny Lind." This last sentence rightfully belongs to the physiological division, but it was thought best to introduce it here.

NERVES.

516. Dr. Draper has well said "that the position of any animal in the scale of life is directly dependent on the degree of the development of its nervous system. Through this it is brought into relation with the external world, deriving sensations or impressions therefrom.

"The brain is the working center of the nervous system, and consists of the cerebrum or large upper portion, and the cerebellum or little portion at the back of the head, and the pons varolii and the medulla oblongata. The pons varolii is a bond of union or a bridge between the cerebrum above, the cerebellum behind, and the medulla oblongata below—being made up of fibers from these bodies and passing in different directions from one to another. The medulla is the upper enlarged part of the spinal cord within the skull; and from it are given off all the cranial nerves except two pairs, the nerves of smell and of sight. Thirty-one pairs of nerves proceed from the anterior and posterior

divisions of the spinal cord. Each nerve arises from the cord by two roots, the anterior and the posterior roots, which then unite to form a single spinal nerve. The anterior roots are generally called motor, being the medium of nerve-force, as the wire is the medium of the electricity that carries the message, moves the car, or produces the light; and the posterior roots are called sensory, because they carry impressions from the surface where they originate to the centers in the brain and cord. Those nerves which carry the nerve-force from the brain to the extremities are called efferent nerves; while those which convey impressions from the outside to the brain are called afferent nerves.

“The nervous tissues are composed of essentially two kinds of structure, vesicular and fibrous. The vesicular nervous substance is composed of little globular cells, which vary in size from one one-thousandth to one five-thousandth of an inch in diameter, and are of a reddish gray color. This vesicular structure is generally collected in masses and united with the fibrous structure, as in the brain, spinal cord, and the several ganglia, or small bulb-like masses.

“The fibrous nervous system consists of minute fibers, which vary in size from one five-thousandth to one fourteen-thousandth of an inch in diameter. The minute filaments which compose the nerves are very small tubes filled with nervous matter.”

In all probability there are not less than ten thousand nerves, each of which, like a skein of silk, is composed of threads termed filaments, and each finer than the finest spider's thread. It is very remarkable that different nerves are endowed not with sensibility in general, but each with a different kind of sensibility. For

example, the nerve of touch is insensible to light, and the optic nerve is sensitive only to light, and the olfactory nerve is insensible to a prick, but not so to an odor.

“Every part of the brain proper (cerebrum), may be sliced off without any external sign of animal suffering, except the nervous enlargements, termed tubercles, situated at its base ; but the moment the knife penetrates these tubercles the animal is thrown into the most terrific convulsions, accompanied with audible expressions of intense agony.” (Dr. Huff.) “In the removal of the brain proper, the external senses ceased to manifest perception ; (volition), memory, judgment, and intelligence were annihilated, while no physical sensibility was experienced. But if the little and lower brain—cerebellum—be taken from within the skull while the brain proper is undisturbed, perception is retained, but the power of voluntary motion is gone ; the animal reels and staggers as if drunk.” (Dr. Huff.) “In depriving the animal of the brain proper, it was thrown into a state resembling sleep ; in taking away the little brain—cerebellum—into a condition like intoxication. Death did not in either case immediately follow ; but when I removed the medulla oblongata, the animal immediately perished.” (M. Florin, France.)

“The medulla oblongata has been termed the link which binds us to existence. It is here where the nervous fibers from the cerebrum, cerebellum, and the spinal cord cross each other and mingle together. It is here that the nervous force is generated which presides over the important vital process of respiration. That it is the center where the functions of the mind and body meet cannot be doubted. The origin of the

nerves of volition appear to arise from the upper part of the medulla oblongata, two balls, termed 'Ophthalmic.' The removal of the brain above this section destroys the manifestation of the will, but not involuntary muscular action. Hence, the presumption that the central seat of animal life is in the medulla oblongata and that of soul in the corpus colosum in the brain immediately adjoining." (Dr. Huff.)

517. The average weight of the brain of a man is three pounds eight ounces, and that of a woman two pounds eleven ounces. The human brain exceeds twice that of any animal.

The measurement of that part of the skull which holds the brain is stated in cubic inches, thus: Anglo-Saxon, 105; German, 105; Negro, 96; Ancient Egyptian, 93; Australian native, 50.

In all races the male brain is about ten per cent. heavier than the female. The highest class of apes has only sixteen ounces. Rather bad for Darwin!

The average weight of brain in man is in ounces and the fraction of an ounce, as follows: Scotch, 50.0; Germans, 49.6; English, 49.5; French, 47.9; Chinese, 47.2; Italians, 46.9; Hindoo, 45.1; Bushmen, 44.6; Esquimaux, 43.9, as heavy as the Scotchman's compared with the body.

A man's brain is estimated to consist of three hundred million nerve cells, of which over three thousand are disintegrated and removed every minute. If this is correct, then every one has a new brain about once in sixty days. After the age of fifty the brain loses an ounce every ten years.

Post-mortem examinations in France give an average of fifty-five to sixty ounces for the brains of the worst

class of criminals. Cuvier's, the great naturalist, weighed sixty-four ounces, Byron's, the poet, seventy-nine, and Cromwell's, the statesman, ninety, but it was diseased.

LUNGS.

518. The lungs of an adult man are estimated to contain about six hundred million, or more, of air cells, the united surface of which is equal to fifteen hundred square feet, or a surface thirty times greater than that of the human body. The capacity of the lung-cells is equal to about eleven pints of atmospheric air.

The cell walls are formed of an exceedingly delicate membrane, covered with a very fine network of capillary (hairlike) blood vessels, being only one three-thousandths of an inch in diameter—so fine that two hundred of them would be required to equal the size of a cambric needle. Through these tiny tubes the blood corpuscles pass in single file, exchanging their load of electrized oxygen for one of carbonic acid gas.

BLOOD.

519. The average weight of blood in an adult human being is twenty-eight pounds; and the amount that will drain from the body under favorable conditions is about seven pounds.

The arteries and veins are most admirably adapted to convey the blood to all parts of the system in proper quantity, and within the necessary time, as well as providing against accident by anastomosis. For free communication between all arteries and veins is often of vital importance in case of accident. The arteries are cylindrical tubes which convey the blood from the ventricles of the heart to every part of the body. They

terminate in the microscopic network of the capillary system ; the small tubes of which are about one three-thousandths of an inch in diameter ; so fine as to render it impossible to introduce the smallest needle point beneath the skin without wounding several of these fine blood vessels, by which all the nutrition of food is imparted, and secretion is performed. The veins take their rise in the capillaries and gradually enlarge, till they terminate in the main trunks which convey the venous blood directly to the heart. Both arteries and veins are supplied with an elaborate system of valves, equal to all the demands of the hydraulic engineer.

SOLID AND LIQUID.

520. If a healthy human body weighs one hundred and fifty pounds, out of that weight one hundred and ten pounds are water (a compound of one part by weight of hydrogen and eight of oxygen, both invisible gases), and the remaining forty pounds constitute the solid part. The human embryo is ninety per cent. water ; and yet the life and spirit germ inclosed in the material covering has amazing possibilities with respect to this life and that which is to come.

Our Tabernacle is an epitome of the earth, and must therefore be of the earth and earthy, I Cor. xv. 47. It is made up of many parts, and each part is a wonder within a wonder. David compares it to embroidery or needlework, Psa. cxxxix. 15. Every part, however large or small, is of exact mathematical proportions. The nature of the nerve, the size, number, and strength of the blood vessels ; the size, length, strength, and elasticity of the muscles ; and the formation, size,

length, strength, and weight of the bones are all proportioned to the mass of the earth and the specific gravity of the atmosphere ; as each square inch of the human body must bear an external pressure of fifteen pounds, from the new-born infant to the man of a hundred years or more.

CHAPTER XXXIX.

WHAT IS THE BODY OF MAN CHEMICALLY AND ANALYTICALLY?

521. Chemically the material body of man is composed of ponderable or confinable substances—that is, substances that may be weighed, as solids, liquids, and gases: 1. Solids: lime, soda, sulphur, silica, alumina, gluten, sugar, starch, gum, casein, fibrine, albumen, dextrine, hamatia, ceret, gelatine, pepsin, pancreatin, ammonia, sodium; 2. Liquids: water, blood, muriatic, acetic, formic, lactic, butyric, succinic, oxalic, rosasic, benzoic, uric, hipuric, diabetic, picric, and phosphoric acids; 3. Gases: oxygen, hydrogen, carbon, and nitrogen. 4. Imponderable or inconfinable substances: as caloric, light, electricity, magnetism, and ether.

WHAT IS MAN ?

What is man, who is five feet eight inches high, and weighs one hundred and fifty-four pounds? Of the thirteen elements entering into the chemical compounds of his body, five are gases and eight solid substances.

Gases: Oxygen, 97 pounds, if set free from the body would fill a space of 1,090 cubic feet. Hydrogen, 15 pounds, if set free from the body would fill a space of 2,750 cubic feet. Nitrogen, 3 pounds 13 ounces, if set free would fill a space of 48.3 cubic feet. Fluorine, combined with calcium, 3.5 ounces. Chlorine, 4

ounces, one of the constituents of bleaching powder. If all these gases, entering into one such man, were set free they would fill a space of about 4,000 cubic feet.

Solids: Carbon, or charcoal, 31 pounds. Phosphorus, 1 pound 12 ounces. Sulphur, 3.5 ounces. Iron, one-tenth of an ounce. Calcium, a yellowish metal, the basis of lime, 3 pounds 13 ounces. Magnesium, a silver-hued metal, 1.8 ounces. Potassium, 2.8 ounces. Sodium, 2.6 ounces.

Principal chemical compounds into which the foregoing elements enter: Water, 96 pounds or 46 quarts. Proteine compounds, 24 pounds. Fats, 23 pounds. Mineral salts, 10 pounds 13 ounces. Carbohydrates, starch and sugar, 3 ounces. Carbonate of lime, 1 pound. Phosphate of lime, $8\frac{1}{4}$ pounds. Fluoride of calcium, 7 ounces. Phosphate of magnesia, 6 ounces. Chloride of sodium, 6 ounces. Chloride of potassium, 5 ounces. There are other compounds as protagon and lecithin, substances found in the brain, spinal cord, and nerves. Hemoglobin, the red coloring matter of the blood, which serves to carry and distribute the oxygen from the lungs to the different parts of the body, is included in the proteine compounds.

In the foregoing list we have given most of the known chemical constituents of the human body as a material organization. In various and widely differing proportions they enter into and form the different parts of the living organism of both man and animals. Indeed many of the chemical constituents enter also largely into vegetables. The formation or proximate principles of which are composed of oxygen, hydrogen, carbon, and nitrogen. Indeed the whole animal and vegetable economy is reducible to these four primary elements.

Man may decompose and analyze animal and vegetable substances, and determine their constituent principles, but he never has, and never can, recombine and form them again into animal and vegetable organism. There is no law in Nature by which an organized existence having life, either animal or vegetable, can be produced. Hence the imaginary law of evolution, as taught by Spencer and others, has signally failed to develop a single fact or truth in this particular. Therefore we conclude that all organized existence, of whatever character, originated with the Great First Cause of Infinite Intelligence and Wisdom, whom the Bible calls God. (From an article in *Microcosm* by Elder J. G. Burroughs.)

WHAT IS MAN PHYSIOLOGICALLY?

522. On the introduction of a human being into this world the first perceptible manifestation of independent life is the action of the lungs. Our attention will therefore be first drawn to the functions of the lungs in an adult with respect to the atmosphere, which is composed of four-fifths nitrogen and one-fifth oxygen. It is assumed that a man breathes about twenty times in a minute, or twelve hundred times in an hour. He requires about eighteen pints of air in a minute, or about one hundred and thirty-five gallons per hour; he gives off 4.08 per cent. of carbonic acid in the air he respire; he respire 10.666 cubic feet of carbonic acid gas in twenty-four hours; and he consumes 10.667 cubic feet of oxygen in twenty-four hours. As the air consumed passes through the six hundred million cells in the lungs it gives up its electrized oxygen to the blood, and ex-

tracts the carbonic acid from it, containing a part of the worn-out tissue of the system.

The form, strength, symmetry, and adaptation of the bones to accomplish the evident design of Infinite Intelligence are such that no mechanical scientist can point out a defect or suggest an improvement. The weight of the atmosphere, the density of the earth, the chemical elements of rocks and vegetables, and the thousands of complicated movements, and various arduous labors, have all been carefully considered in their construction. And if such be the exquisite structure, solidity, and flexibility of the mere framework of a temporary abode, what must be the exalted nature of the substantial entity that resides within, made only a little lower than the angels?

Careful investigation shows that air containing more than six-tenths of one per cent. of carbonic acid gas in one thousand parts of air is not only adverse to comfort but injurious to health.

523. The perfection of the organs of respiration excites our wonder. So delicate are these organs, that the slightest pressure would cause pain, and if persisted in, as in the case of tight corsets, suicidal death. Tons of air are required to surge back and forth through the intricate passages of the lungs, and constantly bathe their innermost cells. Every year an average-sized adult person performs about seven million acts of breathing, inhaling one hundred thousand cubic feet of air, purifying over three thousand five hundred tons of blood, which supplies nourishment to the vital principle of the body, and thus enables the soul-forces to act with normal activity. He gives off about seventeen ounces of carbonic acid every twenty-four hours, or one

hundred and twenty-four pounds of pure carbon during the year. This amazing process goes on constantly, and with healthy lungs never wearies nor worries us, and we only wonder at it when science reveals to us its intricacy and magnitude. To promote comfort, health, and sustain life in a normal condition, it must be pure, of proper quantity and density, and pervaded by electricity. Expired air is deprived both of its oxygen and electricity, and is literally dead air. Oxygen is properly the scavenger of the circulatory system, and electricity its stimulator. In addition to sustaining the life-principle and forces in activity, respiration is made to subserve a secondary and very important use. In passing through the vocal organs it produces a series of interesting sounds, varying in pitch, intensity, and quality, capable, though unseen and immaterial, of calming and swaying the boisterous masses of humanity with magical effect; or entrancing melodies and harmonies most sublime; or heard in the pleading accents of penitence, of faith, of hope, and of love; or experienced in timely encouragement, tender consolation, and exquisite social enjoyment. No musical instrument was ever constructed that equaled the human vocal organs, and no music equals that produced by the human voice in its highest artistic development; which is a prophetic indication that it was designed for a higher state than this. All music first exists in the soul before it proceeds from the instrument on which the muscles act.

524. None of the demands of the body are so imperative and immediately necessary as that of air. A man will die for want of air in five minutes; for want of sleep in ten days; for want of water in a week: for

want of food, at varying intervals, dependent on various circumstances. In 1684, four men were taken alive out of a mine in England after being twenty-four days without food. In 1880, Dr. Tanner, in New York, lived on water for forty days, losing thirty-six pounds in weight. Fresh water weighs ten pounds to the gallon, and yet consists of two invisible gases—one part by weight of hydrogen and eight parts by weight of oxygen. How wonderful that such a compound should support life so long!

525. From the watery vapor of the expired air from the human lungs, Prof. Brown-Sequard obtained a poisonous liquid, which, when injected under the skin of a rabbit, produced almost instant death, without convulsions, but with the heart and large blood-vessels engorged with blood. The poison is an alkaloid; *i.e.*, it possesses in some degree the properties of an alkali, such as potash, soda, and ammonia, which have the power of changing vegetable colors to green. Expired air, both of man and beast, contains a volatile poisonous principle which is much more injurious than carbonic acid gas.

526. During damp weather, poisonous air is more injurious than during dry weather. Though oxygen, nitrogen, and pure air, are almost equal in their capacity for transmitting radiant heat, a particle of aqueous vapor is estimated to have sixteen thousand times the absorptive power of an atom of oxygen or nitrogen; and carbonic acid gas is extremely absorptive. As a damp atmosphere can take up and retain thousands of times more poisonous effluvia than it could possibly do in a dry state, it becomes just in the same proportion injurious to health. Therefore, if we are to have

buoyancy of spirits, robust health, vigorous and active minds, and long and useful lives, we must avoid badly ventilated rooms, a damp, vitiated atmosphere, and all impure beverages that corrupt the blood, diminish vitality, and engender disease that often ends in a premature death. The exhaled air is so poisonous, that if rebreathed without any admixture of pure air it would produce suffocation in about sixty seconds. A man of medium height will expel at a single full breath about two hundred and thirty cubic inches, or one gallon; leaving in the lungs about one hundred cubic inches which cannot be expelled, because its continuous action is required there by the life-principle and forces; thus showing the entire lung capacity to be about three hundred and thirty cubic inches, or eleven pints. The conclusion is that pure air and a proper supply of electricity are absolutely necessary, not only to health but to mental, moral, and spiritual activity; while impure air, carbonic acid gas, and the alkaloid deathly poison expired from the lungs are detrimental to each and all of them, and in many cases fatal. We now turn our attention to the stomach equally adapted to food as the lungs are to air.

STOMACH.

527. The stomach is the principal organ of digestion. It is about twelve inches long by four inches deep, and is placed immediately below the diaphragm in the cavity of the abdomen, more upon the right side of the body than the left. The diaphragm separates between it and the heart and the lungs above. The stomach is lined by a thick, soft, and velvety mucous membrane, which, to the magnifying-glass, presents a peculiar honeycombed appearance, which is due to the opening of

the ducts from the little glands situated in and beneath the membrane. These glands secrete an acid fluid known as the gastric juice, which contains a substance known as pepsin, exceedingly necessary in the digestion of food, which is carried on at a temperature of about one hundred degrees, Fahr.

About twenty feet of the small intestines have a lining mucus membrane like the stomach ; it is covered with a network of capillary and lacteal vessels known as villi, estimated at four millions. The upper part receives a digestive fluid from the pancreas (a gland about six inches long, sometimes called "sweetbread," behind the stomach and near the spleen), and the bile duct, to complete the solution of the food received from the stomach. The whole intestinal canal is about twenty-five feet long. While passing through the stomach and small intestines the nutriment of the food is extracted for the supply of all the demands of every part of the body.

528. The average yearly consumption of food, termed necessaries of life, required by each adult person, is given in pounds, as follows : In the United Kingdom it is, grain, 330 ; meat, 105 ; butter, 13 ; and sugar, 68. In the United States, grain, 392 ; meat, 120 ; butter, 16 ; and sugar, 23. In eleven European nations, including the above, it is, grain, 445 ; meat, 70 ; butter, 7 ; and sugar, 20.

Now, we will take a very moderate average of what an ordinary healthy, temperate man engaged in active exercise requires to keep him in a comfortable and effective physical condition. We assume that such a man requires about four pounds of fluids and about nine ounces of solid food regularly in twenty-four hours.

Of course there is a great diversity in this respect. For instance, a German beer drinker may possibly consume twenty pounds of fluid, and three pounds of solid food daily. But we give the most moderate estimate as the basis of our calculations. "In one year, however, this amounts to seventeen hundred pounds; and if life be prolonged to threescore years and ten, it amounts to one hundred and nineteen thousand pounds of matter that has actually passed through the system of every man who has arrived at the age of seventy years; enough to construct seven hundred and ninety-three human bodies of one hundred and fifty pounds each, with a fraction over for good measure."

529. Prof. Huxley says: "Some part of the body of a living man is plainly always in motion. A living, active man constantly exerts mechanical force, gives off heat, evolves carbonic acid and water, and undergoes a loss of substance. He loses every day three hundred grains of nitrogen (in the ashes of the oxidated or burnt tissue), six and a half pounds of water, and burns ten and a half ounces of carbon. Altogether he loses from seven to ten pounds in weight daily. This loss is very sensibly felt by the subject, who soon suffers from hunger and thirst, and loss of energy, strength, and activity. This state of things could not continue many days or the man would dwindle almost to a skeleton."

530. Viewing the human body merely from a scientific standpoint, who that respects his intelligence will venture to say that the identical body that is put into the grave will be raised again? It is not in harmony with the present laws of Nature, nor with the wisdom of the Creator. The body in and of itself consists of about one hundred and ten parts of water, holding in solution

about forty parts of solids, and, in a good fresh state in a good market, might bring from twenty dollars to twenty-five dollars. That is all. My body will be no more to me, when its divine purpose is served, than any other matter of like kind. I am now in my seventy-seventh year, and if careful estimation may be relied on, I have had very many bodies during that period, and some very much better and more perfect than the one I now have, permanently injured by "la grip." Both Science and Revelation unite in one emphatic declaration that the same body that is put in the grave will not rise again.

531. What has my personality—my personal self, unchanged amid all changes—to do with my cast-off, corrupt, offensive, death-producing body? for what odor more offensive or poison more fatal than that of which it is the source? There will be a Resurrection of the dead—of the departed, it is certain; but not of the identical body that is buried in the grave. Even the living body, full of life, energy, and activity; blooming in beauty, and perfect in symmetry, must undergo a radical, if not an exalted, change ere it is fit for the spirit world. Even were the same body that is buried to be raised again, millions are so sin-cursed by vice, that they would have to be purified as by fire in order to fit them for any respectable place of existence hereafter. Away with such nonsense! it is a severe reflection on the Divine wisdom and goodness. He will clothe the soul in a body as it pleaseth Him, but not one of flesh and blood.

CHAPTER XL.

THE HEART.

532. As soon as the left ventricle of the heart is filled with purified blood, its strong muscular walls contracts and forces open the semilunar valve, and sends the blood into the aorta, thence all over the body, with such force that all the large arteries swell and throb as the blood rushes through them in response to the contraction of the heart. The throb, swell, or beat is called the pulse. The average of the pulse in infancy is one hundred and twenty a minute; in manhood, eighty; at sixty years, sixty. The pulse of females is more frequent than that of males. The heart of the dram drinker gives thirteen beats per minute more than that of the abstainer. On an average the heart of an adult is estimated to beat seventy-five times in a minute; and sends nearly ten pounds of blood through the veins and arteries each beat; it makes four beats while we breathe once. There cannot, it is said, be less than ten thousand veins and arteries distributing blood to every part of the system. Hence, five hundred and forty pounds, or sixty-three gallons and about one pint of blood passes through the heart in one hour; and twelve thousand pounds, or one thousand five hundred and sixteen gallons, pass through the heart in twenty-four hours. It is estimated that one thousand ounces of blood pass through the kidneys in one hour. And that during a

lifetime of eighty years the heart propels half a million tons of blood through the human system. An approximate estimate of the quantity of blood in a human body is about one-eighth that of the body.

533. Under favorable conditions a person can receive most physical rest lying in a horizontal position, because the heart beats about ten strokes less in a minute; consequently eight hours rest in bed gives a rest of about five thousand contractions of the heart.

534. The three constituents of the blood are fibrin, serum, and corpuscles—white and red, one of the former to four hundred of the latter. These constituents are composed of albumen, fat, sugar, soda, salt, iron, lime, magnesia, water, carbonic acid gas, oxygen, etc. The fibrin and serum together in the living blood form the plasma. The red corpuscles are small, flattened circular bodies about one thirty-two hundredths of an inch in diameter, and not more than one quarter as thick. It would take one hundred and twenty billion of them to make a cubic inch. The white corpuscles are larger in size, globular in shape, and granular in appearance.

535. The elements of human blood are, water, 78; albumen, 6.3; coloring matter, 14.1; and various salts, etc., 1.9. The office of this composite fluid is to carry nutriment to the tissues to assist in their repair, and to carry out of the body the products of waste—the ashes, so to speak, of the oxidized tissues which have been burned or consumed in the production of force and animal heat. The special office of the plasma is to nourish and rebuild the tissues and to carry the products of waste and combustion to those organs—such as the liver, kidneys, and skin—whose function it is to separate them from the blood and carry them out of the

body. The particular office of the corpuscles is to carry electrized oxygen from the lungs to the tissues, and carbonic acid gas from the tissues to the lungs, to be expelled from the system. Good blood is the product of a healthy body from nutritious food, good in quality and sufficient in quantity, with plenty of pure air and the necessary exercise; this only can furnish the proper stimulus to every muscle and fiber in the animal system. Man is possessed of two wonderful faculties for the proper inspection of food—the sense of smell and the sense of taste. The aroma and flavor of substances fit for food are rendered agreeable to him; while the odor and taste of substances unfit for food and harmful to the body, are generally disagreeable, nauseous, and even disgusting to him. Tainted meat, or decomposing eggs, would be very harmful taken into the stomach. Hence, such articles are promptly rejected by the official inspectors—smell and taste. Certain injurious substances may fail of detection by any of the senses; but even in the stomach there seems to reside a sense of the fitness of things, and if the injurious be received, it quickly seeks to expel it by the act of vomiting. Nothing could be more perfect than this system of inspection and elaboration of the food.

536. To preserve the health and strength it is absolutely necessary that food should be in generous quantity and quality, and in a condition suited to the state of the stomach. To illustrate my meaning, I refer to a fever-patient. In a fever of whatever kind, the tissues are being far more rapidly oxidized or burnt up than in health, as evidenced by the great heat of the body and the rapid loss of weight. Under such circumstances, the patient, to keep up his loss, really requires more

food than in health, but in a condition that calls the stomach as little as possible into action, and yet how often he is deprived of food almost entirely for days together, with the idea of "starving a fever." It is the patient, and not the fever that is being starved. The tissues of the body are being rapidly consumed, and if proper food is not furnished to rebuild the tissues the patient must die of exhaustion. The heart of a man is said to change in about thirty days and that of a woman in less time. Many a fever patient has been literally starved and drugged to death, and a heavy bill paid for the privilege of having it done professionally.

The materials of the blood are so varied and so refined that they penetrate the minutest parts of the physical system, and assimilate to muscle, bone, skin, hair, cartilage, nerve, and brain. So important is the blood to life, that the loss of over two pounds, and in some cases less, is almost sure to prove fatal.

What pure blood is to the animal life-principle of the body, so God's meaning of his own word, associated with the energy of the Holy Spirit, is to the substantial spiritual life-principle of the soul; the functions of which are manifested in saving-faith, obedience, love, trust, and hope. These are the cardinal functions of the new creature, born from above. Food for the animal life is derived from the material world, while food for the spiritual life is derived from the expressed thoughts of God accompanied by the illuminating, sustaining, and comforting energy of His Spirit. The one is material and the other spiritual, but none the less real.

537. About one ton and a half, in the form of food and drink, is added to the blood of an ordinary healthy

man during the year. As there is the same amount of waste, a ton and a half of material, therefore, must be carried out of the body through the blood during the same time. Some of the products of oxidation, as urea and carbonic acid gas, are very poisonous to the nervous system. Certain organs, as the kidneys, skin, and the lungs are designed specially to remove these poisons from the current of the blood, and carry them out of the body.

538. Poisons in the blood are very injurious if not fatal to animal life. Urea and uric acid are poisons generated in the body and manifest themselves in rheumatism, and principally affect the fibrous tissues, including the heart. The same may be said of lithic acid, mercury, and other corrupt and corrosive particles that ought to pass off. Alcohol and tobacco are strong poisons to the whole body, and especially to the brain, frequently resulting in alcoholic insanity; it kills the life-globules of the blood, and fills it with dead matter; severely overworks the liver and produces disease; it deranges the action of the heart, and fills it with small fatty particles of dead matter, which often causes sudden death; or it overpowers the brain with a sudden rush of blood, which generally ends in apoplexy and death. More than half the insane people in the United States are to-day made so through alcoholic poison and its adulterations! It is quite probable that nearly all the hereditary insanity is produced by it. Sixty thousand persons are killed by it in this country every year. Alcohol is a fearful brain poison from first to last, saying nothing of the equally fatal but more speedy poisons it often contains. What poison is to animal life, so error with respect to our salvation is to the soul.

THE SKIN.

539. The skin not only covers the body and protects the soft parts from injury, but it is also an excretory organ, exhaling a large portion of the fluids given off from the body, besides being the chief means of maintaining the animal heat at an equitable point. The skin is composed of two layers. The deeper one is termed the derma, or true skin, and the surface layer the epidermis. The derma is composed of strong elastic and inelastic fibers interlaced with each other. In its substance are the sweat-glands—little coiled tubes, which pass up through the entire thickness of the skin and open on the surface. At the root of each hair is a little gland, sometimes two or more, called sebaceous glands, which secretes an oily substance which lubricates the hair and surface of the skin. This oily substance often covers the sweat glands, and dries over them like a coat of varnish, preventing the poisonous and offensive matter that forms in the body from escaping, and causing it to the extent of several ounces a day to be forced inward on the more vital parts to putrefy and poison the body. In a healthy state of the organism more than one-half the food consumed by us is finally liberated through the pores in the form of sensible and insensible perspiration from the skin. Unless these pores are kept open disease and sickness of some kind will surely follow. The skin excretes ordinarily, perhaps, more water than the kidneys, amounting to one or two pounds daily. Other excretions are also eliminated by the skin, so that it becomes one of the most important organs of the body.

The number of pores in a square inch on the palm of the hand has been found to be 3,528; each of which

little tube is about a quarter of an inch long ; it follows that, in a square inch of skin on the palm of the hand, there exists a length of tube equal to 882 inches, or $73\frac{1}{2}$ feet. According to Surgeon Wilson, 2,800 might be taken as a fair average of the number of pores in the square inch. Now the number of square inches of surface in a man of ordinary height and bulk is 2,500 ; the number of pores, therefore, is seven millions, and the number of inches of perspiratory tube, 1,750,000 ; that is 145,833 feet, or 48,600 yards, or nearly twenty-eight miles. Surely such an amount of drainage as seventy-three feet in every square inch of skin, assuming this to be the average of the whole body, is something wonderful, and the thought naturally intrudes itself—what if this drainage were obstructed ?

One of the very best cleansing baths is an alkaline one, made of soft water, rendered slightly slippery by washing-soda, and freely aided by a flesh-brush. Good baths wisely and thoroughly applied, with suitable diet, and good nursing will, perhaps, alone cure nine cases of ordinary sickness out of every ten.

HUMAN HAIR.

540. Hairs are horny appendages of the skin ; they vary much in size in different parts of the body. The center of each hair is porous and loose in texture ; it is formed of plastic lymph, first converted into granules, then into cells, which are converted into fibers. But the cells which form the dense surface of the hair are converted into flat scales, which inclose the central fibrous structure ; these scales overlap each other like the scales of a fish. This overlapping line is the cause of the roughness perceived in drawing a hair, from its point to its bulb, between sensitive fingers.

541. The hair of the head is not only ornamental but a protection of the brain against both heat and cold, and to some extent against sudden contact with hard substances. Light or blond hair is generally the most luxuriant, and it has been estimated that the average number of hairs of this color on an average person's head is 140,000; while the number of brown hair on a like head is 110,000; and black only 103,000.

542. What a beautiful and expressive significance this fact gives to Matt. x. 28-31; Luke xii. 4-7; xxi. 17-19? The very hairs of his children's heads are all numbered, and not one of them shall perish without the notice of your heavenly Father! Though the expression is said to be proverbial, it is designed to show a glorious fact—God's perfect knowledge of, and constant parental care for all His creatures, and especially His children for whose salvation He gave the life of His own Son.

543. The hair has played a very important part in Scripture history, sanitary and otherwise. It enabled the priest to determine a true case of leprosy, Lev. xiii. It led to the death of that proud, ungrateful, traitorous son Absalom, II Sam. xviii. 9, 14, 15. It was the conspicuous token of God's covenant with Samson to supply him with all necessary physical strength, as a Judge of Israel. Samson broke the covenant in allowing his braids of hair to be removed; and the withholding of his accustomed strength was a sensible manifestation to him of God's displeasure at his conduct, Judg. xvi. 17. Its preservation was a very distinguishing mark of God's special care and protection, Dan. iii. 27. It is the covering and glory (ornament) of woman, I Cor. xi. 15, and was a means of expressing

her remarkable humility and love, Luke vii. 38, 44; John xi. 2; xii. 3.

Contemplating man in relation to power, we are struck with astonishment. On the assumption that the number of square inches on the body of an ordinary man to be 2,500, and the pressure upon each fifteen pounds, the total pressure on the whole body is over thirteen tons!

Borelli demonstrated that when a man lifts up with his teeth a weight of two hundred pounds with a rope fastened to the jaw-teeth, the muscles with which people masticate their food exert a force of about 15,000 pounds weight. If any one hanging his arm directly downward lifts a weight of twenty pounds with the third or last joint of his thumb, the muscle which bends the thumb and bears that weight, exerts a force of about 3,000 pounds. When a man standing upon his feet, leaps or springs upward to the height of two feet, if the weight of such a man be one hundred and fifty pounds, the muscles employed in that action will exert a force of two thousand times greater; that is to say, a force of about 300,000 pounds. If such be the "outer man," what must be the "inner man" for the convenience of which the former was made? (See paragraphs No. 411-414.)

PROF. HUXLEY'S MODEL MAN.

544. The professor gives the following table of what a full-grown man should weigh, and how this weight should be divided: Weight, 154 pounds. Made up thus: Muscles and their appurtenances, 68 pounds; skeleton, 24 pounds; skin, $10\frac{1}{2}$ pounds; fat, 28 pounds; brain, 3 pounds; thoracic viscera (internal organs), $3\frac{1}{2}$ pounds; abdominal viscera, 11 pounds; blood which will

drain from the body, 7 pounds. This man ought to consume per day: Lean beefsteak, 5,000 grains; bread, 6,000 grains; milk, 7,000 grains; potatoes, 3,000 grains; butter 600 grains; and water, 22,900 grains. His heart should beat seventy-five times a minute, and he should breathe fifteen times a minute. In twenty-four hours he would vitiate 1,750 cubic feet of pure air to the extent of one per cent.; man, therefore, of the weight mentioned ought to have 800 cubic feet of well ventilated space. He would throw off by the skin 18 ounces of water, 300 grains of solid matter, and 400 grains of carbonic acid every twenty-four hours, and his total loss during the twenty-four hours would be six pounds of water and a little over two pounds of other matter. This is Prof. Huxley's "outer man." If such be the casket, what must be the jewel within! If such be the shell, what must be the seed-germ it contains? If such be the house, what must be the exalted nature of the resident? The professor has not told us. The Scriptures term the body a tabernacle, a house, and clothing.

AN ABSTRACT OF MAN'S ORGANISM.

In the human body there are about 263 bones. The muscles are about 500 in number. The length of the alimentary canal is about 32 feet. The amount of blood in an adult averages 30 pounds, or fully one-fifth of the entire weight. The heart is six inches in length and four inches in diameter, and beats 70 times a minute, 4,200 times per hour, 100,800 per day, 36,792,000 times per year, 2,565,440,000 in threescore and ten, and at each beat $2\frac{1}{2}$ ounces of blood are thrown out of it, 175 ounces per minute, 656 pounds per hour,

7½ tons per day. All the blood in the body passes through the heart in three minutes. This little organ, by its ceaseless industry, pumps each day what is equal to lifting 122 tons one foot high, or one ton 122 feet high. The lungs will contain about one gallon of air at their usual degree of inflation. We breathe on an average of 1,200 times per hour, inhale 600 gallons of air, or 24,000 per day. The aggregate surface of the air cells of the lungs exceeds 20,000 square inches, an area very nearly equal to the floor of a room twelve feet square. The average weight of the brain of an adult male is 3 pounds and 8 ounces, of a female 2 pounds and 4 ounces. The nerves are all connected with it directly or by the spinal marrow. These nerves, together with their branches and minute ramifications, probably exceed 10,000,000 in number, forming a "body guard" outnumbering by far the greatest army ever marshaled! The skin is composed of three layers, and varies from one-fourth to one-eighth of an inch in thickness. The atmospheric pressure being about fourteen pounds to the square inch, a person of medium size is subjected to a pressure of 40,000 pounds! Each square inch of skin contains 3,500 sweating tubes, or perspiratory pores, each of which may be likened to a little drain pipe one-fourth of an inch long, making an aggregate length of the entire surface of the body of 201,166 feet, or a tile ditch for draining the body almost forty miles long. Man is marvelously made. Who is eager to investigate the curious and wonderful works of Omnipotent Wisdom, let him not wander the wide world around to seek them, but examine himself. (*Popular Science News.*)

WHAT IS HUMAN LIFE?

545. I am strongly impressed with the thought that the Bible is far in advance of our philosophy with respect to life. It evidently makes a sharp distinction between physiological life on the one hand, and the metaphysical, the knowing, or soul-life on the other. The former is referred to in Lev. xvii. 11, 14; Deut. xxxii. 47; Prov. xiv. 30; and James iv. 14, etc. The latter, or soul-life, in Gen. ii. 7; Isa. xxxviii. 16; I Sam. xx. 3; Matt. x. 28, etc.

546. All organic nature, so far as known, begins with the cell as the crystal begins with the particle. The cell is constructed by the vitalized bioplast, and the aggregate cell-vitality may be termed cell-life; and the aggregate cell-life is called physiological life.

547. Finite life is an invisible, intangible, vivifying, substantial form of force or energy, according to its type pattern, whether plant, animal, or man.

548. Each finite life-form must necessarily have come from a pre-existing fountain of life. The life-force existed in the germ of every human being before the organs of the body were formed; it is a real substance independent of any and all conditions of its manifestations in visible or material form. The individual life energy is a unit; it is neither divisible nor dissolvable into parts, perpetuated and continued in association with matter, under the unvarying law of transmission and reproduction.

549. The special domain of physiological life seems to be the appropriation and assimilation of the nutriment extracted from the food, and the construction and vitalization of the ceaselessly forming cells in bone, muscle,

and nerve, and the general repairs of the animal organism, under the direction of the knowing life of the soul.

550. The flesh life-force not only pervades the blood, but is furnished by it with all the necessary supplies for the demands of the temporary residence of the soul. This life is diminished by limitation, as in the case of mortification and amputations; specially confined to, and limited by, this transient earthly body, and when its services are no longer required by the soul it departs to the general reservoir of Nature, until needed. It would seem that electricity has much to do with this cell life-force, being the only direct aider of it that we know of. It is much affected by the nature and quality of food, and the alterations of day and night. It seems to ebb and flow like the tides, being lowest about midnight; hence the necessity of very carefully watching critical cases of disease at that time, and especially those of typhoid fever. The knowing or soul-life is the executive life of the system, and is the subject of no such variations, and liable to no such contingencies. It is a permanent constituent of the soul, and never departs from it. It is capable of exaltation or degradation, but not of separation or destruction by man.

551. Life has never been developed, within the knowledge of man, without a vital germ of previous life nurtured and developed by the female life. All life, plant, animal, and human, has been the product of previous life, and not the result of organization or the product of chemical forces, as thoughtlessly assumed and ignorantly taught by philosophers of the materialistic school. Human life is the essential and only form of substantial force that has ever developed a human

organ or produced a human organism. Vital and mental energy, though immaterial, cannot create matter out of themselves, nor out of nothing; and matter cannot generate or evolve life and mind out of its own substance; therefore, there can be no spontaneous generation, the assumption of a disordered mind in its agony to get rid of the idea of God. The advent of human life upon the earth, the logic of reason, and the logic of universal and unchanging law point with unvarying certainty to a personal fountain of knowing and living energy as the only possible source of life and mind, and that fountain is the Christian's God, Gen. ii. 7; Psa. xxxvi. 9.

552. It is evident that created life cannot exist, as such, except in some organic form. The organism is as indispensable as a condition of finite life as the pre-existent infinite life is absolutely essential to its creation. In other words, the cause must exist prior to the effects it produces.

553. "Man is the highest and noblest organic form in Nature, only a little inferior to that of the angels in heaven," Psa. viii. 4-8; Heb. ii. 7, 9. We cannot conceive of his having a normal existence in an unorganized or disorganized form. When the "inner man" departs from the earthly tabernacle he goes with a complete and perfect organism as to his essential personality or he would not be man. Apparently each child has its origin in the seed-germ, and its beginning as a perfected, though not fully developed human being; its spiritual nature is dormant, like the life-germ in the seed. The limited expansions of its eternal future are folded in the beginning consciousness of the infant, like the giant oak in all its minutia of completion in the

sprouting acorn. So strongly is the impression made upon most persons, that the birth of a child is the origin of an entirely new life, that it is almost impossible to keep in view the well-known fact that this new life was evolved out of previous life, which reaches back beyond the grasp of human comprehension; and that there never has been an intermission in the continuity of life. It is true that the birth of a child adds a new link to the chain of life; a chain that never had a break, for no new life was ever produced that had not a continuous unbroken connection with the infinite source of life, from which Adam received his. (Hoffer and Dr. Swander in *Microcosm*.)

554. Prof. Huxley says: "If it were given me to look beyond the abyss of geologically recorded time to the still more remote period when the earth was passing through physical and chemical conditions which it can no more see again . . . I should expect to be a witness of the evolution of Living protoplasm, from Not living matter." The capitalization is mine. "Not living matter!" This high-sounding phrase is designed to cautiously lead the reader into the net of materialistic atheism. Why not call it dead matter? Why not boldly say—death originates life? Ah! that would like an electric flash show the startling inconsistency to the reader. It would be equivalent to saying: Life, in all its forms and degrees and manifestations, had its origin in death; that Nature in all her phenomena from Adam till now has been testifying to a falsehood, and has actually robbed the devil of his most distinguishing title—"Father of Lies!"—that dead matter has evolved man with all his supposed mental and moral powers, produced in him the conception of an Infinite God, the

Creator and Lawgiver of the universe, wrought in him the consciousness of moral responsibility, endowed him with religious sentiments, and the idea of a future life; inspired him with a hope of heaven and a fear of hell, etc.! What can dead matter not do? Tell us, ye self-confessed descendants of a monkey! Our filial attachment to "our Father who is in heaven" is unspeakably intensified when we read such "monkey-splutterings." We prefer our present relationship to our elder brother, the Lord Jesus Christ; and for myself I shall encircle Him with the warmest affections of my heart. And I shall ever cling to the Bible doctrine, that not dead matter, but spirit is the source of all life

555. The average duration of human life is thirty-three years. One child out of every four dies before the age of seven years, and only one-half of the world's population reach the age of seventeen. One out of ten thousand reaches one hundred years. The average number of births per day is about one hundred and twenty thousand, exceeding the deaths by about fifteen per minute. The mean lifetime of males is 39.91 years, and of females, 41.85. And the annual rate of mortality of males of all ages is one in 39.91, and of females, one in 41.85.

CHAPTER XLII.

WHAT IS MAN WITH RESPECT TO DEATH?

556. I shall preface this article by giving a few of the most expressive Hebrew terms with their definitions from the Old Testament, and likewise a few Greek ones from the New Testament, that the reader may have a bird's eye view of the meaning of the terms, to die and death, as applied to man.

Mooth, to die, is used in the Old Testament over six hundred and seventy times, and is said to have the same signification in all the Semitic languages, that is, the family of languages to which Hebrew and Arabic belong.

1. *Mooth*, to die, includes death from natural causes, from diseases, from violence, from old age, and including death as the penalty of crime. It means also (a) to be excessively impatient or grieved, Jud. xvi. 16; (b) to faint, fail, as the heart, I Sam. xxv. 37, so of the trunk of a tree, Job xiv. 8; (c) to be untilled, as land, Gen. xlvii. 19; (d) to perish, to be destroyed, as a state or people, Am. ii. 2; Hos. xiii. 1; (e) as applied to man it signifies the physical manifestation of approaching dissolution of the union between body and soul, as well as the departure of life—both spirit-life and mere animal-life; the former returns to God who gave it, the latter to the general reservoir of nature, Eccl. iii. 21.

2. *Gawa*, (*a*) to breathe out one's life, to expire, to die; (*b*) to faint, fail, give way, Gen. vi. 17; vii. 21; Num. xvii. 12, 13.

3. *Naphal*, (*a*) to cause to fall, as in battle, Num. xiv. 43; (*b*) to fall sick, Ex. xxi. 18; (*c*) to fall away, as an emaciated limb, Num. v. 21, 27; (*d*) to fall, fail, as of courage or faith, Sam. xvii. 32; Gen. xxv. 18. These examples are sufficient to illustrate the meaning of the Hebrew verb, to die. I will now do the like for the noun death.

4. *Nephesh*, signifies (*a*) breath of life, Gen. i. 20, 30; (*b*) odor, Prov. xxvii. 9; (*c*) the soul with the animal or physiological life-force, Gen. xxxv. 18; I Kings xvii. 21. This physiological life-principle is said, (*d*) to live, that is, to breathe out, to manifest itself, Gen. xii. 13; Psa. cxix. 175; (*e*) to die, that is, to faint, to fail, as from the stoppage of the blood, Jud. xvi. 30; (*f*) to be poured out, Lam. ii. 12; Isa. liii. 12. (*g*) The rational soul, mind, spirit, as the seat of the feelings, affections, and emotions of various kinds; (*h*) of love, Isa. xlii. 1; (*i*) of joy, Psa. lxxxvi. 4; (*j*) of fear, Isa. xv. 4; (*k*) of piety toward God, Psa. lxxxvi. 4; (*l*) confidence, Psa. lvii. 2; (*m*) desire, Psa. xlii. 3. So it expresses hatred, Isa. i. 14; (*n*) contempt, Ez. xxxvi. 5; Isa. xlix. 7; (*o*) vengeance, Jer. v. 9; (*p*) sorrow, Job. xxvii. 2. So of (*q*) pride, Prov. xxviii. 25; (*r*) patience and impatience, Job. vi. 11; (*s*) the will or purpose, Gen. xxiii. 8; II Kings ix. 15; I Chron. xxviii. 9; (*t*) understanding, Psa. cxxxix. 14; Prov. xix. 2; (*u*) memory, Deut. iv. 9; Lam. iii. 20; (*v*) personality, myself, Job. ix. 21. One dead, a dead body, a corpse.

557. Sir Geo. Stokes, President of the Royal Society

of Great Britain, referring to this word, *nephesh*, first used in Gen. ii. 7, says: "The spirit or breath of lives is not life, but the source of life, an energy deeper than thought itself, and this spirit is related to consciousness." This is certainly correct if the language means anything. Consciousness is to spirit what the rose is to vegetable life. In the English version *nephesh* is often rendered soul when it refers exclusively to the animal or physiological life-principle. Hence the compilers of "Bible Readings for the Home Circle" have taken advantage of this fact to attempt the spread of the erroneous doctrine that the soul sleeps in the grave with the body from death to the resurrection. The physiological or animal life-principle of the human body is related to and limited by material things, and especially those required by the organism for constructive, sustaining and repairing purposes. Hence it is said to be satiated with food and drink, Prov. xxvii. 7; Isa. lv. 2; to be made fat, Prov. xi. 25; xiii. 4; also to fill, Prov. vi. 30. So of the opposite; my spirit hungers, Prov. x. 3; xxvii. 7; thirsts, Prov. xxv. 25; pines, Psa. xxxi. 10; fasts, Psa. lxix. 11; abstains from certain kinds of food, Lev. xx. 25; is polluted by them, Ez. iv. 14; is weary, loathes, Num. xxi. 5; Job vi. 7; x. i; Zech. xi. 18; is empty, that is, hungry, Isa. xxix. 8; dried up, that is, thirsty, Num. xi. 6.

558. The definition of *nephesh* covers very thoroughly and beautifully the entire natures of the "inner" and the "outer" man. It begins with the air, though substantial, it is not recognizable by any of our senses except by its effects, yet it is of vital necessity every moment to our existence, and weighs fifteen pounds to the square inch. The Saviour chose the air to illustrate

the presence and operation of the Holy Spirit with and upon the human mind. In my opinion it is one of the finest and most appropriate illustrations in nature to lead the mind to the consideration of immaterial and spiritual personalities, as being the source of invisible but substantial spiritual forces. Then we have odor, a substance that is invisible and that bids defiance to the laws of gravitation, and is on the very border-line between the material and the immaterial. Every man is the source of an odor peculiar to himself, that a trained sensitive hound will track with unerring certainty, though crossed by hundreds of other tracks. Then the definition rises to the immaterial—to animal or physiological life; that is, life in action, constructing, sustaining, and repairing the body that it may be a fit instrument for all the soul's activities. And finally it rises to the immaterial and the spiritual—soul, mind, spirit.

5. *Peger*, a corpse, carcass, of a man, from *Pagar*, to be faint, weak, exhausted.

There are at least eleven different words in the Old Testament expressive of dying and death. The process of dying and the effects of the departure of animal and soul life from the body, are very naturally and fully described. We turn now to a few passages in the Greek New Testament.

6. *Apothnesko*, to die, so as to be no more; to die off or out, a passing away, a departure.

It is used, (*a*) of the natural death of men, Matt. ix. 22; xxiv. 24; Luke xvi. 22, etc.; often of men liable or subject to death, Heb. vii. 8. (*b*) Of violent death, Matt. xxvi. 35; Acts xxi. 13; Heb. xi. 37, etc. (*c*) Of trees which dry up, Jude xii.; (*d*) of seeds, which while

being resolved into their elements in the ground seem to perish by rotting, John xii. 24 ; I Cor. xv. 36. Figuratively [that is, changed from its literal or proper sense], it is expressive, (*e*) of lasting misery, Rom. viii. 13 ; John vi. 50 ; xi. 26 ; (*f*) of moral death, in various senses ; (*g*) to be without that spiritual life which is the result of union with Christ, and consequently destitute of a disposition and power to do right, without confidence in God and the hope of future blessedness, Rom. vii. 10 ; (*h*) spiritual torpor of those who have fallen from the fellowship of Christ, the fountain of true life, Rev. iii. 2 ; (*i*) it applies to true Christians who have put off all sensibility to worldly things, Col. iii. 3, and since they owe this state of mind to the death of Christ, they are said to die with Christ, Rom. vi. 8, 11 ; Col. ii. 20 ; (*j*) of renunciation, as of sin, Rom. vi. 2 ; (*k*) to refuse submission to, as the law as a means of justification.

7. *Apoleia*, signifies, (*a*) actively, consumption, a destroying, utter destruction, as of vessels, Rom. ix. 22 ; waste, profusion, Mark xiv. 4 ; a destructive thing or opinion, II Pet. ii. 1, 2. (*b*) Passively a perishing, ruin, destruction, Acts viii. 20 ; I Tim. vi. 9 ; particularly, the destruction which consists in the loss of aionian life, and being subject to utter destruction, Rev. xvii. 8, 11 ; xix. 20 ; Phil. iii. 19 ; II Pet. iii. 16.

8. *Necros*, dead, properly, (*a*) one that has breathed his last, is lifeless, Matt. xxviii. 4 ; Mark ix. 26 ; Acts v. 10, etc. ; (*b*) of those sure to die, destined inevitably to die, as if already dead, Rom. viii. 10 ; Deut. xxviii. 26 ; Isa. xxvi. 19 ; Jer. vii. 33, etc. ; (*c*) of the deceased, departed, one whose soul is in hades, Rev. i. 18 ; ii. 8 ; (*d*) of those destitute of life, without life, inanimate, James

ii. 26 ; Matt. xxii. 32 ; Mark xii. 27 ; (*e*) figuratively spiritually dead, that is, destitute of that life that gives birth to saving faith, filial love, and childlike trust, inactive with respect to doing God's will from a principle of loving obedience, John v. 25 ; Rom. vi. 13 ; Eph. v. 14 ; Rev. iii. 1, etc. ; (*f*) destitute of force or power, inactive, inoperative, Rom. vi. 11, 13 ; vii. 8 ; James ii. 17, 20, 26 ; Heb. vi. 1 ; ix. 14. In Eph. ii. 1, 5, 15, a living death is described—dead to holiness and to God—no thought, no desire, no aspiration Godward ; but alive to the claims of the world, and ready to respond to the craving appetites and passions of corrupt human nature ; were on terms of hearty friendship with the world, the flesh, and the devil, and hence were spiritually dead.

9. *Koimao*, in classic Greek means in its active sense, to cause to sleep, put to sleep, lull to sleep. Figuratively to still, to calm, to quiet. Passively, in New Testament, to sleep, fall asleep, be asleep, Mat. xxviii. 13 ; Luke xxii. 45 ; John xi. 12 ; Acts xii. 6. Figuratively to die, John, xi 11 ; Acts vii. 60 ; xiii. 36 ; I Cor. vii. 39 ; xi. 30 ; xv. 6-51 ; II Pet. iii. 4.

559. 10. *Exodus, ex*, from out of, out from, forth from, as an inclosure, and *odos*, a traveled way, a road. Hence, a way out, a going out, a departure, Heb. xi. 22. Figuratively a departure from life, decease, death, spoken of the decease which Christ should accomplish at Jerusalem, and Peter's death, II Pet. i. 15.

11. *Ptomatos*, that which is fallen, the fallen body of one dead or slain, a corpse, carcass, Matt. xiv. 12 ; Mark xv. 45 ; Matt. xxiv. 28 ; Mark vi. 29 ; Rev. xi. 8, 9.

The examples now given with the numerous con-

firmatory passages, are I think sufficient to show the different meanings of the terms—dying and dead as found in the English Bible, and also the necessity of careful study and accurate application of the definitions required by the context. A faithful study of the above terms will add greatly to our stock of Bible knowledge and enable us to judge more correctly when we come to consider the nature of the soul and the resurrection-body. Though Jesus Christ is God's Ideal man, we shall find that man for whom Christ died immeasurably transcends Huxley's model man of mere matter—dust of the ground !

THE DIFFERENCE BETWEEN SLEEP AND DEATH.

560. There are two systems of motion in the living animal body—the voluntary and involuntary ; while in the vegetable there is but one—the involuntary. Sleep in the animal economy is the cessation of voluntary motion, and the repose of the cause of that motion—the will-force. All the voluntary organs are then at rest. Though the organs of voluntary motion are under the control of the will during our waking hours, it has no control over them during sound sleep ; in which the voluntary parts of the body are motionless, and the mind unconscious of what is occurring around the body. In these two particulars there is a close resemblance between sleep and death. In sound sleep, the material organs, through which the soul at other times holds intercourse with the surrounding objects, is in absolute repose ; but the mind is still active, superintending and directing the activities of the involuntary system, and the necessary bioplastic repairs of the voluntary.

561. In death, or more correctly, the dissolution of the union between body and soul, the body is perfect in outline, form, and symmetry; every organ is perfect, surpassing in artistic beauty the most renowned efforts of human genius, and as you gaze in wonder, you are almost ready to exclaim in intense sympathy—Speak, for thy friend heareth. But no. The unconscious vitalizing life-principle has been withdrawn, and the soul, with its conscious life-directing principle being a constituent of its individual personality, has departed and entered on a higher sphere of conscious activity. The difference then between sleep and death is this: sleep is the cessation of the voluntary system of motion; while death is the cessation of the involuntary system of motion, resulting from the dissolution of the union between body and soul; death in this sense always includes the voluntary system, because it is under the control of the will, the royal attribute of the soul, while the organs of involuntary motion are under the control of organic law only. When natural death commences at either extreme end of the body it is apt to be rather lingering, but if at the center, speedy.

562. The organs of involuntary motion are the heart, lungs, circulation of the blood, and the excretory organs; and the appropriating, assimilating, and vitalizing processes are very active during the early hours of night-repose. The recuperative processes are vigorously carried on during the early hours of sleep until after midnight. While the body is horizontally in repose the labor of the heart is decreased to the extent of ten beats per minute, and when the mind reposes from active, vigorous thought, it is diminished from two to three more, making a difference in round numbers,

say of thirteen beats per minute, which amounts to a large amount during eight hours. Hence late night meetings of any kind are a double robbery of body and soul—in what they prevent and what they impose. Hence they are to many a short way to sickness and the grave. The organs of involuntary activity continue their motion from the first inception of animal life to its end.

563. Their activity is perpetual motion; their rest is death. The real man—the “inner man” steps out of the “outer man” and departs to another sphere—a realm of life and consciousness and activity, and there awaits the sound of the trumpet that shall call the dead—the departed—to judgment.

CHAPTER XLIII.

DYING—DEAD.

564. The eyes lose their brilliancy, the lungs their elasticity, articulation becomes difficult, the heart's contractile power diminishes, the pulse stops, the union between body and soul is dissolved, and the soul departs. "The only change that is visible is the total cessation of vital and mental action, and the total disappearance of the effects of this action is all that the closest observation of the process of death reveals. There is no disappearance of anything that the senses can apprehend in the living body, except the effect of vital actions and of mental manifestations—the effects of mental energy." (Hoffer.)

565. "The fact that the knowing life—the soul—passes away unseen, unheard, and unperceived, by even the closest watching, is no evidence whatever that it has come to an end, or passed out of existence, or lost its individuality, or its elementary powers and attributes; for life and mind are invisible, intangible, energies that cannot be apprehended by the senses, no more than magnetism. No one can see the vital energy in his own body, not even the vital action;" but he may see the effect of it, in the healed cut, the restored broken limb, or in the restoration to health and vigor. Nor can any one see the mind, or the mental operations of another, unless they are manifested through the material

organs. “Nor is this strange; for the senses cannot take cognizance of gravity, attraction, repulsion, cohesion, or any of the forces of nature; only the effects of their action in matter can be perceived.” (*Hoffer.*)

566. “Death is a natural process, a necessary ending of the union of life and matter, for neither are in a normal state in this union; and there is no loss and no change in any of the elementary properties and characteristics of either at their separation. It is true that death is a great and important change, and with respect to man a penal infliction. It ends his earthly career, closes his period of terrestrial probation, leaves the body a useless, worthless, decomposing mass of matter, and the knowing life—the soul passes away without any visible tangible provision for the future.” Yet, as surely as the conditions of human life in this world have been amply provided for, so surely have ample provisions been made for the soul in a future state; though as an immaterial or spiritual being it needs no material provisions, as they would be wholly unsuited to its nature and changed conditions.

567. “It is not possible to look at the dead body of a friend without seeing, and painfully feeling, that your friend is not there. All that endeared him to you, that made him worthy of your friendship, is gone—has departed in its individualized and personal form. It is for the knowing, the appreciating, and reciprocating friend, not the dead body that you mourn. You feel and you know that the dead body before you, though perfect in form, is not your friend; your senses and your reason both tell you that all his essential characteristics, all that made him a being of life, of intelligence, of love, of energy, and of activity, are gone; and every rational

consideration, every logical deduction, and every philosophical conclusion confirm the fact that your departed friend, and not his material body, was the real man, the substantial entity, the immaterial, spiritual personality you loved and trusted."

We now turn our attention to the question—Will the identical body that is laid in the grave be raised again?

CHAPTER XLIV.

THE RESURRECTION.

568. What is very much needed in the present day is that every intelligent person should engage in a very careful, thorough, unbiased, and prayerful study of the Holy Scriptures for himself, with an unyielding determination to reject all teaching claimed as morally binding, that is not either clearly expressed therein or reasonably inferred therefrom.

Had this principle been faithfully carried out in the past we should not now be taught that God created the visible world out of nothing, so directly contradicted in Heb. xi. 3, where it is affirmed that "Not from things seen were the things seen made." In scientific phraseology—the material was made from the immaterial, as water is made of oxygen and hydrogen gases; both of which are immaterial and in their isolated condition are invisible, tasteless, and odorless, and weigh almost nothing; but, in their combined state as water, weigh about sixty-two and a half pounds per cubic foot. Sand, flint, and quartz are composed of two parts of oxygen to one of silicon; and it is estimated that fully one-half of the whole weight of our globe is oxygen gas, in which an ignited watch-spring is more remarkably combustible than a good lucifer match in an ordinary fire. Nitrogen in its isolated gaseous state eludes all our senses, yet can be reduced to a liquid. The air we breathe is composed of twenty-three parts oxygen and seventy-

seven of nitrogen, both invisible, tasteless, and odorless, and yet weighs about fifteen pounds to the square inch. Oxygen can be reduced to a solid.

Nor would so many believe that the anti-Christ priests have the power to forgive sins since the Bible plainly declares that "To the Lord our God belong mercies and forgiveness," Dan. ix. 9; that the Saviour himself set the example saying—Father forgive them for they know not what they do, Luke xxxiii. 34;—that him hath God exalted to give repentance and forgiveness of sin, Acts v. 31;—that if any man sin we have an advocate with the Father—not a human priest—but Jesus Christ the Righteous, I John ii. 1; who taught us that inimitable prayer in Luke xi. 1-4: "Our Father," etc. Nor that the bread and wine in the Lord's Supper are changed into the veritable flesh and blood of our Lord's body, though flatly contradicted by three of our senses—sight, feeling, and taste.

"Nor that the same body that dies shall rise again." This sentence I quote from Buck's Theological Dictionary, twice revised and enlarged by Rev. E. Henderson, D.D., Ph.D., whose commentary on some portions of the Old Testament stands very high among Biblical scholars.

569. The old world theologians seem to have thought that there was a necessity that the identical body put into the grave should be raised again, in order to secure an imperishable consciousness of personal identity. Had this been the case, is it likely that inspiration would have left us in doubt concerning it? What can the many tons of earthy matter that have passed through the human body during a lifetime of eighty years, or the small fraction thereof that remains at death, have to

do with personal identity? The theory is not in harmony with the nature of matter, nor the exalted nature of spirit, nor with the order of Divine working.

There is much ground for the belief that Christendom is not at present in possession of any settled conviction with respect to a theory of the Resurrection in harmony with the recent progress of science and the more correct views of revealed truth. Hence, I have, under a deep sense of personal responsibility, compiled the most advanced and carefully matured thoughts of the leading Christian Substantial Philosophers of the day—thoughts gathered from sanctified reason, nature, and revelation, which in their combined capacity throw a flood of light on the nature of the Resurrection-body that is comforting to the bereaved and cheering to the dying.

I am largely responsible for the selection of the Scripture references designed to show the harmony between the Substantial Philosophy and the teaching of Divine Truth.

WHO AND WHAT IS MAN?

570. Elohim formed the Adam of the dust of the ground and breathed into his nostrils the breath (spirit) of lives, and the Adam became a living soul, Gen. ii. 7. So Elohim created the Adam in his own image, in the image of Elohim created he him; male and female created he them, Gen. i. 27. By his organized material body Adam was related to the earth, by his substantial incorporeal, vital, and mental nature he was related to, and had something in common with, animal creation; by the inbreathing of a finite part of Elohim's own infinite nature bearing his own image man became related to the Divine Creator.

571. The essentials of that image were—Divine life,

free will, reason, an emotional nature, a moral faculty, and a substantial personal form. With this image was implanted a religious principle that pervaded all his powers and susceptibilities running parallel with his being, and capable of developing the strongest and most abiding energy of the soul, ever urging him, as by a divine incitement, to higher and more exalted activity.

572. Adam and Eve united as one being constituted the Adam of the Hebrew Scriptures, and are equivalent to the human race. Hence woman shares with man in all the sorrows of sin and in all the blessings of redemption by the Incarnate Son of God.

Adam had no earthly father, neither had Christ, the second Adam. Adam's body was directly formed by creative wisdom and power, and the life-germ of Christ's human body was also the product of immediate creative power: both were the result of miracle.

The first Adam was the son of God in a creative and accepted sense. Christ, the second Adam, was also the Son of God in a mediatorial sense. Both were representative characters; hence the conduct of Adam affected all his descendants; and on the same principle all the blessings resulting from the life and death of Christ are placed within easy reach of sinful, rebellious humanity: "Believe in the Lord Jesus Christ and thou shalt be saved."

573. For "Through one man sin entered into the world, and death through sin; and so death passed unto all men, for that all sinned." Rom. v. 12. Yet through Christ, the second Adam, humanity has hope of full deliverance from sin and its fearful consequences. "For since by man came death, by man (Christ

Jesus) came also the resurrection of the dead," I Cor. xv. 21. "For as in Adam all die, so also in the Christ shall all be made alive," I Cor. xv. 22. "For there shall be a resurrection both of the just and the unjust," Acts xxiv. 15. "Some to everlasting life, and some to shame and everlasting contempt," or abhorrence. Dan. xii. 2. A resurrection—life—is accorded to all the descendants of Adam through the sufferings and death of Christ, so that no soul will suffer the second death because of Adam's sin, but only for his own sin, II Chron. xxv. 4; Rev. ii. 11; xx. 6, 14; xxi. 8; Luke xx. 34-37; John xi. 26.

The Bible teaches that Adam and Eve were alike divinely created; that they were finite partakers of the infinite nature of Elohim; that they were the representatives of the human race; that as such, they by their disobedience entailed misery and physical death on all their descendants; that the sacrificial death of Christ, the second Adam, made deliverance from the pollution, power, guilt, condemnation, spiritual death, the punishment of sin, and escape from the second death possible, and by his own Resurrection from the dead, he exhibited the first fruits, and gave a full assurance of the resurrection of the departed, saint or sinner.

574. We will now inquire more particularly into the complex and the complete nature of man as revealed in the Scriptures touching his relation to the material world in which he now resides, and the spirit world to which he is destined.

Job assures us that there is a spirit in man, and the Spirit (*nishmath*) of the Almighty causeth them to know, to understand, Job xxxii. 8. Here are five facts

—God, man, Spirit, knowledge specially provided, and a divinely imparted spirit. God is a spirit and made man in his own image, hence he possesses a substantial immaterial spirit; this spirit is capable of acquiring divine knowledge under the guidance of a divine Instructor. God himself provides the necessary instruction for him, and causeth him to understand, Deut. iv. 1, 14; Isa. xxviii. 26; Psa. xxv. 12, 14. These facts prove that, though man possesses some things in common with animals, he possesses others that fit him for companionship with angels.

575. Another example is given of the real man as he is related to the Gospel of Christ in Heb. iv. 12: “For the word (mind) of God is living, and working, and sharp above every two-edged sword, and piercing unto the dividing asunder both of soul and spirit, of joints also, and marrow, and a discerner of thoughts and intents of the heart.” That is, the mind of God searches the deepest and most hidden recesses of the incorporeal man; and analyzes, lays open, and exposes the real character of the thoughts, the intentions, and the purposes of the man to himself, with respect to their relation to sin and holiness, Psa. cxxxix. All this shows the very high estimate which the Creator places upon man’s immaterial, substantial spiritual personality. It also proves that the soul and spirit constitute the real man for which the Gospel was provided, and who will rise again.

576. The complete nature of man seems to be designedly and clearly set forth by the Apostle Paul in I Thess. v. 23. “And the God of peace himself sanctify you wholly: and may your spirit, and soul, and body be preserved entire, without blame, at the coming of our Lord Jesus

Christ." In this passage the Apostle has placed spirit first as bearing the Divine rational, moral, and spiritual image; and next soul, as being the immaterial organized servant of the spirit, the connecting medium between pure spirit and the material world: and last the body as being the servant of both. I shall reverse the order.

577. *Soma*, the material body, designed for the use of the soul, and especially to be the temple of the Holy Spirit. Its chemical elements are mainly carbon, nitrogen, oxygen, hydrogen, iron, sulphur, magnesia, phosphorus, potash, lime, and salt, held in watery solution—in and of itself dead matter.

578. *Psyche*, soul, embodied spirit, the vital and mental immaterial organism that becomes acquainted with the outer material world through the material sense-organs, as the eye, ear, tactile nerve, etc., and is the subject of perception, appetites, passions, sensibilities, and the cause of motion.

The term soul is sometimes used in the Scriptures as synonymous with spirit, because of their intimate union in personality; but never so used by Paul.

That souls have a substantial personal form of their own we cannot doubt. If we may judge from the principles obtaining in the animal kingdom, a substantial organism is absolutely necessary for the manifestations of the higher order of spirits. Nor is it unreasonable or unscriptural to suppose that the spirit resides in an intangible, invisible, substantial organism which is an essential type or pattern of the outer material organized body.

579. *Pneuma*, the rational spirit, that immaterial, substantial, spiritual personality, in which the rational,

moral, and spiritual image of God inheres, and which manifests itself through its mental, emotional, and moral natures, as in thinking, reasoning, willing, choosing, loving, hating, etc.

Having, by way of introduction, drawn your attention to a few important points, apparently necessary to a clear understanding of the subject, we will turn our attention to the main question—"The Resurrection of the dead."

CHAPTER XLV.

THE RESURRECTION OF THE DEAD.

580. How are the dead raised? and with what manner (kind or sort) of body do they come? I Cor. xv. 35, 49. "It is sown a natural (*psukikon*; soul) body; it is raised a spiritual (spirit) body. There is a natural (soul) body, there is also a spiritual (spirit) body."

581. The natural, properly the soul body, is then adapted to this material world and to this state of probation, and, as such, subject to animal passions, appetites, and wants. "Now this I say, brethren, that flesh and blood cannot inherit the kingdom of God;" *i.e.*, our material bodies as inherited from our parents cannot enter heaven, v. 50. Man then is composed of the visible and the invisible; the tangible and the intangible; the material and the spiritual. The material body is visible and tangible; the immaterial soul is invisible and intangible; but no less real than gravity, light, electricity, or magnetism.

582. "The term substance includes whatever has a real existence. In a comprehensive sense, it embraces alike material and immaterial things, including all persons and things from the infinite Jehovah down to the animalcula in a drop of water, and all the subtle forces from cohesion up to life, mind and spirit." (Dr. Hamilton in *Scientific Arena*.)

583. The outer body being matter is inert and can

only move as it is moved by the substantial, immaterial soul within. The spirit though dependent is self active, and though intimately connected with a substantial form, can exist and act independent of the body.

584. The highest finite form of immaterial substance exists in the mental and moral constitution of man whose deep consciousness of sustaining a relationship to God and of being under obligation to Him, is the Divine Image apprehending the Infinite Creator, as the source of its being; and this image inheres in a finite part of spiritual substance breathed out of God into man who thus bears his image. Hence we are called the offspring of God; that is, of the family, kindred, lineage of God, Acts xvii. 28; and partakers of the Divine nature, *i.e.*, of his essence, qualities, and attributes in a finite degree, II Pet. i. 4. And as a consequence, man, though marred by sin, possesses in the Divine Image the possibility of a transition to, and endless progress in, a higher realm, than the present order of human life, providing that his sin be washed away in the fountain open for sin and uncleanness as provided by the Incarnate God.

585. The Saviour himself demonstrated this great truth in the sublime declaration—"I am the Resurrection and the Life; he that believeth on me, though he die yet shall he live: and whosoever liveth and believeth on me shall never die." John xi. 25, 26. In proof that He was the Resurrection and the Life, He gave abundance of evidence after He was risen, for He appeared eleven times, according to the Scripture records, *viz.*, to Mary Magdalene, to the women returning from the sepulcher, to Peter, to the two men going to Emmaus, to the apostles at Jerusalem, to Thomas

and the others, to the seven at the sea of Tiberias, to the eleven on a mountain in Galilee, to over five hundred brethren at once, to James, and lastly, to the eleven at Mount Olivet.

CHRIST'S RISEN BODY.

586. During the forty days between the Resurrection and the Ascension, the body of Christ underwent a very great change. It was material immediately after the Saviour was risen, for He explicitly said to His disciples, "a spirit hath not flesh and bones as ye see me have;" and He showed them His hands and feet, and said "handle me and see;" and He ate of the broiled fish and the honeycomb before them; and to remove all doubt as to His being their risen Lord, He invited Thomas to assure himself of the fact by an examination of His hands, His side, and His feet. Yet it was not an ordinary material body, but so far changed that it became material or immaterial at will. For on the way to Emmaus He conversed with His disciples like an ordinary traveler and accepted an invitation to join them in their evening meal; but while engaged in conversation, "He ceased to be seen of them" vanished out of their sight, Luke xxiv. 31; but He soon appeared unobserved in the midst of His disciples in a securely closed room in Jerusalem.

So changed was His body that gravity did not affect it, nor material enclosure, however secure, hinder its incoming or outgoing; it could be instantly visible or invisible, tangible or intangible. Doubtless the change would proceed until the body was complete, perfect, beautiful, immortal and glorified, fully fitted for His appearance, in his mediatorial capacity, in the presence of His Father, for us. Somewhat similar will be the

body that will adorn those who have a part in the first Resurrection: for they shall be like Him, and shall see Him as He is.

587. The germinal, vital spiritual substance of man's entire being originates in God, and carries with it the indelible impress of its great original, and includes the power and the possibilities of endless continuance in "eternal life." John iii. 15.

588. In reference to the threefold nature of man, called by Paul the "inner man," and the "outer man," it is assumed that there is a pre-existent and substantial pattern, type, or embryonic form of the "inner man" which again becomes the model or pattern of the "outer man," as composed of flesh and blood. And this assumption seems to harmonize with what the inspired Psalmist taught three thousand years ago. "I confess thee because that with wonders I have been distinguished. Mine unformed substance thine eyes saw, and on thy book all of them are written the days they were formed, and not one among them (beneath thy notice)," Psa. cxxxix. 14, 16. (Young's Translation.)

"Substance," *golem*, anything wrapped or rolled, hence an unformed substance not yet wrought, the parts of which are not yet unfolded, nor developed, here expressive of the embryo fœtus.

589. It doubtless here refers to the spirit-life-germ with all its future possibilities infolded in its natural or soul-covering during its earliest imparted condition, and may refer to that celestial body of the "inward man" from which the spirit never departs. David speaks of this substance as even there in its unformed state sustaining an intimate relationship to his personality. Yes, his substance was fashioned; first in the

all-comprehensive purpose of God ; and afterward by the immaterial constructive life-principle's plastic power ordained by God as an accompaniment of the soul in man ; and this mysterious life-principle involves both mental and material possibilities, and a human pattern or type—holding its existence as an organized entity and according to which the clothing of the “inner man” is fashioned, and which is again enrobed with a material garment of flesh and blood, called the “outer man.” What more reasonable than to suppose that the mental image of the human organic type-form that existed in the mind of the Creator should become the substantial working pattern of the mysterious life-force in constructing the outer body of the chemical elements requisite for bone, tendon, muscle, blood, and nerves. Paul in I Cor. xv. 37, speaks of a duality even in grain, the vital germ of which contains not only the stored-up principle of life and its constructive forces, but the exact pattern according to which those bioplastic forces are to work and continue its kind and form. Hence, when the vital germ with all its invisible stored-up treasures and future possibilities is placed in proper conditions, we have the stalk, the leaf, the head, the kernels, and their coverings exactly corresponding in every particular to the original type, pattern, or form, folded up in the life-germ. Here in the grain-seed is an example of an immaterial vital entity concealed in, and enrobed by the material covering of the life-principle called starch and gluten, and this again by a flinty coat named bran.

590. The presumption is that this law of duality embraces all living creatures, including men and angels. I look upon this grain illustration of the threefold

constitution of man—body, soul, and spirit—with respect to the resurrection, as one of the most beautiful in the whole Bible.

591. What Paul terms the “inner man” Peter, speaking of woman, calls the “concealed, hidden,” or invisible man, I Pet. iii. 4. Hence the “inner man” and the “invisible man” are one, and common alike to man and woman, and therefore spirit knows no sex, which is limited to this fleshly body alone, Matt. xxii. 30.

If there be not an inner, invisible, immaterial pattern of the “outer man,” why does it so frequently occur that the amputated limb seems to be still in place, though long ago buried, and suffering all the excruciating pains that it endured previous to amputation? The history of surgery gives some remarkable examples of this kind. Why is the superfluous finger of a child after amputation replaced by another as perfect as before? Why does the dog after its leg is amputated try to lick its foot as if was still there as of old, though cast aside long ago? Admit an inner invisible pattern of the material body similar to the grain-germ and all is explained.

You say the highest powers of the microscope have never revealed it. Very true. But has it ever revealed the principle of gravitation that regulates the planetary worlds? Or electricity that carries without a mistake your message of love or sorrow to distant friends? Or magnetism that overpowers even the law of gravitation? Yet you cannot deny the presence of the immaterial forces everywhere around you.

592. The same may be said of the cause that so gently rocks the blossoming flower to and fro in the cool of the evening, or that converts the field of ripen-

ing grain into beautiful undulations, or that bends the neighboring tree before its invisible presence, or that lashes the glassy ocean into a destructive tempest.

593. You see the effects only ; but they so appeal to your senses that you cannot deny them. Though you see not the cause, it is there and real ; for it weighs fifteen pounds to the square inch and is often multiplied to an exceedingly destructive extent. In this case the effects appeal to your ordinary common sense in favor of an adequate cause, though unseen.

594. The Saviour, in that beautiful lesson taught to his disciples (John iii. 8) respecting the similarity between the physical and spiritual forces, sought to lead his children from the domain of physical forces to that superior region of spiritual forces for which the higher reason of man is specially designed, and which is, indeed, its natural and permanent field of activity.

The wind bloweth where it willeth, and thou heareth the sound thereof, but cannot tell whence it cometh, and whither it goeth ; so is every one born of the Spirit.

595. You see the habitually ferocious and cruel man so changed that he becomes distinguished for lamb-like gentleness ; a drunken, besotted father changed to a sober, industrious, praying husband, and the most abandoned Magdalens become pious, modest, Christian workers ; and all this through no visible cause. Does not your higher reason demonstrate to you that the cause is not only real, but efficient in the production of very remarkable mental and spiritual effects—effects so wonderful that the cause, though invisible, must be superhuman, immaterial, and therefore divine ?

596. Had we long ago fully mastered the Saviour's

lesson on immaterial agencies, we would not now have the black flag of materialism flaunted in our faces with the insolent and idiotic declaration that the soul of man consists of nothing more than the vibratory atoms of the brain, and when that motion ceases, it ceases to be—no soul, no resurrection—Death ends all!

CHAPTER XLVI.

THE RESURRECTION OF THE DEAD.

597. The inspired word of God declares that there shall be a resurrection of the just and the unjust; and this implies that death is common to man, and the Scriptures affirm that it is appointed unto man once to die, Heb. ix. 27; and that death hath passed upon all men because all men have sinned, Rom. v. 10.

598. But what is it to die? Life is the highest form of force in the universe, because it is an essential attribute of the Creator himself, who is its inexhaustible source, and from whom it streams forth like rays of light from the sun in all its inconceivable variety. Hence death must be defined in such terms as to indicate the direct opposite of life. The withdrawal of the animal life-force from the bodily organization results in what we call death. But the withdrawal of life does not extinguish it; it is not annihilated; it has merely departed.

599. All true science affirms that no particle of matter can ever cease to be, however numerous and diversified its changes. That which did not come from nothing can never go to nothing; death, then, is mere dissolution, but with respect to man, the separation of the life-force from the material organized body—the “outer man.”

600. In chemistry, dissolution is decomposition; in

physical forces, such as cohesion, electricity or magnetism, it is dissipation; in the domain of animal and vegetable life, it is disorganization. No substantial being, material or immaterial, is destroyed by what we term death; hence each must be returned to the immediate source of its respective being—matter to matter, force to force, and spirit to God; hence the body returns to dust, but the spirit unto God who gave it, Eccl. xii. 7. Death, then, with respect to humanity is the withdrawal of the principle of animal life and the departure of the living soul with all that constitutes personality, and in this sense it has reigned from Adam to Moses, and still reigns over all human kind.

601. Death is a natural and physical necessity in the lower orders of being, but unnatural to man with his constitutional dignity and attainable destiny; had he not sinned he would doubtless have made the necessary transition to a higher state and sphere of activity without death in so terrible a form, and perhaps his transition would have resembled that of Enoch, Elijah, or Moses. But sin, which resulted from the perversion of the normal life-forces, brought death into humanity with all its woes, and men must suffer the punishment of death because they have chosen to expend all their God-given, vital, mental, moral, and spiritual forces in rebellion against Him, and in degrading and polluting their own exalted natures instead of securing therewith their own highest possible happiness in the possession of His love and the promotion of His glory. Sin is moral and spiritual suicide.

602. In our moral consciousness and religious sense, physical death is an event of much import, and it is unspeakably to our moral advantage to have correct

views of all the laws of our threefold being in relation to it.

603. Sin is the very essence of moral and spiritual death in the realm of spirit, and is the cause and essence of the spiritual separation from God, or the sundering of the rational and redeemed spirit from the Infinite Fountain of all true life, as much so as cutting asunder the metallic conductor prevents the inflowing of the electric force from the supply battery. So does sin cut off the inflowing of the spiritual life-force of God from the soul, and the consequence is spiritual death, John xv. 6, that may end in the "second death," Rev. xxi. 8; xx. 14. Though thus sundered from the fountain of spiritual life-force, the human personality is indestructible, save by Him who gave it being, James iv. 12; Matt. x. 28. The material organs through which the personality has for a time manifested itself will be substituted by other substances perfectly suited to the character in which probation is ended.

604. Physical death is not the extinction of the vital, mental, moral, and spiritual forces of the soul, but merely the withdrawal of the animal life-force from the bodily organization. But you ask, Does not the real man go down into the grave and sleep away unnumbered years in the cheerless chambers of the dead? or remain from death to the resurrection in a semi-conscious state? This is a very important question, to which the answer is emphatically—No

THE SOUL NOT UNCONSCIOUS IN THE INTERMEDIATE STATE.

605. The following passages are erroneously relied on by the soul-sleepers as proof that the soul does go down

to the grave with the body, and remains there unconscious until the resurrection.

I Thess. iv. 13, 14, *koimao*, passive, to sleep, to fall asleep; figuratively, to die, to be dead. Sleep is expressive of rest, repose, John xi. 13, but not of the entire suspension of the soul's functions. The exact meaning of the passage is: "Concerning those who have died, and died in Jesus." The same verb is used in I Cor. xv. 18, 20, and in the same sense. This view is fully confirmed in John xi. 11-14. These passages give not the shadow of support to the soul-sleeping error.

606. It is true that in sound sleep the person is partially lost to consciousness of external things; that time passes by unmeasured; and that the functions of the sense organs rest; but it is not true that the essential functions of the soul are suspended, it still directs and controls all the activities of the animating life-principle, in recuperating every part of the bodily organism for renewed activity. There is no foundation here, then, on which to base the sleep of the soul between death and the resurrection.

Dan. xii. 2: "Sleep," *yashan*, to sleep, rest. Gen. ii. 21, figuratively, to die, depart this life. "Awake," to awake, arise up. The passage would be correctly rendered, thus: "Many who have departed this life, and their bodies have been buried in 'ground—dust,' shall be raised, some to everlasting life, and some to shame and everlasting contempt, or abhorrence." "Shame" is from *charaph*, meaning reproach, shame, disgrace, to be stripped, uncovered, dishonored, and to be exposed, placed in danger. "Contempt," from *lederon*, degradation, contempt, punishment, from *dara*, to repulse,

drive, force away. *Olam* rendered "everlasting," literally means hidden, specially hidden, time, age-during, in each clause. This passage may have a general reference to the resurrection and the final judgment, with its rewards and punishments. When that time comes, the dead, the departed, shall then become conscious, not of their own personality and its surroundings, but of the expiration of the redemptive period, and the ushering in of the dispensation of rewards and punishments, Job xiv. 12. Job evidently does not mean that the soul will sleep in an unconscious state from death to the resurrection. For in the 13th verse he prays to be hid in *sheol* (the unseen, invisible state), not the grave—the depositary of the decaying body—but the temporary residence of the soul, within God's special care. Job here seems to regard himself as a soldier on duty, and desires to know the precise time of his release. He will wait and respond to the call when the time of his release is announced; when the time of his "renovation" is come; when he is "clothed" with a resurrection body, for then thou wilt have a desire (to yearn toward) the work of thine hands—the new, incorruptible, immortal body—animated by the redeemed, blood-washed, immaterial soul. Psalm clvi. 4, "His spirit (*rooach*) goeth forth, he returneth to his earth; in that very day hath his thoughts perished." "Thoughts," from *ashath*, to shine, to be bright, smooth, thought, design, purpose; in the plural, as here, it signifies devices, machinations, designs, deceitful show, splendors, literally, his "glitterings." It means anything that would assist in making a great public display, whether real, artificial, or a deceitful sham. This passage teaches that all the selfish designs, wicked devices, deceitful show, and glit-

tering splendors of ungodly, ambitious men come to naught—are nothing more than the air-castles of moral lunatics. They are ever liable to the fate of the rich man whose soul was unexpectedly called away from all his worldly treasures when he most expected to enjoy them. It has no reference to the soul being deprived of the power of thought, and entombed with the body in the grave.

Job. xiv. 21, evidently refers to knowledge obtained through the bodily organs, which cease to act after the departure of the soul.

Eccl. ix. 5, 6, simply means that there is no physical perception of what takes place in society through the organs of the dead body. The passage was not designed to refer to the departed soul in *sheol*. Psa. cxv. 17 seems to refer only to the organs of speech silenced in death, whether deposited in the grave or not. The grave was considered as the land of forgetfulness and silence, as in Psa. xxxviii. 123, Isa. xxxviii. 18, 19. The term “*sheol*” may perhaps sometimes be understood to mean the grave, though this is doubtful, as in I Sam. ii. 6; Gen. xxxvii. 5; Psa. xxx. 4, lxxxvi. 13, cxvi. 3. Psa. xvii. 15, “I shall behold thy face in righteousness: I shall be satisfied when I awake with thy likeness.” Better rendered, “I shall be satisfied with arising from the dead in thy form.” Here is no evidence of soul-sleeping in the grave. Isa. xxvi. 19. This passage directly refers to the Jewish Church, as spiritually and politically dead, with the assurance that the dead in this sense should be raised to life. That there was a divine power as reviving to the nationally dead, as the “*dew*” was reviving to the (mallow) herb, once considered a universal remedy. It was supposed to attract

and absorb a large amount of dew, and hence was green and flourishing. The comparison of the prophet evidently means that the refreshment and consolation of Israel should not be transient, but lasting (Hewlet).

607. As we have glanced at most of the leading passages appealed to in support of the soul-sleeping error, we will now glance at a few of those passages from which we infer a conscious and intelligent existence of the departed soul, and an abiding consciousness of happiness or misery, as determined by character, during the interval between death and the resurrection. Though the Bible contains no direct and explicit statement as to the actual condition of the departed soul in hades between death and the resurrection, there are many passages from which we may infer that the disembodied spirit not only has a conscious existence during that period, but is in a state of conscious happiness or misery. Inferential proof is often as strong as a positive logical statement; for example, I say, My father died yesterday; the inference is as strong as any statement can make it, that he was alive on the previous day. Inferential reasoning is often just as strong as direct proof.

THE RICH MAN AND LAZARUS.

608. The respective parabolic states of the rich man and Lazarus have sometimes, knowingly or ignorantly, been advanced in proof of the condition of departed souls in hades—the unseen state, Luke xvi. 19. But to regard the parable as a literal statement, does violence to correct principles of Biblical interpretation, and includes several absurdities. It is very significant that no mention is made of the moral character of

either of these men. Therefore we are logically justified in concluding that the "rich man" went to hell (hades, the unseen) because he had enjoyed many earthly blessings and gave nothing but crumbs to Lazarus, and that the latter was blessed, not because he was a sincere, humble child of God, "full of faith and trust," but simply because he was poor, sick, helpless, and ulcerated. The vital, personal question of moral and spiritual character is not mentioned in either case, but the physiological and social condition in this life is made prominent, and symbolically shows that what man sows he will reap. If this parable is designed to be taken literally, we are justified in the logical inference that all who have plenty to eat each day, and wear any fine linen, and purple are sure of future torment, and that all who are poor, sick, helpless, and ulcerated, are sure of future repose. Again, if taken literally, Abraham's bosom must be so large that there is room enough for earth's millions of Lazarus-like victims of poverty and disease. It is estimated that one hundred and forty-three billions of human beings have lived since Adam's creation to the end of six thousand years. How many of these were poor and sick, and afflicted with sores, and would have been thankful for a few crumbs? Better feed a hungry horse on dry oat-chaff, than the human mind on such literal and misleading interpretations.

The Jews had, as a nation, for a long time previous to the utterance of this parable, "fared sumptuously every day" being the special recipients of national and religious favors above all other people on the face of the earth, Amos iii. 2; Acts vii. 53; and they had the special instructions of Jehovah through Moses and the

prophets, and were blessed with the ministry of angels. As a nation, the "purple" symbolically represented their kingly authority and power, and the "fine linen" was expressive of the fact that they were treated as a typically holy nation, chosen and separated from all other peoples, and devoted to God, and specially designed to carry out his purposes of mercy and love to mankind—Jew and Gentile. The "riches" represented the abundant national, social, and spiritual blessings they enjoyed.

In a parable the thing said is never the thing meant, as illustrated by our Saviour in Matt. xiii. The same classes are represented by different symbols, as chaff and wheat, as wheat and tares, and as sheep and goats, in different parables. Hence this parable cannot be justly advanced in proof of the condition of those in the intermediate state. Its special application seems to be limited to the earthly condition of the people to whom it was addressed, and mainly confined to the gospel dispensation. It seems to teach precisely what Paul explained in Rom. xi. 19-31. The student may consult with great profit, John iv. 9; Matt. xv. 26, 27; xxi. 43, 46; Eph. ii. 13; Gal. v. 2-4; John viii. 39-43; Rom. iv. 16; Gal. iii. 29; Zec. xii. 10-12; Isa. xl. 1, 2; Rom. xi. 26-33. Having carefully studied these passages in connection with the parable, the student will most likely come to the conclusion that the "rich man" represents the orthodox Jews, the ruling class who had Moses and the prophets for teachers, and who, as a royal nation wearing the fine linen and purple, rejected the Son of God as a Saviour, and consequently were cast off from Divine favor. That Lazarus represents the "outcasts of Israel"—the

publicans and sinners, including the Gentiles who were treated as dogs by the orthodox Jews, and deemed unworthy of recognition in their moral and spiritual destitution. That the anguish or distress, not "torments," included the utter impossibility of obtaining deliverance from sin and its consequences by the law of Moses and the fearful persecutions to which the Jews in their national capacity would be subjected as a consequence of their crime in murdering the Son of God. That the "great gulf fixed" is the very wide difference between the Gospel under the new covenant which gives life and happiness, and the Jewish law under the old covenant which produced the opposite of life. And that "Abraham's bosom" is expressive of the true soul-rest and spiritual peace that the spiritual children of Abraham enjoy through faith in the crucified Jesus. Search, examine, investigate, and compare the Scriptures, John v. 39; Acts. xvii. 11; I Pet. i. 10, 11. All things prove, try, examine, scrutinize, I Thess. v. 21. This view of the parable, largely epitomized from the millennial dawn, beautifully harmonizes with the condition and conduct of the Jews, and the teaching of the Scripture.

It is scarcely possible that Paul, who was always ready to magnify his Master by labors and sufferings in the body, or by a martyr's death, should have said: "I am strongly drawn two different ways; one to depart and to be with Christ, and the other to remain on the earth to extend his kingdom," Phil. i. 21-24.

609. We cannot believe that Paul with his intensity of Christian love, his sanctified ambition to honor Christ by life or by death, his ceaseless, untiring labors in preaching Christ and him crucified amid want, opposi-

tion, and terrible persecution far beyond all ordinary men, should have longed to sleep in the grave or remain in a semi-conscious state from death to the resurrection! We cannot believe it. We prefer to believe Paul when he says: "Being, therefore, always of good courage, and knowing that, whilst we are at home in the body, we are absent from the Lord." "We are of good courage, I say, and are willing rather to be absent from the body, and to be at home with the Lord," II Cor. v. 6-8; in Luke xxiii. 43, the Saviour said to the dying thief: "Verily I say unto thee, To-day shalt thou be with me in paradise." With respect to the punctuation, Dr. Young agrees with the Revised Version.

An examination of the above passages is sufficient to put the young Bible student on his guard against the soul-sleeping error.

CHAPTER XLVII.

WHAT IS MEANT BY HADES :

610. What is meant by hades? I answer hades (literally, the unseen) indicates the condition and abode of the disembodied souls. It may be regarded as the spirit-prison of the impenitent dead until the resurrection and final judgment. It is never represented as the place of the departed children of God, for they go to paradise, the abode of departed saints.

611. Paradise signifies a garden of pleasure, Gen. ii. 8, Nehem. ii. 8, Eccl. ii. 5, Cant. iv. 13, Ez. xxviii. 13, and is a symbol of joy, happiness and delight. In the New Testament, the term is used to denote the mansion of departed saints—their happy residence, between death and the resurrection, II Cor. v. 8; Phil. i. 21; Rev. xiv. 13. There the soul of the penitent thief was with the Saviour. There the apostle Paul was caught up and heard unspeakable words, which it was not possible for man to express. There is certainly a very exalted and refined activity of all the functions of soul and spirit in paradise. It is in the highest degree the direct opposite of sleep, or semi-consciousness. The enjoyment of paradise is confined to the intermediate state; but heaven proper is necessarily deferred until the creation of the new heavens and new earth, wherein dwelleth righteousness, Rev. xxi. 1; II Pet. iii. 13.

612. The very nature of spirit is untiring activity.

The material organs through which it acts here become weary and exhausted, but spirit never, so far as we know. But we must return to the question—"If a man die shall he live again?" A correct answer to this question depends upon what is understood by the term "man." I have already referred to the Apostle's language indicating that man, at least, possesses a two-fold organism—the "outer" and the "inner man"—soul and body. Let us now look at his dual nature. The "outer man" evidently means his material body, made up of flesh, bone, blood, and nerve, etc., so fearfully and so wonderfully made—the masterpiece of animal creation, the form divine, only a little inferior to Elohim, God's ideal human organism.

It is distinguished for its mysterious chemistry, its wonderful mechanism, its still more wonderful artistic beauty, and above all, its exquisite adaptation to all the multiplied requirements of the indwelling spirit, in its varied scientific investigations respecting matter and mind, the material and the immaterial, the microscopic and the telescopic worlds—a body so beautiful in form, so exquisite in structure, so Godlike in adaptation that the undevout physiologist must admit that it is "fearfully and wonderfully made."

613. Though so symmetrical in form, so beautiful in appearance, so admirable in adaptation, and so complete in its special functional organs, it is doomed to return to the dust whence it was taken. The funereal farewell—"dust to dust and ashes to ashes"—is common alike to the high and the low, the rich and the poor, the saint and the sinner.

614. The "outer man" is only the visible husk of the invisible, substantial spirit-personality—the spirit's

personal self—as the fleshy part of the acorn is the covering of the life-germ containing the pattern and all the possibilities of the future oak, that may bid defiance to a thousand storms. It is the mere casket of a priceless jewel, but not the jewel itself. This beautiful “outer man” may be appropriately represented as a closely fitting garment of the “inner man.” It is the spirit’s medium of communication with the material world, rendering sense-knowledge possible and the instrument with which it materializes its varied and multiplied ideas in all the various departments of mechanics, science, and art. Nevertheless, it is only a tool—an instrument—in the hands of the inner workman—the immaterial, invisible spirit.

615. The term “inner man” used by the inspired apostle must mean an organized spiritual being, or it could not be man; and if so, it must possess the same special sense organs it possesses here, namely, eyes to see, ears to hear, brains to think, tactile nerves to feel, etc., corresponding to those of the material body, but adapted to its own peculiar surroundings.

616. The “inner man” is very reasonably regarded as the model or pattern of the “outer man,” and may be very aptly compared to a transparent illuminated manikin with nerves, muscles, and tendons all in place, and perfectly enrobing the immaterial spiritual self, the identical *I* that remains the same amid all the physiological and chemical changes of the “outer man;” it is the shrine of the divine image in man, in which inheres the conviction of the existence of a Supreme Being, and the moral faculty in personality. What the sensuous faculties are to the material world, so the moral faculty is to the moral world. It is not by the intellect alone,

nor by the intellect first, that we can judge of things in the moral world; but by the moral sense. After the moral faculty has produced the appropriate moral impression the intellect may observe, compare, and classify them, but it cannot produce them, no more than the sense of sight can impart a knowledge of perfumes. This "inner man" is the source from which is transmitted the mental, moral, and social qualities of parents to offspring. What the gross material outer body is to the psychical or soul-body, so the soul-body is to the spirit in which the sin-marred image of God resides, I Cor. xv. 44.

617. We now return to the question, If a man die shall he live again? I answer in the words of Revelation. About four thousand years ago Job said (xix. 25-27) "I know that my Redeemer liveth. And that he shall stand up at the last upon the earth: and after my skin hath been thus destroyed. Yet (out of or) apart from my flesh shall I see God; whom I shall see on my side, and my eyes shall behold, and not another." David exclaimed: "Thou wilt not leave my soul" ("inner man") "in the sheol," Psa. xvi. 10. Jesus said to Martha, "Thy brother shall rise again," and, though he had been already dead four days, at the divine command Lazarus come forth, bound hand and foot with grave clothes, John xi. 23, 43. The Saviour emphatically declared, "I am the Resurrection and the life; he that believeth in me, though he die, yet shall he live," John xi. 25. On the third day the angel said unto the women, "Go quickly and tell his disciples that Jesus is risen from the dead," Matt. xxviii. 7. And after his resurrection "Many bodies of the saints arose, and came out of the graves, and went into the

holy city, and appeared to many," Matt. xxvii. 52-53. Thus did the Saviour seal the great truth announced in John xi. 25, give the earnest of the general resurrection of the last day, and place the fact thereof beyond the cavils of skepticism.

618. But you rightly ask, Does the identical body, composed of flesh and blood, that dies, and is buried, rise again? I answer, No. Paul nowhere says that the gross, material body, terrestrial, dishonored, weak, mortal, corruptible body shall be raised again; for "thou sowest not that body that shall be," I Cor. xv. 37; and yet, "God giveth to each seed a body of its own," which perfectly harmonizes with its nature and environments, What is this seed? It is not merely the soul, for the soul, as but one side of man's being, does not build for itself a body, neither does it develop itself into a bodily form. Strictly speaking the body proper is a substantial life-principle originating in God, and carrying with it the impress of its great original, and involves the power and the possibility of endless continuance in the identity of its individual being.

619. The second Adam (Christ) said: "A body hast thou prepared me." This body was prepared by the substantial fashioning -- or constructive spirit -- life-principle, miraculously communicated to the Virgin, and as the Redeemer must be made in all things like unto his brethren, it involved, as in ordinary cases, both material and mental possibilities, and a pattern holding its existence as an organized entity, and as such completed itself in the way of a twofold development--the soul and the material tabernacle--a perfect man enrobing a perfect God. The earthly body of Christ was, chemically considered, like unto those of his brethren

until after the resurrection—gross matter. But afterward it doubtless underwent a refining and changing process, and became refined matter, approximating transparency and the immaterial. A beautiful illustration of my meaning we have in the minerals. For example, coal is impure carbon, and the diamond is pure carbon, yet the chemical constituent of each is the same—carbon.

620. Bishop Foster (of the M. E. Church) has well said: “The word resurrection is strained when it is insisted that it is equivalent to the statement that the exact body is to be restored. It may even be doubted whether it is an assertion concerning any part of the earthly body. Its utmost meaning is that the man who is cut down and separated from the body of flesh and blood by death shall live and flourish again. Its mold in the grave will have no special charm for the soul. Let us cease to be the sport of dreams, and the slaves of prejudice.”

621. Paul emphatically declares that flesh and blood cannot inherit the kingdom of God, I Cor. xv. 50. You ask, if this be so, What does rise again? Again, I answer, “How are the dead (departed) raised up?” “So also is the resurrection of the dead (departed);” and “the dead (departed) in Christ shall rise first,” I Thess. iv. 16. The term “dead” in these passages evidently does not refer to the material body, but to an organized intelligent personal being, who has departed out of the body of flesh and blood, and who is possessed of well-known personal attributes, as the following passages will place beyond a doubt. For it is some organized personal being that knows and sees, Job xix. 25, 26; that waits, Job xiv. 14; that answers, Job xiv. 15; that

suffers, Matt. xiii. 42; xxii. 13; that confesses and gives an account, Rom. xiv. 11, 12; that has a spiritual body, I Cor. xv. 44; that hears and comes forth, John v. 28, 29. These all indicate personal acts of a conscious, intelligent, dependent, and an accountable being. Of this personal being the material body is merely inert (dead) matter, "dust" utterly incapable of motion, and can only be moved by a superior substantial agent.

622. Hence we are driven to the conclusion, that to die in a physical Scriptural sense, is simply the "inner man" stepping out of the "outer man," this material organized body, and retaining all his personal attributes and essential functions he possessed here. The real man—the spiritual man—only departs, I Kings xvii. 21, 22; Luke ix. 31; II Peter i. 15. "Decease," in Luke and Peter, is from the Greek word *exodus*, *ex* meaning *out*, and *odus*, *a way*, a way out, a going out, departure, Heb. xi. 22; hence, figuratively, a departure from earthly life, decease, death. The real man only departs; he does not—he will not—cease to live at death. As no particle of matter, so far as we know, will ever cease to be, no more will man's substantial spiritual being, which is infinitely superior to it. No, such a regenerated man can never die. Poison, water, the revolver, or the dagger may cause his departure, but his real life they never—never can extinguish. God alone can do this, Matt. x. 28.

Cor. xv. 44, "It is sown a natural body; it is raised a spiritual body. If there is a natural body, there is also a spiritual body." The term "natural" represents the Greek word *psukikon*, and is the adjective corresponding to *psuche*, in verse 45, rendered soul, as used in

Gen. ii. 7, a "living soul." This verse may very properly be rendered, "It is sown a soul-body; it is raised a spirit-body. If there is a soul-body, there is also a spirit-body." Verse 46, "Howbeit that (body) is not first which is spiritual, but that which is natural" (adapted to the soul in its probationary state); then that which is spiritual (adapted to the spirit's needs in the spirit world). "Now, this I say, brethren, that flesh and blood cannot inherit the kingdom of God." This passage is literally rendered by the late Dr. Young, perhaps the best Biblical scholar of his day: "And this I say, brethren, that flesh and blood the reign of God is not able to inherit." *Psukikon*, in verse 44, expresses substantially the same ideas as *sarks* and *aima*, in verse 50, rendered "flesh and blood. They denote man in his present earthly state as inhabiting an animal body, and subject to animal passions and wants;" while spirit-body will have no animal nature, and be subject to no animal wants, as in this state of existence. The contrast at the resurrection between the soul-body and the spirit-body will doubtless be very great, verses 37 to 44. The soul-body that is first in the grave is not in any sense whatever adapted to the requirements of the soul at the resurrection. Nor is there the least indication in these verses that the identical body that is buried will be raised again, but the contrary. That distinguished Biblical scholar and author, Dr. Cunningham Geike, says of Christ's resurrection body: It "was no longer subject to the same laws as ours, but could appear and vanish at his will, passing unseen from place to place, and showing itself of such ethereal (immaterial) substance that no material obstacle could prevent its entrance where he chose."

623. The dead, then, that shall rise again are the Personal Dead, or, more correctly, the Personally Departed; the immaterial, organic, "inner man;" the spiritual personality that inhabited the material organic "outer man;" the true personality; the subject of reason, will, affection, a deep sense of relationship to God, and capable of immortality. This identical personal self, that remains the same through all the changes of the earthly body, is the real man that will be raised again, and enrobed with a resurrection body; and, if washed by faith in the blood of the Lamb, with a celestial and glorified body, incorruptible in a sublimer sense, and a joyous consciousness of age-abiding existence, and of a living spiritual union with Christ through his incarnate humanity. This immortality, or incorruptibility, is a special gift of God, revealed to man in the Gospel, II Tim. i. 10. Hence the Christian can say, "Because He lives I shall live also; for I shall see Him as He is, and shall be like Him," I John iii. 2; Luke xx. 35, 36; John xi. 25, 26. But immortality in this sublimer sense can only be theirs who are Christ-like in character. The resurrection body will be specially provided to clothe the risen man, for "God giveth it a body as it hath pleased him," I Cor. xv. 38. There is a soul-body, and there is a spirit-body. The soul-body, and the spirit encompassed by it are not separated by death.

624. Hence it is assumed that the "inner man," when it leaves the "outer man" at death, must reasonably be expected to retain its general immaterial form as it passes into the spirit realm, and still continue an organized being with the same essential organs it possessed here. This implies the employment of these organs

upon surrounding objects in real acts, such as thinking, speaking, singing, seeing, hearing, handling, etc. If the conscious personal self in the spirit-world uses its eyes and its ears, it must have soul surroundings, consisting of real objects to see, real sounds to hear, and real objects to feel.

625. In Deut. xxxiv. 5, 6, it is said that Moses died and was buried, and Elijah was translated without seeing death; and both were present at the Transfiguration in human form, and with its essential organs. They were readily recognized by the disciples, as they talked with the Saviour. Enoch, like Elijah, was translated without seeing death. Doubtless their material bodies underwent a change suited to their new conditions and surroundings, somewhat similar to that through which the Saviour's passed prior to the ascension.

626. Both the Latin and the Greek fathers commonly coupled Enoch and Elijah as historic witnesses of the possibility of a resurrection of the body, and of a true human existence in glory: Rev. xi. 3, Bible Dict.

627. The whole drift of Scripture is to teach that man in the next life is man in the real sense of the word, with his faculties and powers all complete. "We most confidently expect," says Dr. Hall, "when we shuffle off this mortal coil, that we shall be greeted with real sights and real sounds from the soul's new surroundings, vastly surpassing in beauty and grandeur and loveliness anything ever addressed to mortal eyes and ears in this life." Now, do the Scriptures bear us out in these views of the resurrection-body? Let us see. "And they (the saints) sing a new song, saying, Worthy art thou to take the book, and to open the

seals thereof; for thou wast slain, and didst purchase us to God with thy blood, men of every tribe, and tongue, and people, and nation, etc. :” Rev. v. 9, xv. 2, 3. Here is the exercise of judgment, gratitude and praise.

“After these things I saw, and behold, a great multitude, which no man could number, out of every nation, and of all tribes and peoples and tongues standing before the throne and before the Lamb, arrayed in white robes, and palms in their hands; and they cry with great voice, saying: Salvation unto our God who sitteth on the throne, and unto the Lamb,” Rev. vii. 9, 10. Here the saved are represented as having distinct, visible, substantial bodies, having legs and feet, white robes and palms in their hands, vocal organs, a mental constitution, great bodily and mental force, and overflowing gratitude, or they would not have cried so loud in holy song.

“These which are arrayed in the white robes, who are they, and whence came they? And I say unto him, My Lord, thou knowest. And he said to me, These are they which come out of the great tribulation, and they washed their robes, and made them white in the blood of the Lamb. Therefore are they before the throne of God; and they serve him day and night in his temple,” Rev. vii. 13, 15. These saints are distinguished for having come out of “great tribulation,” for white robes and constant service, all requiring visible substantial bodies, and mental powers and faculties of a complete person. They hunger, neither thirst any more, and the tears have been softly wiped from their eyes by the hand of Infinite Love.

“Behold, He cometh with the clouds; and every eye

shall see Him, and they who pierced Him," Rev. i. 7. See also Job xix. 26, 27; Matt. v. 8; Heb. xii. 14; Rev. xxii. 3, 4. I think if the reader has carefully studied what has been said in connection with the references, he is ready to agree with me that the position here taken, with respect to the organized, refined material nature of there surrection body, is abundantly sustained.

628. As the soul is not unclothed (destitute of a body) in this life, neither will it be in the life which is to come, II Cor. v. 2-4.

The Apostle assures us that we sow not that body that shall be; but God giveth it a body as it hath pleased Him; that we shall be all changed, and bear the (exact) image of the heavenly, as we have borne the material image of the earthly, and that the heavenly body will be incorruptible and immortal, I Cor. xv. 37-53. Hence we conclude that the refined material body will be exactly adapted to that world to which it goes, as the present gross material body is to this.

629. Though "it doth not yet appear what we shall be; but we know (through revelation) that when He shall appear, we shall be like (similar to, resemble) Him, for we shall see Him as He is," I John iii. 2. The Saviour's resurrection body had a symmetrical form, the same special sense organs and mental faculties that characterized it before death; but during the forty days sojourn it underwent a change to fit it for the glorious sphere of heavenly activity as the Son of God and Redeemer of man, and his people's advocate before the Father.

630. We may, I think, very safely assume that the resurrection body will be a very refined, beautiful,

material, organized body, fully adapted to all the forces and functions of soul and spirit, the inner and the outer man, that enter of necessity into the proper and complete constitution of the incorruptible person. "In no organism is matter so nearly allied to spirit, and so transparent with the transfused glories of a higher world," Dr. Harbaugh. As an illustration of what is even sometimes found, I refer to a lady, whose case is recorded in a German scientific work on the "Odylic force." The writer states that so illuminated did her body become that her husband, fearing her speedy death, had her portrait painted; the artist performing his task by the light of her bodily illumination alone. Another case is that of Charles Baldwin, one of the best known men in Lexington, Ky. On his recovering from a peculiar illness of several days, he noticed one evening that his body in the dark gave off a steady light, visible to a distance of one hundred yards. When his body is nude, an ordinary newspaper can be read by the light emanating therefrom at a distance of six feet. He is perfectly well and unconscious of his power. Physicians regard him as the wonder of the age (March 7, 1888). These cases are somewhat analagous to that of the face of Moses when he came down from the mount, and that of the Saviour on Mount Hermon in his transfiguration; though the causes differ. "In man's body the image of God is represented in a material form! In the Incarnate Christ the Infinite Deity is personally united with finite matter," Dr. Harbaugh. So far as our finite nature will permit, we are to be like the Saviour in our refined material outer man: and like him in our inner man's mental, moral, and spiritual activities, emotions, and holy aspirations.

CHAPTER LXIX.

WHAT IS MEANT BY HADES?

631. "But shall we know our friends in heaven? Why not? If they know each other here where they know only in part, shall they not know each other better when that which is perfect is come? Shall the saints in heaven who are near and dear to each other and in some respects alike, have less of the power of recognition than when here? I cannot think so.

The sexual nature and relations, and the consequent distinctions as husband and wife, son and daughter, brother and sister, will not be found there, for they shall be as the angels. But doubtless the bonds of spirit affection in its most exalted sense will remain.

"The fondest associations which are sealed and sanctified here by the holiest ordinations of God can never wear away. Fond memory will bring forth its treasures of pleasure from other days of earthly sojourn. If love is the highest and holiest form of activity in God, it is reasonable to suppose that it is the most permanent emotion springing from the purified nature of man. If the Saviour, who came not to destroy the law, loved John, Lazarus, Martha, and Mary why may not the saints in heaven hope to love their former intimate friends with a tender fondness of which they never dreamed, when they shall have exchanged the loves of earthly life for the higher loves of heaven? Bishop

Foster says : " We cannot doubt that those whom we love most here, love most purely and tenderly, will most likely be dearest to us there. They will still be our treasures. All that they ever were to us will be remembered ; the hold they had on our being will still be felt in our more exalted forms. The noble purified passion will rise into more exalted and holy intensity. The former relations will forever cease, but the resulting bond of affection will be intensified in its ceaseless activity and sacredness. They will be greatly more to us than they ever were on earth, and more to us, we may venture to believe, than they could have been had they not been bone of our bone and heart of our heart."

632. Man is a social being, as God himself is, and as such must have society. This law of his nature will not be destroyed, but run parallel with his being. Social magnetism will ever draw the saints together and keep them clustered around the Lamb, the great moral and spiritual magnet of redeemed humanity. He will be the center of all centers. There, doubtless, little groups of old friends will "gather at the river that flows by the throne of God." The sealed fountains of past endearments will be opened afresh, and the pure waters of delight leap forth amidst many a domestic circle once broken by the thunderbolt of death, but again united forever. As the Saviour gave his own life a ransom for all, including our friends, shall we not love them in heaven for his sake, and love Him the more for their sakes? But perhaps some one is asking, Is heaven a place, and is the element of time known there? The question is quite proper, important, and interesting. I answer, Man was brought into existence to be a citizen of time, of space, and of

locality. God's heaven may not be localized, but the heaven of man must have a place and be a place. As already seen in the Saviour's ascended glorified body, there will be refined material in heaven. All material, however attenuated, must have extension, and material extension, must have limitation. However boundless space may be, the creatures of space, being finite, must have boundaries. Man is a substantial being, both as to spirit and his body. He must, therefore, have place as to his finite spirit and room as to his material body. To the same extent as refined matter enters into the constitution of glorified persons will they require that their substantial heaven include material surroundings, and these will doubtless far surpass our most extravagant dreams of their reality. The late Dr. Whedon said a short time before he died, "Resurrection is the reunion of a conscious soul to a body by it vitalized." The saint's home is a Father's House with many mansions in the New Jerusalem, John xiv. 2. "Neither Christ nor the Apostles contemplated a future life as anything less than a real personal existence—as substantial or entitative as the present, but purified from its gross and material carnality. They entertained and taught no crude or mystified ideas concerning the soul's personal identity after leaving this earthly state; nor had they any conception of a future spiritual home that did not involve all the beauty, reality, and perfection of the most exquisite and desirable dwelling place on earth. That very day the confiding malefactor was to be with Christ in paradise—not an indefinable, formless, impersonal nonentity called soul as some view it, but the man himself, personated by "thou." When the Saviour promised his disciples to go and

prepare a "place" for them, it was a real place—not a mere state or condition as some would have it, with neither locality, boundary, nor entitative reality. To assure them of its substantial nature, and character, and especially of its extended accommodations for all his people, He declares that this heavenly home is to be composed of innumerable residences, within a great residence—countless homes within a great home. "In my Father's House are many mansions." This "House" is the same "building of God—an house not made with hands, eternal—*aionion*—age-abiding in the heavens," of which the apostle speaks as the dwelling place of those whose "earthly house of this tabernacle" was soon to be "dissolved." Not only was this "building of God" a real residence in the apostle's estimation, but the souls which were to make it their final abode were nothing less than real men—the inner men—who had put off or left the outer men, or their earthly houses, for that new dwelling which had "foundations," in the plural, as its "many mansions" naturally required.

633. "All the great advocates of Christianity, from the times of the apostles down, have given glimpses in their writings of this substantial view of a future state, while some of them have written whole treatises to prove that our souls will be as truly and literally personal and substantial in the next life as they are in this. Indeed we have an old work now by us from the pen of Martin Luther, affirming and insisting upon this spiritual philosophy of substantialism as positively and unmistakably as does any contributor in the *Microcosm*"—Dr. A. Wilford Hall. Luther was not only a devoted Christian, but a distinguished scholar, and a

great reformer, who gave to the German people the Bible in their mother tongue.

634. "It is nonsense to say that duration will not extend to eternity, and that the lines of time's longitude will not continue into the map—the unfinished map of heaven." But perhaps you remind me that in Rev. x. 6, the angel "sware that time shall be no longer." I reply that the Greek word *kronos* signifies space of time, respite or delay, limited period, marked duration, and this is the uniform meaning. In proof, I call your attention to Rev. ii. 21, where it is translated "space;" vi. 11, "a little season;" x. 6, "time no longer;" xx. 3, "a little season;" John v. 6, "a long time;" vii. 33, xii. 35, xiv. 19, "a little while;" Matt. xxv. 19, "a long time."

The verb derived from *kronos* is *kronizo*, and *kronizein* is translated "delayeth" in Matt. xxiv. 48; Luke xii. 45; "tarried," Matt. xxv. 5; Luke i. 21; and "tarry," in Heb. x. 37. The meaning is, "There shall be no further space (of time) for repentance, no longer respite for the ungodly, before the sounding of the seventh trumpet. Stroke is to succeed stroke, and that in a certain limited period, all will be finished."—Steir. I think it is unnecessary to give more references to establish the position I have taken.

"Time may lose its metric character, and be no longer measured off by rolling suns into days, and months, and years, and space may continue to defy all finite attempts to comprehend its boundaries and boundlessness, yet if there is time for "a half hour of silence in heaven," there will be time enough to drink of the water of life clear as crystal; and partake of the fruit of the tree of life. Time enough to inspect the city's

foundations, built of jasper and other precious stones; to admire the pearly gates, to walk the golden streets of the New Jerusalem, illuminated by the glory of God—by a light resembling that of a jasper stone clear as crystal, Rev. xxi. 11. There will be time enough to play the celestial harps, to wave the palms of victory, and to sing redemption's triumphant song. Time enough for an endless day of hallelujahs, loud and long, and space for the New Jerusalem with all its measured furlongs.

Though our eyes have not yet seen, our ears have not yet heard, nor have our minds yet conceived what God hath laid up for his children, yet we know that it is an inheritance incorruptible and undefiled, and that fadeth not away, reserved in heaven for all those who are faithful unto death. Although we know so little about the resurrection of the dead, I believe with Dr. Hall, that the time is coming when it will be comprehended by reason as it is now accepted by faith. And I hope the present effort, imperfect as it is, will tend, in some small degree, to hasten the time. And I further hope that this endeavor to harmonize the resurrection of the dead with the recent progress of Christian Science and the advanced views of Revealed Truth, will meet with the Divine approval, and prove a source of comfort to many of His departing children.

HEAVEN—WHERE IS IT?

635. We believe the true and full idea of heaven lies between two equally false conceptions, viz.: that of exclusive spiritualisticism on the one hand, and a prevalingly materialistic notion on the other. The one has deprived us of our Father—God—and told us that any

attempt to explain the divine nature is “absurd and impracticable,” and have given us a cold abstraction without substantial form, a something of which we can form no proper conception! The other has even robbed us of our souls, and of the glorious Being who made them! We have not, and do not, so read our Bible, the highest authority heaven could give, and all that humanity needs. We believe he has so revealed himself “that they might know Thee the only true God, and Jesus Christ whom thou hast sent,” and thus secure spiritual life. Jesus said “he that hath seen me hath seen the Father,” John xvii. 3; xiv. 9. We do know that Christ was a complete manifestation of the Father so far as it was necessary for us to know Him in order to believe, love, obey, and trust Him.

We firmly believe that heaven is a place and wisely located somewhere, and that it contains a temple, a throne, and a very large house, in which are many mansions, John xiv. 2; Rev. xx. 11, etc. But we have not yet been made acquainted with its latitude and longitude. However, we believe that it is where the will of God is solely, constantly, cheerfully, energetically, and lovingly done, and no contrary will is known.” It is a large, beautiful, and artistic place, distinguished for the nature, extent, and variety of objects best fitted to excite the admiration and engage the attention of redeemed and glorified humanity. It is a place of all others the best suited to the refined material resurrection bodies of the redeemed, and perfectly adapted to their immortal souls’ celestial surroundings. As they had gross material bodies here, they will be substituted by refined material bodies there.

The Holy Scriptures are not entirely silent respect-

ing this subject of such absorbing interest. They tell us of the way to the place by pointing us to the "Fore-runner who passed into the heavens," Heb. iv. 14, "ascended up far above all (visible) heavens, Eph. iv. 10, into heaven itself, now to appear in the presence of God for us," Heb. ix. 24.

There are already there of our kindred, Enoch, Elijah, Moses, and Christ our representative, and how many more we know not. And there are singers who sing the "Song of Moses and the Lamb;" and harpers, and very many students of truth, for all will know even as they are known. Among them we imagine Noah the patient worker, Moses the lawyer, Daniel the prophet, Paul the philosopher, still puzzling over the depth, and length, and breadth, and height of the love of God he has failed to measure; and Job the patient sufferer; and Jeremiah the weeping patriot; and Stephen the holy martyr; and may not Plato be there congratulating the Apostle Paul on his glorious victory on Mar's Hill over himself, the accredited representative of the Grecian philosophy? For further information the reader is referred to the last two chapters in Revelation.

Dr. Norman MacLeod, just a few minutes before he passed away, said: "I have glimpses of heaven that no tongue or pen or words can describe."

"Vital spark of Heavenly flame,
Quit, O quit this mortal frame,
Trembling, hoping, lingering, flying.
Oh! the pain, the bliss of dying! oh,
Cease, fond nature, cease thy strife
And let me languish into life.

“ Hark! they whisper; angels say—
 ‘ Sister spirit, come away.’
 What is this absorbs me quite—
 Steals my senses, shuts my sight,
 Drowns my spirit, draws my breath?
 Tell me, my soul, can this be death?

“ The world recedes—it disappears,
 Heaven opens on my eyes, my ears
 With sounds seraphic ring,
 Lend, lend your wings! I mount! I fly!
 O grave, where is thy victory?
 O death, where is thy sting?”

IMMATERIAL SPIRITUAL PERSONS ASSUMING MATE-
 RIAL HUMAN APPEARANCES.

636. “ And the Lord appeared unto Abram, and said, Unto thy seed will I give this land,” Gen. xii. 7. “ And when Abram was ninety years old and nine, the Lord appeared to Abram, and said unto him, I am God Almighty, walk before me, and be thou perfect, etc. And Abram fell on his face; and God talked with him,” Gen. xvii. 1-3. Again the Lord appeared unto Abraham by the oaks of Mamre, as he sat in the tent door in the heat of the day, etc. In this instance three persons appeared as three men, and Abraham entertained them with butter, and milk, and a calf which he had dressed; and he stood by them under the tree, and they did eat. It was on this memorable occasion that Abraham pleaded so long and earnestly for the doomed cities of the plain; he pleaded as though the people were his nearest and dearest friends, Gen. xviii.

“ And the Lord appeared unto him (Isaac), and said, Go not down into Egypt; dwell in the land that I shall tell thee of;” etc., Gen. xxvi. 2, 24.

“And God appeared unto Jacob again; and Jacob set up a pillar in the place where he spake with him, a pillar of stone,” Gen. xxxv. 9, 14.

The Lord met with Moses, and gave him a commission to fetch his people out of Egypt, Ex. vi. 2, 3.

The angel of the Lord came and sat under the oak, and commissioned Gideon to deliver Israel out of the hands of the Midianites, Judges vi. 11.

The servant of Elisha, whose eyes were miraculously opened, saw the mountain “full of horses and chariots of fire;” and it is reasonable to conclude that he saw charioteers also, II Kings vi. 17.

When the angel of the Lord appeared to Manoah and his wife, to predict the birth of Samson, while they made a burnt offering upon a rock, the angel wrought “wondrously;” but when the flame ascended from off the altar, the angel ascended in the flame, and Manoah and his wife fell on their faces to the ground, Judges xiii. 16-23.

The divine Messenger sent to the care of the three Hebrew children appeared walking with them in the midst of the fire, Dan. iii. 25. And an angel visited Daniel in the lion’s den and secured his safety, Dan. vi. 22.

Moses, after fifteen hundred years’ residence in hades with Elijah, appeared to the disciples on the Mount of Transfiguration. Christ himself, previous to his ascension in the cloud, could be visible or invisible at pleasure.

The angel of the Lord visited and delivered Peter out of the prison, and out of the hands of Herod, Acts xii. 6-17.

It is well to bear in mind that all substances and

bodies that do not possess the recognized properties of weight, inertia, physical tangibility, etc., and which can exist and operate in defiance of purely material conditions, are immaterial. All spiritual bodies are immaterial and therefore are not impeded in their activities by material surroundings.

WHAT OUGHT TO BE EDUCATED ?

637. "The mind acts upon the body through its threefold states of intellect, sensibilities, and will." To educate the intellect without the moral affections is to render a person capable of being twofold more a child of the devil than before. The Friends are the only people known to me who practically realize this fact and act upon it. Owing to this defect in our educational system, our schools generally are sending out more educated rascals of the first-class and of the highest order than would otherwise be the case.

"The human will is the highest element of the mind. It is in the image of God, and perfectly free within finite limits; because God is free." It is the seat of sin. The influence of the will upon the body is very great; because it influences all the other elements of the mind, sometimes to such an extent as to prove fatal, by concentrating more nerve force on a given part than it is able to bear.

The proper cultivation of the human will is one of the most important and desirable objects to accomplish early in life, both with respect to the body and the spirit. Indeed the will, the moral affections, and the reason in its higher realm, demand unremitting attention during the whole course of education. The proper education of the will would reduce the number of mur-

ders, suicides, quarrels and divorces. The reason in its application to visible effects resulting from invisible causes is almost entirely neglected. This ought not to be. The following examples will perhaps make my meaning clear with respect to the required cultivation of the reason in the immaterial field. For instance, the steam moves the piston, the piston moves the machinery; though we cannot see the cause of the motion, we do see the visible effects of it; but we cannot see the steam, yet we know it is the cause of the motion; though invisible it is real and substantial. Again, we place a good magnet near to a number of cambric needles and a general commotion is the result; though the magnet is kept apart from them, they quickly follow its movements hither and thither; we see the effects of magnetism, but we cannot see the cause of the activity among the needles; though invisible it is real and substantial to our higher reason. Again, a man is noted for his idleness, for his uncivil and harsh treatment of others, for his vulgar and profane language, and for his vicious habits; but he has become the subject of a wonderful change. He has become industrious, gentle and kind, very respectful in language, and free from all bad habits. What has produced this striking change, as he had been in the habit of setting at defiance, sometimes with oaths and curses, all the efforts of his best friends who sought to induce him to lead a better life? We see the noted effects of some invisible cause; and that cause must be superhuman, and if superhuman it must be divine, and if divine it must be immaterial and spiritual, though none the less real. Every effect must have an adequate cause, though not necessarily visible or tangible. And if neither visible nor tangible, it is as certain to the higher

exercise of reason as if either visible or tangible, or both. We therefore contend that any system of education that is deficient in cultivating the will, the moral nature, and the reason in its higher field of activity, is radically defective and ought to be abandoned for a better.

AGES OR DISPENSATIONS OF MAN'S RECOVERY FROM THE FALL.

FIRST AGE.

The first age or epoch extended from the creation of Adam to the drying up of the flood, a period of one thousand six hundred and fifty-six years. It is called "the world that was," and "the old world," II Pet. iii. 6; ii. 5. This age was under the ministration of angels; but it was a complete failure, as nothing but the utter destruction of the human race, with the exception of eight persons, could arrest the havoc sin was making, or preserve to mankind the hope of redemption.

SECOND AGE.

Though the second age of the world, it is the first of "the world that now is," and is known as the Patriarchal age, or dispensation; it extended from the drying up of the flood to the death of Jacob, a period of about six hundred and fifty-eight years. It is termed the Patriarchal age, because God's dealings with mankind were specially with and through the Patriarchs, Noah, Abraham, Isaac, and Jacob. Each one of these in turn seems to have secured the special notice of God, accompanied by divine favors. At the death of Jacob this particular mode of dealing with the human race ended, and his descendants were together designated by God his "peculiar people;" and through typical sacrifices they

were reckoned typically "a holy nation;" that is, they were divinely separated from other nations for a very particular purpose, accompanied by corresponding and imperative obligations; and then they received their national name—"The Twelve Tribes of Israel," Gen. xlix. 28; xlvi. 3; Deut. xxvi. 5.

THIRD AGE.

The Jewish age, or the Law dispensation, began at the beginning of their national life at the death of Jacob, the last of the Patriarchs, and extended over a period which ended with their rejection and crucifixion of the Messiah on Friday the 15th of the seventh month in 4029½—when five days before his crucifixion he presented himself to them as their King, and, being rejected, he declared—"Your house (temple) is left unto you desolate," Matt. xxiii. 38. From that time Israel was cast off as a nation.

FOURTH AGE.

The Gospel Age, or Christian dispensation, extends from the death of Christ to about A.D. 1898½, when according to the present understanding of prophesy, is to begin the restoration of the Jews, and the completion of the Gentile times. The great and special object of the Gospel is to be a "witness" to all nations, and to select out of Jews and Gentiles a "little flock," (Luke xii. 32), who hunger and thirst after righteousness, and thereby become the called, and chosen, and faithful—to whom it is the Father's good pleasure to give the kingdom. They only constitute the true Christian Church of which Christ is the only Head and Forerunner, Eph. v. 23; Col. i. 24; the true Israel of God, I Cor. x. 18; Gal. vi. 16; Rom. xii. 1.

Six thousand years from the Creation of Adam extended to the year 1876 A.D.

FIFTH AGE.

This age or epoch is called "the world to come," Heb. ii. 5 ; vi. 5 ; or the " world without end," Isa. xlv. 17 ; and a world wherein " dwelleth righteousness," II Pet. iii. 13. It commences at the Second Advent of Christ, which closes the harvest of the Gospel Age, and is called the Millennial Age, or " Times of Restitution." What ages may follow we know not. It has not been revealed.

CHAPTER L.

THE UNIVERSE.

639. The universe is the multitudinous expression of the mind of Elohim; Divine ideas materialized; the visible form of Divine thoughts, specially adapted to our physical senses, through which perception is stimulated, thought produced, reason called into activity, and the imagination incited to action. The works of God indicate the immaterial, spiritual, and sublime nature and character of the Infinite Personalities concerned in the creation, which is our pictorial primer, designed to prepare us for the better understanding of revelation, which constitutes our divine classics and philosophy.

SIZE OF THE UNIVERSE.

The number of heavenly bodies is too vast for human comprehension. To form some idea of the largeness of this earth one may look upon the landscape from the top of an ordinary church steeple, and then bear in mind that one must view 900,000 similar landscapes to get an approximately correct idea of the size of the earth. Place 500 earths like ours side by side, says the Copenhagen *Nordstjernen*, yet Saturn's uttermost ring could easily inclose them. Three hundred thousand earth globes could be stored inside the sun if hollow. If a human eye every hour was capable of looking upon a fresh measure of world material 14,000 square kilo-

meters* large that eye would need 55,000 years to overlook the surface of the sun. To reach the nearest fixed star one must travel 33,000,000,000 of kilometers, and if the velocity were equal to that of a cannon ball, it would require 5,000,000 years to travel the distance. On a clear night an ordinary human eye can discover about 1,000 stars in the northern hemisphere, most of which send their light from distances which we cannot measure. How large they must be! Round these 1,000 stars circle 50,000 other stars of various sizes. Besides single stars we know of systems of stars moving round one another. Still we are but a short way into space as yet! Outside our limits of vision and imagination there are no doubt still large spaces. The milky way holds probably at least 20,191,000 stars, and as each is a sun, we presume it is encircled by at least fifty planets. Counting up these figures, we arrive at the magnitude of 1,000,955,000 stars. A thousand million of stars! Who can comprehend it? Still, this is only a part of the universe. The modern telescopes have discovered more and similar milky ways still farther away. We know of some 6,000 nebulae which represent milky ways like ours. Let us count 2,000 of them as being of the size of our milky way, then 2,000 by 20,191,000 equals 40,382,000,000 suns, or 2,019,100,000,000 heavenly bodies.

TRUE SCIENCE AND REVELATION.

640. Passages of Scripture that imply or express a relationship between true science and revelation: Job xxvi. 7; Psa. xviii. 7, 13, 14; xix. 1; xxviii. 5; lxxviii. 8; lxxvii. 16-19; xcvi. 3-5; civ. 24; cxi. 2; cxxxv. 7;

* A kilometer=about five-eighths of a mile.

cxliii. 5 ; Isa. v. 12, 13 ; Jer. x. 12, 13 ; Rom. i. 19 ; Heb. xi. 3.

FROM D. L. MOODY'S BIBLE.

641. JUSTIFICATION—a change of state. New standing before God.

REPENTANCE—a change of mind. New mind about God.

REGENERATION—a change of nature. New heart from God.

CONVERSION—a change of life. New life for God.

ADOPTION—a change of family. New relationship toward God.

SANCTIFICATION—a change of service. Separation unto God.

GLORIFICATION—a change of place. New condition with God.

Life from Christ—as the Source.

Life on Christ—as the Support.

Life with Christ—as in Fellowship.

Life like Christ—as the Pattern.

Life for Christ—as the Aim.

SLEEPLESSNESS—CAUTION.

642. “ Avoid bromides, chloral and morphia as you would a rattlesnake. If a clean skin, good air, good digestion, bowels regular, and proper exercise do not induce sleep, take the tincture of the white passion flower in two or three-drop doses, in a little pure water. It produces a quiet, pleasant sleep, from which the patient may be awakened at any moment. Even in the worst form of sleeplessness, that associated with suicidal mania, this drug will produce quiet slumber, from which the patient awakens with a clear mind and

rational thoughts. It is excellent in convulsions, spasms with rigidity, and lock-jaw."

CONCLUSION.

643. The Triune God is the fountain and ruling power of my life, the moral center and example of my conduct, and the thought of whose being and perfections penetrates, inspires, and sanctifies me.— Dr. Parker.

THE MASTER'S QUESTIONS.

- " Have ye looked for sheep in the desert,
 For those who have lost their way ?
 Have ye been in the wild waste places
 Where the lost and wandering stray ?
 Have ye trodden the lonely highway,
 The foul and darksome street ?
 It may be ye'd see in the gloaming
 The prints of wounded feet.
- " Have ye folded home to your bosom
 The trembling, neglected lamb,
 And taught to the little lost one
 The sound of the shepherd's name ?
 Have ye searched for the poor and needy
 With no clothing, no home, no bread ?
 The Son of Man was among them,
 He had nowhere to lay his head.
- " Have ye carried the living water
 To the parched and thirsty soul ?
 Have ye said to the sick and wounded,
 ' Christ Jesus makes thee whole ?'
 Have ye stood by the sad and weary
 To smooth the pillow of death,
 To comfort the sorrow stricken
 And strengthen the feeble faith?"

INTRODUCTION.

WHEN the writer first attempted to interest young people in the reformed natural science called the "Substantial Philosophy" he did not think of making a book. But he was intensely desirous of guarding them against the false science of the day, leading to infidelity, materialism, and atheism. Earnest desires being frequently expressed by his readers to have the subjects made more permanent in form he finally decided to do so, and should they benefit the reader as much as the writer, he will see many things with which man ought to be familiar in a new light; and much of the Bible, as God gave it to us, will be invested with new interest. The Revealed God of the Divinely Inspired Scriptures will be a thousandfold more endeared to him, the Saviour's kinship will be more greatly prized, and the material body of flesh and blood, though the divine masterpiece of animal creation, and displaying infinite wisdom and artistic skill, will appear only as the mere earthly garment of the "inner man" made in the image of God, and designed for companionship with the Son of God, and association with angels.

I am now in my 77th year and must soon give an account of my stewardship, and I do most earnestly pray that the infinite Father of humanity, and the great Author of nature, and glorious head of the true Church of Christ will accompany this labor of love in behalf of the rising generation with his richest blessing.

THE AUTHOR.

INDEX

TO

DR. KENT'S SUBSTANTIAL CHRISTIAN PHILOSOPHY.

ESPECIALLY DESIGNED FOR YOUNG PEOPLE.

This index contains over 620 references, being a complete key to many very interesting and abstruse subjects relating to Science, Theology, Physiology, and Psychology as they relate to man here and hereafter.

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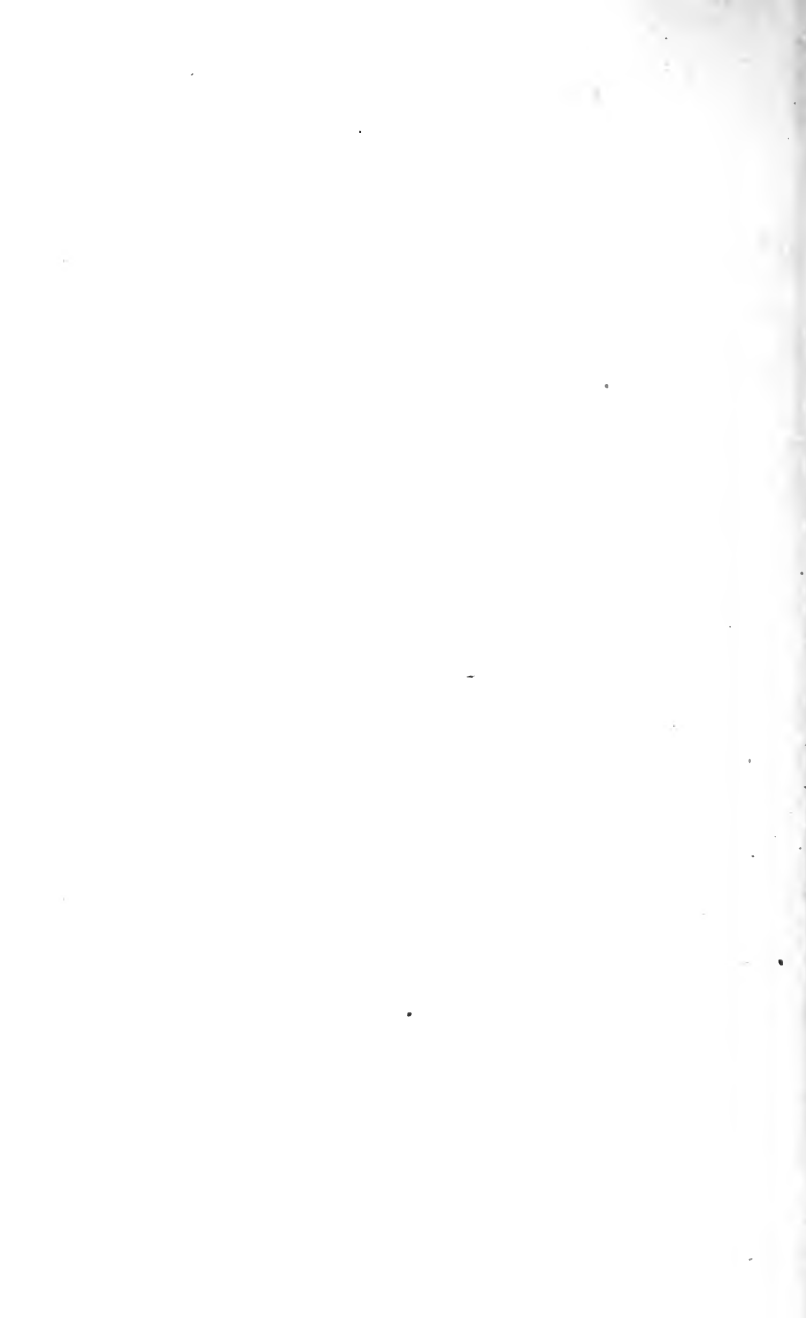
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