

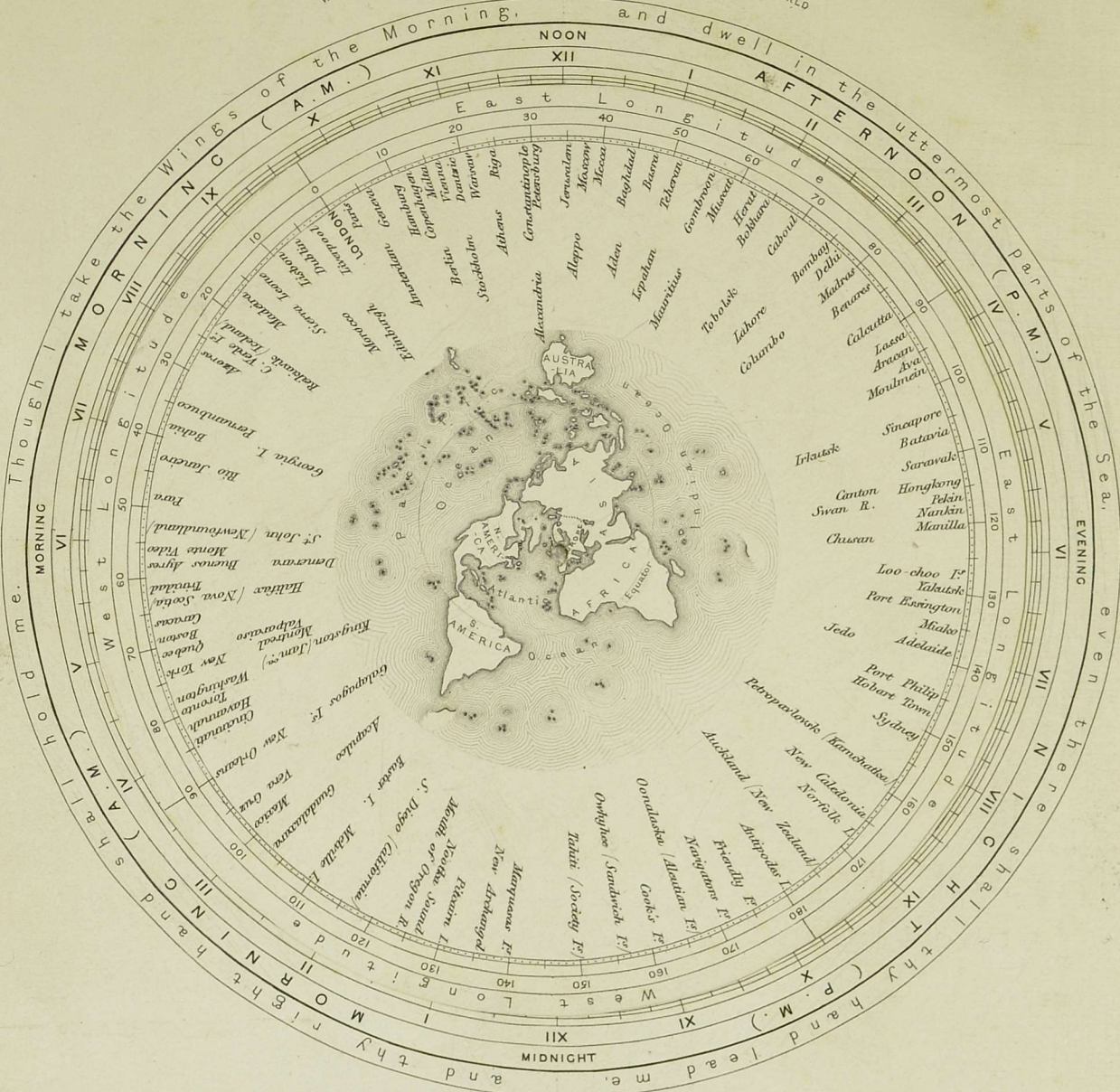
William Wilfred Carey

A GEOGRAPHICAL CLOCK

for the comparison of London Time

WITH THAT OF THE PRINCIPAL PLACES IN VARIOUS PARTS OF THE WORLD

By W. Hughes.

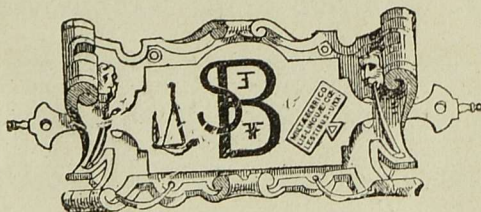


THE
SIX DAYS OF CREATION :

A SERIES OF
FAMILIAR LETTERS FROM A FATHER TO HIS CHILDREN,
DESCRIBING

The Natural History of each Day's Mercies,
WITH PARTICULAR REFERENCE TO
THE ILLUSTRATION OF SCRIPTURAL TRUTH.

BY W. G. RHIND.



THIRD EDITION.

LONDON:
SAMUEL BAGSTER AND SONS,
PATERNOSTER ROW.
MDCCCXLVIII.

LONDON :
R. CLAY, PRINTER, BREAD STREET HILL.

ADVERTISEMENT.

A THIRD EDITION of this little work having become necessary, the matter has been submitted to a careful revision. Original articles have been added to various parts; and considerable changes have been made in the subordinate arrangement of the subjects. The descriptions have been rendered as lucid and attractive as possible, and particular care has been taken to supply only such information as may be depended upon for its accuracy. The whole of the Plates are entirely new, and the additional one of the Terrestrial Hemisphere cannot fail to interest and instruct. The work is again sent forth, with earnest prayer to the Lord (without whom the most laboured efforts fail, and with whom the weakest means succeed) that he would be pleased to *command the blessing*.

SUMMARY OF CONTENTS.

INTRODUCTION	Page xi.
MAP of the Terrestrial Hemisphere, with description	xv.

LETTER I.

INTRODUCTION — The Lord Jesus, the Almighty Agent in Creation—The Heavens and the Earth <i>first</i> called into being — The creation of Light — Its blessing to Man — The grateful Change of Day and Night — Light capable of existing without the Sun—The comparative Velocity of Light and Sound—The Thunder Storm—Appeal to the Conscience	Pages 1—9
--	-----------

LETTER II.

The Lord Jesus the <i>Light</i> of the World — The Disciples of the Lord called to be <i>like their Master</i> — The countenance of Moses bright in the brightness of God—The Christian like Stephen called to the same—Passages of Illustration— <i>Light</i> is sown for the Righteous—The Light of the Just brighter and brighter unto the perfect Day—The Light of the Righteous—Everlasting Light—The Light of the Body, the Eye—The single-eyed, upright Christian, walks in the Light of Life	Pp. 10—15.
--	------------

LETTER III.

The Creation of the Firmament, or Atmosphere—Its Proportions—Its adaptation to sustain Life—The Balloon explained—The Clouds the Storehouse of Waters, which return to water the Earth—The principle of Evaporation explained—All Nature under the continual control and direction of the Lord—The Refraction and Reflection of Light explained—The agitated atmosphere, or WIND, the great conservator of Health and means of all Commercial Intercourse—Voyage of the Ship Duff, the First Missionary Ship to the Pacific—Sound and Scent both alike conveyed by the medium of the Atmosphere—Recapitulation of the Mercies of the second day's Creation—Conclusion	Pp. 16—30
---	-----------

LETTER IV.

The Atmosphere pervading all Things, illustrative of the Omnipresence of God—The French Revolution an awful Example of the Anarchy that inevitably ensues on a denial of God—The Omnipresence of God, an Attribute full of blessing to the Believer—Dan. xii. 3, explained: The Righteous shall shine as the brightness of the Firmament—The Song of Moses: Gentle as the Dew; refreshing as the Showers on the new-mown Grass, Deut. xxxii. 2—Those born of the incorruptible Seed innumerable as the Dew, Ps. cx. 3—The Children of God, living together in unity and love, like the Dew of Hermon, Ps. cxxxiii. 3—The Manna lighting on the Dew in the Wilderness, Numb. xi. 9—The Clouds the Symbol of the Lord's Presence, Exod. xiii. 21—Awful illustration of Clouds without Water, Jude 12—Though a Man be washed in Snow Water, he cannot stand before God, Job ix. —One thing alone cleanses from Sin, the Blood of Jesus—Conclusion Pp. 31—40

LETTER V.

At the call of the Lord the dry Land rises up from the Waters, and, at his word, is covered with verdure and beauty—Ps. civ. descriptive of Creation—The Productions of the Earth above and beneath its Surface, Job. xxviii. 5—The value of the Metals, especially Iron—The Great Britain Iron Steamer considered, her dimensions, &c.—THE UNIVERSAL KINGDOM proposed to be explored, and then the Vegetable—*The Precious Gems* detailed as to their names, country, properties, and relative value; those in the Breast-plate of Aaron and the Foundations of the Holy City especially marked—The *Metals* treated of in the same manner—So also *Rocks, Stones, Slates, Clays, and Chalks*; likewise Coal and Salt—THE VEGETABLE KINGDOM arranged under four Principal Divisions; 1. The Trees, Herbs, or Grass, that are good for Food, such as Wheat, &c.; 2. Those that are spun for *Clothing*, as Flax, Cotton, &c.; 3. Such as are compounded in Medicine, as Opium, &c.; and 4. The Trees that are worked in Art, as the Oak, &c.—All these blessings, and the fruitful season, come from the Lord, who presides over his own creation, Psalm lxxv. 9—12..... Pp. 41—89

LETTER VI.

The joy of the *Brazilian Slave* on finding a Diamond of sufficient weight to ensure *his freedom*, illustrative of the state of soul of the Man who finds *the Pearl of great price*—The Breast-plate of Aaron, glittering with twelve precious stones, considered in its typical character, Exod. xxviii. 29; Heb. x. 21—The Lord, as a *Refiner*, purifies his children, Mal. iii. 3—Job xxiii. 10, opens out the same truth—The Word of God more precious than Gold, Psalm cxix. 72, 127—Proverbs iii. 14; and viii. 19, on the same subject—The glory of Jerusalem in the last days set forth under a variety of the Emblems of this day, Isaiah lx.—Threatened judgments on Israel, if disobedient; the Heavens *Iron*, the Earth *Brass*, Lev. xxvi. 19—Israel, cast off from God, compared to reprobate Silver, Jer. vi. 30—The Lord *the Rock* of Strength to his People, Deut. xxxii. 4—*The Rock* that followed Israel declared to be Christ, 1 Cor. x. 4—The Lord Jesus also the Chief *Corner Stone*, 1 Pet. ii. 6; and the Shadow of a *Great Rock* in a weary land, Isaiah xxxii. 2—The Wicked call on *the Rocks* to cover them, Rev. vi. 16—The Lord Jesus the Corn of Wheat that died, and the Sheaf of First-fruits, 1 Cor. xv. 23; John xii. 24—The Trees clap their hands, and all Creation rejoices in the return of the Lord's anointed King,

Ps. xcvi. to c.—The believer compared to the fruitful *Evergreen*, Ps. i. 3; so also, Ps. xcii. 15—Parable of the Vine and Branches, John xv.—Parable of the two Eagles cropping the loftiest Cedar of Lebanon, Ezekiel xvii.—Conclusion Pp. 90—103

LETTER VII.

The Glory of the Fourth Day—Sunshine—The Starry Host—Are the Planets inhabited?—The Earth distinguished as the Place of the Manifestation of God's great Love—Calvary—Different Systems of Astronomy—What we owe to Science—Solar System—The Earth—The Moon, her phases—Eclipses—The Planets—Comets—Fixed Stars—All these things shall be shaken—Is that day a happy one in prospect?.....Pp. 104—129

LETTER VIII.

The Passing away of Heaven's Host—The Glory of God—God his own Interpreter—The Lord a Sun and Shield—The Scripture Use of the Sun—The Morning Star—The Effect of the day of the Lord on all Flesh... Pp. 130—141

LETTER IX.

The World as yet without Life—Birds Created—Eden—Some of the Mercies of the Fifth Day—Noah's Dove—Whales—Whale Fishing—Fish generally—Lower Life—Animalcules—Leeches—Birds in general ... Pp. 142—207

LETTER X.

Individual Responsibility—The Lord's Use of Creation—Fishers of Men—The Capture—True Power—Migration—The Dove a Type—Obedience—Judgment and Joy.....Pp. 208—223

LETTER XI.

The Last Day of Creation—General Blessings of this Day—Quadrupeds—Classification—Apes, &c.—Vampyres—Elephant Perils—The Sloth—Mistaken Lion—The Tiger foiled—Cowper's Dog—Wolves' Ravages—Hunting—Ermine—The Bear—Opossum—Porcupine—Beaver's Habits—Animals which ruminates—Deer—Buffalo—Horses—The Disconsolate Arab—Hogs—Creeping Things—Tortoises, Turtles,—Frogs, Toads—How to Watch their Transformations—Crocodiles—Serpents—The Great Boa—Dancing Snakes—Insects—Classification—Aquatic Beetles, &c.—Fire-flies, Glowworms, &c.—Locusts, &c.—Day-flies, &c.—Saw-flies, &c.—Bees—Their Habits—Cockroaches—White Ants—Scorpions, &c.—The Sum Up—Comparison with Eden—God's Dealings with fallen Man—Anticipations of Rest Pp. 224—317

LETTER XII.

Noah's Ark—Scripture Emblems—The Lion, the Wolf, the Bear, the Fox, the Ox, the Lamb, the Sheep, the Goat, The Camel, the Horse, the Ass, the Dog, Swine, Insects, Coneys, Locusts, Spiders, Bees, Flies, the Leech—Worms—Conclusion Pp. 318—343

APPENDIX.

The Atmosphere—Evaporation—The Nile—The Wind—Voyage of the Duff—Vapours—The Great Britain Steam-vessel—Coffin of Cardinal Borromeo—Weights of Metals—Medicinal Herbs—Diamonds—Prophecy of the Church—Telescopes—The Planets—Common Reckoning—Eclipses of Jupiter's Satellites—Prophecies of the Lord Jesus Christ in the Psalms—Book of Revelation—Pigeons—Insects.....Pp. 345—354

INTRODUCTION.

THE first and greatest desire that should occupy the mind of a parent who has himself felt the power of divine truth, is, that the children whom God has given to him may be partakers of the same mercy. For, though he knows, and would readily acknowledge, that it is God alone, "who commanded the light to shine out of darkness," that can shine into the hearts of his children, to give them "the light of the knowledge of the glory of God in the face of Jesus Christ," yet should he ever remember, both for his instruction and encouragement, how often the Lord has enjoined parental care for the nurturing of the little ones, and how often he has blest—abundantly blest—the earliest instruction of a mother's lips.

The command of God, by the lips of Moses, to the Hebrew parent is full of instruction:—"And these words which I command thee this day shall be in thine heart;"—not in thine understanding only, but in thine heart,—the seat of the affections; and then, showing that our children are our *first and especial care*, the command is added, (Deut. vi. 6, 7,) "And thou shalt teach them *diligently* unto thy children:"—diligently; this implies care, earnestness in the matter,—not a lesson alone of duty, but with the whole heart engaged in it. And again, in the institution of the Passover, how beautiful and touching is the incidental allusion to children! (Exod. xii. 27.) They are represented as certain to inquire what was the meaning of this rite,—why the Paschal Lamb bled, and why the lintel was sprinkled with the blood;—and the inquiry was not to be repressed, but rather the parent was to cherish it, and evidently with delight to reply,—"It is the sacrifice of the Lord's Passover, who *passed over* the children of Israel, when he smote the Egyptians, and delivered our houses." And so should the Christian parent explain to *his* children the Supper of the Lord, and bring before their young

minds the love of that Saviour, who, as the true Paschal Lamb, gave his life a ransom for many; and that, sprinkled with his precious blood, there is peace, and the sword of the avenger *passes over*; but that where that blood is not, he *passes through* in judgment.

And who can have read that solemn prophetic account of the destruction of Jerusalem by Nebuchadnezzar and his six princes, without seeing the part that children had in it? *Some* (evidently the Lord's) were weeping for the sins around them; and, marked by the man clothed in linen, the six avengers with the destroying weapons came not near them; while all those unmarked (not in the Lord's family) were swept away in the desolating judgment. The whole chapter (Ezek. ix.) is most solemn, but especially from verse 3 to 7. And in that affecting call by the prophet Joel (Joel ii.), when the trumpet for the solemn assembly was sounded, and all Israel assembled before the Lord, *the children* are in the scene, and even the mother, with the suckling at her breast, was prostrate before the Lord. Many other passages might be adduced from the Old Testament which are doubtless familiar to the Christian parent; but let these suffice. And then, as it regards the New Testament, what parent who reads this has not rejoiced in the compassion of His heart, who, when the disciples would rudely have turned away the mothers with the children, uttered that word so full of benignity,—“Suffer the little children to come unto me, and forbid them not, for of such is the kingdom of heaven.” All parental instruction, and, as much as possible, all the after stages of education, should have steadily in view, even as the polar-star, this one absorbing thought, *the salvation of the child*.

Alas! how often has one witnessed a child grow up, admired and caressed by all around, his literary career all brilliant, when in a moment his sun has gone down at noon-day; and, it may be, ignorant of the great truth that a sinner is saved alone by faith in the precious blood of Christ, his soul has been called away to give an account to that God, the gospel of whose grace he had slighted.

Very much that is excellent has been written for children during the present

century; no age or station has been forgotten; every year has brought forth some fresh theme of instruction, and new fields have been opened out to meet the increased desire for knowledge: but still the theme is inexhaustible. It is now many years since the writer of the following letters had his mind more especially directed to the instruction of children; and no part of Scripture has he found so to arrest their young minds as Genesis i. From thence all natural history may be said to take its rise; for though the record of Moses is very brief, yet it necessarily contains the leading history of the creation of each day; and thus all that we see around us must be traced back to this original source, and so also all those beautiful illustrations of divine truth with which the word of God abounds.

To render familiar to a child's mind the peculiar characteristics that marked the successive creation of each day, a series of Designs have been engraved, in which the attempt at least has been made to give a faithful outline of the Mosaic record; nothing has been added for effect, but the description in Genesis has been taken, and, as far as possible, faithfully delineated. The subject is one of acknowledged difficulty, but no pains or care has been spared to make it an instructive vehicle to the mind of childhood. Each Engraving (after the first) takes up the subject of the previous day; so that, while the *first* simply exhibits *light* beaming forth on *the Globe of waters*,* and the dark clouds which enshroud it rolling back; the *second*,

* The passage in Gen. i. 2, "And the earth was without form and void, and darkness was upon the face of the deep," has presented a difficulty to some minds, as if at first the earth was a shapeless mass, though this indeed could not be. The most learned Hebraists have translated the passage, "And the earth was desolate and waste:" and Jer. iv. 23 corroborates this view, where the words are the same, and demand this translation; by which the simple idea presented to the mind is, that in the beginning, when God created the heavens and the earth, the earth was a desolate and dark sphere of waters, (for there is no account given subsequently of its being formed into a sphere,) having in its depths or abyss *THE DRY LAND* which the Lord had destined in its appointed day to rise up; and, doubtless, from the moment

in addition to this, represents the firmament (in which the birds of the fifth day flew, and which is evidently the same as the atmosphere) as surrounding the globe ; while the third day, together with the light and atmosphere, represents the dry land (Ps. civ. 6) rising up from the depths of the waters, and the three great orders of vegetation—trees, herbs, and grass, springing up on its surface ; and so in the fourth the sun is seen in his brightness beaming forth from the one part of the heavens, through the earth's atmosphere, on all the newly-formed beauty of the third day, and sparkling on the deep, henceforth the great source of light :—while, shining in the dark shades of night, the moon and the stars are beheld as gladdening the scene. The fifth, with all the blessings of the four previous days, represents the *air* and *sea* animate with life, the fowls flying in the open firmament of heaven, and the great whales and fish swimming in the deep ; while in the sixth and last day, in addition to all that had gone before, are seen the quadrupeds, each in those countries where first known, and Adam and Eve* in that part of the earth where it is generally supposed was planted the Garden of Eden.

It may be necessary to remark that, in the Engravings, from the third inclusive, the great divisions of the globe, as known *subsequent* to the flood, are preserved ; for though the deluge doubtless caused vast changes in the earth's structure, yet there is great reason to believe that its general character remained the same ; for Moses, writing nearly one thousand years subsequent to the flood, speaks not only

of its creation it was placed in its appointed orbit, and revolved on its own axis, “ And the Spirit of God moved upon the face of the waters.” Thus the first day's creation was not to form it into a *sphere*, but to let the bright rays of light shine upon the sphere already formed ; and, moving on its own axis, it made the alternation of day and night, “ and the evening and the morning were the first day.”

* It is manifest, from Gen. v. 2, that *Eve* was created in Adam ; but whether she was brought to him the sixth day, is not revealed. Their *oneness* is strikingly shown in the words, “ Male and female created he *them*, and blessed *them*, and called *their* name ADAM, in the day *they* were created.”

of the four rivers of Eden, *as then known*, but also enlarges on the countries through which they flowed :—“ The first, Pison, that which *compasseth the whole land of Havilah*, where is gold : the second, Gihon, *encompassing* the whole land of Ethiopia : the third, Hiddekel, which goeth *towards Assyria* : and the fourth, Euphrates.” On the banks of the third river, Daniel had his visions, and the fourth bears the same name to this day.†

In the Letters that accompany and illustrate the Plates, the object has been,—*first*, in language adapted to the tender age of childhood, to show the goodness and beneficence of God in each day’s creation ; *then* to explain what may be called the natural history of each day’s mercies ; and, *thirdly*, to point out, from Scripture examples, how continually the Holy Spirit, through the Word, uses the natural figures of creation to set forth Divine truth,—of which the pathetic lamentation of our blessed Lord over Jerusalem affords, perhaps, the tenderest example : “ O Jerusalem, Jerusalem, that killest the prophets, and stonest them that are sent unto thee, how often would I have gathered thy children together, even as a hen gathereth her chickens under her wings, and ye would not !” (Matt. xxiii. 37.) And, although in a work so purely elementary, the subjects of science are not gone very deeply into, yet the general features of the earth’s structure—the properties of light, the nature of our atmosphere, the great divisions of the mineral and vegetable kingdoms, the size, position, and velocity of the heavenly bodies, the natural history of birds, and fishes, and quadrupeds, are brought before the youthful mind, in the plainest language, the difficult terms of science are as much as possible avoided, or, when of necessity used, they are explained.

The subject of Geology is not entered on in these Letters ; it is one far too deep for young children ; and of late years so much bold speculation has prevailed on it,

† It is quite true that Moses does not expressly say that this was the course of these rivers before the flood, but still the language seems to imply as much.

and so many theories have been brought forward and abandoned, that the ground is considered dangerous to tread on. If the causes of phenomena are too difficult to unravel, far better to abide by the word of God, and in humble prayer to Him for the teaching of his Spirit, to seek to know the truth, rather than run into the wild regions of speculation and doubt. The word of God must not be bent to suit man's notions of the fitness of things, but man's notions must be tried by God's word. "The Scriptures cannot be broken." A solemn, prayerful study of Geology cannot be wrong, but great watchfulness and caution are required.

And as to the mercies with which we are daily surrounded, let any parent inquire of his little family, when gathered around the breakfast table,—“I wonder how many blessings of the six days' creation have lent their aid to supply our wants this morning?” and such a parent shall see the eyes of the little ones glisten with delight, while each, on the alert, seeks to make its answer. “Light,” one of them replies. “The sun, papa,” the least, perhaps, calls out. “Our bread is made of wheat,” a third answers; while a little one whispers, sitting close by his father, “and our sugar and our tea were made the same day as the wheat, papa.” “And the cow, which was created the last day, gives us *milk and butter*,” another replies. And so the eggs and fish (if such bounties were present) would offer another answer; while the eldest boy, who might be musing the while with rather more science than the rest, would say, “Is not, papa, the open firmament of heaven, in which the birds of the air fly, and which was created the second day, the same as our atmosphere which we breathe so pleasantly, and through which the bright rays of the sun come to us, making everything so bright, and warm, and cheerful?” Thus the whole six days are continually pouring upon man their blessings; for our God causeth his sun to shine on all, and opens his hand and fills all things living with plenteousness. (Ps. cxlv.)

This little Work, which has been prayerfully undertaken, is thus earnestly commended to the Lord for his blessing: may he sanctify it to those so dear to us

as parents, and cause the whole scene of the earth's beauty and the heaven's brightness to come to their young minds filled with instruction; so that not only may our children become more and more intelligent concerning the works of God, and their wonderful adaptation to man, as the great occupant or tenant of the globe, but that, also, everything in nature they behold may bring before them the illustration of some divine truth. The Lamb of the fold will tell them of that gracious Saviour so shadowed forth under this lowly emblem; the Eagle, bearing her young on her wings, of the power of God in bearing his people through this wilderness: even the sparrows chirping on the spray, numbered by our heavenly Father, will bring to their remembrance the gracious words of Him, who said, "Fear not, ye are of more value than many sparrows." The Lily of the valley and the fragrant flowers, with which God has so beautifully and richly clothed the field, are all full of instruction. Who can forget that word (equally applicable now as then) with which our blessed Lord comforted his disciples,—“Wherefore if God so clothe the grass of the field, which to-day is, and to-morrow is cast into the oven, will he not much more clothe you, *O ye of little faith?*” (Matt. vi. 30.)

NOTE on the MAP of the TERRESTRIAL HEMISPHERE showing LONDON as the Centre of the Habitable Globe.

THIS Map is a representation upon a plane surface of that half of the globe which is bounded by a circle everywhere distant 90° from London,—that is, by the true (or rational) horizon of London. Those parts of the world which it embraces are thus exhibited in their real position relatively to the inhabitants of the British Isles. This division of the surface of the earth may be easily realized in practice, by elevating the north pole of an artificial terrestrial globe to an angle of $51\frac{1}{2}^\circ$ above the horizon, (or, in other words, by rectifying it for the latitude of London); the hemisphere *above* the horizon will then be such as is here represented, embracing nearly the whole of the two great Continents, with London in the place

of the zenith, while the surface of that half which is *below* the same horizon will consist almost entirely of water, with a point exactly opposite to London (and constituting its antipodes) as its centre.

Besides illustrating this important truth of physical Geography, the Map possesses the interesting property of showing on what point of the compass various parts of the earth are situated with regard to London, and also their direct distance from the same point. For the former purpose the thirty-two points of the compass are marked around the outer circumference of the Map. The measurement of distance is indicated by the concentric dotted circles, of which five are drawn between the central point and the circumference which bounds the hemisphere. These are, respectively, at a distance equivalent to 1,000 English miles apart:—thus, the first (which will be observed to include France, Spain, Germany, with parts of Italy, Norway and Sweden, &c.) represents a line 1,000 miles distant from London; the second, 2,000 miles; the third, 3,000; and so on to the circumference of the Map, which is of course 6,000 miles distant from the central point, (regarding the entire circumference of the globe, in round numbers, as 24,000 miles.)

The Map thus shows, at a glance, the distance and bearing from London of any place within the limits of that hemisphere, which, as it comprehends all the principal countries both of the Old and New World, is well entitled to the distinguishing appellation of “The Habitable Globe.”

THE TERRESTRIAL HEMISPHERE,

SHOWING LONDON AS THE CENTRE OF THE HABITABLE GLOBE.

Drawn & Engraved by W. Hughes.



"It is a fact not a little interesting to Englishmen, and, combined with our insular station in that great highway of nations, the Atlantic, not a little explanatory of our commercial eminence, that London occupies nearly the centre of the terrestrial hemisphere!"—Herschell.

F I R S T D A Y



Drawn & Engraved by W. Hughes.

London, S. Bagster & Sons, Paternoster Row.

THE CREATION.



LETTER I.

FOR BY HIM WERE ALL THINGS CREATED, THAT ARE IN HEAVEN, AND THAT ARE IN EARTH, VISIBLE AND INVISIBLE, WHETHER THEY BE THRONES, OR DOMINIONS, OR PRINCIPALITIES, OR POWERS : ALL THINGS WERE CREATED BY HIM, AND FOR HIM : AND HE IS BEFORE ALL THINGS, AND BY HIM ALL THINGS CONSIST.—*Colossians* i. 16, 17.

MY DEAR CHILDREN,

I HAVE lately thought that it might be useful, in addition to the designs of the Six Days of Creation which I have had engraved for you and other young friends of your own age, if I were to write you a few plain and simple letters, opening out to your minds the natural history of each day's mercies, and the manner in which the things around us are continually used in the blessed Word of God to set forth divine truths; so that whilst, in our walks together, we gaze on the earth's beauty and the heaven's brightness, you may be led more and more—not merely to sip the honey from the flower and pass on—but, reflecting on what you see, may get instruction from every object around. And, indeed, I have witnessed, with delight and thankfulness, your attention whilst I have endeavoured, by the help of

the Spirit of God, to explain to you the first chapter of Genesis. For though it is quite true that the description there is very brief, yet every word is full of meaning and power, and the whole chapter is continually alluded to in other parts of Scripture, and especially in the 38th chapter of Job. The scene there brought before us is full of instruction. The Lord, for wise purposes, had afflicted His servant Job, but he had failed to discern the hand of God in the affliction; and, at last, the Lord is represented coming in great condescension, and thus addressing him:—"Where wast thou when I laid the foundations of the earth? declare, if thou hast understanding. Who hath laid the measures thereof, if thou knowest? or who hath stretched the line upon it? Whereupon are the foundations thereof fastened? or who laid the corner-stone thereof; when the morning stars sang together, and all the sons of God shouted for joy?" (Job xxxviii. 4—7.) Here a new feature is presented to us, concerning which the Spirit in the book of Genesis was altogether silent. The heavenly host were not silent spectators of the stupendous work of Creation; but, doubtless, day after day, as the mighty work went on increasing in glory and beauty, songs of praise and shouts of joy burst forth from

"Those shining millions round His throne."

And there is a day rapidly hastening,—“the times of restitution,” (Acts iii. 21,) when God shall *make all things new*; and the song of that day—the day of Redemption—shall be far more glorious than the song of Creation. The former was confined to the angels; but the latter, as we learn by the vision of St. John, in the Isle of Patmos, shall be joined by all the redeemed

creation; and this shall be their triumphant hymn of praise:—"Worthy is the Lamb that was slain to receive power, and riches, and wisdom, and strength, and honour, and glory, and blessing. And every creature which is in heaven, and on the earth, and under the earth, and such as are in the sea, and all that are in them, heard I saying, Blessing, and honour, and glory, and power, be unto Him that sitteth upon the throne, and unto the Lamb for ever and ever. And the four beasts said, Amen. And the four and twenty elders fell down and worshipped Him that liveth for ever and ever." (Rev. v. 12—14.)

The first subject that calls for our attention in the book of Genesis is brought before us in the verse I have selected for the motto of this Letter; from which it is plain that the almighty Agent in Creation was the Son of God, of whom St. John says, "In the beginning was the Word, and the Word was with God, and the Word was God. All things were made by Him, and without Him was not any thing made that was made." (John i. 1, 2.) The things invisible (unseen by us), whether they be thrones, dominions, principalities, or powers, came into being at His word. The things visible (seen by us),—the heavens, the air, the earth, the sea;—creation, animate and inanimate, sprang into existence at His command, who, in the fulness of time, though He was thus in the form of God, and thought it not robbery to be equal with God, yet made Himself of no reputation, and took on him the form of a servant, and was made man. (Phil. ii. 6.)

For the great and ever blessed One came and dwelt a homeless stranger in the world His own hands had framed, and died an accursed death by men

whom His own hands had created; and for a little—a very little—was held a prisoner in the heart of that earth He had brought into being: but in death He triumphed over death; and, bruising the serpent's head, He rose triumphant, and became (as before He had been of Creation) the Author of eternal Redemption to all that believe on His name. And ascending on high, He claimed the right of entrance as the obedient Man, who was God, to the right hand of the Majesty in the heavens, angels and principalities and powers being subject unto Him. And in like manner as he ascended, so shall he come again (Acts i.), and be acknowledged the "Prince of the kings of the earth,"—"King of kings, and Lord of lords." Yes, my beloved children, that blessed One, who hung despised on the cross, with the handwriting of ordinances that was against us and contrary to us nailed there, and there answered for by Him,—our gracious, *blessed* SUBSTITUTE, was "*the Creator of all things,*"—"and upholder of all things,"—"God manifest in the flesh." (1 Tim. iii. 16.) A LESS glorious Being than this could not have redeemed man, a GREATER THERE WAS NOT,—could not be. On Him, and on Him alone, *never came yoke*. He was "the *uncreated* Son of the Blessed." This, then, is the first truth I am anxious, and more than anxious, to impress on your earliest thoughts, that when you look around on the earth's beauty—beautiful in its ruins (and destined to be all glorious), you may remember, and never cease to remember, by whom it was *created*, by whom it was *redeemed*, and by whom it shall, ere long, be *reigned over* in righteousness and peace. Having thus considered the glory of the Lord Jesus Christ, as the Creator of all things, we will now look at the Creation itself.

The first verse of the first chapter of Genesis brings before your minds this simple but sublime truth, “In the beginning God created the heavens and the earth, and the earth was without form and void; and darkness was upon the face of the deep, and the Spirit of God moved* upon the face of the waters.” Whether, my dear children, this Creation of the heavens and the earth immediately preceded the first day is not expressly revealed (though Job xxxviii., before quoted, strongly favours the idea), but the ordering of the six days themselves is very manifest; and Exod. xx. 8—11, where the Lord, speaking from Mount Sinai, says, “Remember the Sabbath day, to keep it holy,—for in six days the Lord made heaven and earth,” is evidence, to me conclusive, that *the days* of creation were periods of *twenty-four hours* of time; and this, I think, is further proved by the concluding sentence of each day—“and the *evening* and the *morning* were the first day,” and so on.

Whether therefore the globe† had been created a long or a short period before the six days, as I before remarked, is not expressly recorded; but there it lay in space, doubtless revolving in its own orbit, and darkness was upon the face of the deep. And now came forth that most blessed word—“God said, Let there be light, and there was

* The word used in Deut. xxxii. 11,—“As the eagle *fluttereth* over her young,” is the same as here translated *moved*.

† As there is no account of the earth, after its creation, being formed into a sphere or globe, the conclusion is, that it came *as such* in the beginning from the hands of its great Creator, and the glory of the six days shed light, life, beauty and order over all; until at the close of the six days, God saw all that He had made, and behold it was “*very good*.”

light; or, as it is literally, "Light shall be, and light is."* *Instantly*, at the command of God, light, in all its indescribable glory, burst upon the darkness; not indeed wholly dispersing it, for part of the earth still remained enveloped in the shades of night; but this also in its turn became illumined; for the earth, revolving on its axis, according to the order of its creation, the alternation of day and night took place; and thus God divided the light from the darkness, and the evening and the morning were the first day.

And here it will be well to shew you, that on each day, preceding the last, the succeeding days were contemplated by the great Creator, and the happiness of man and every other creature was perpetually before Him. This we see especially in the alternation of day and night; for whilst the light of day is so precious to us, that without it would be gloom and wretchedness—indeed death would reign around on every side—yet the shades of the evening and the curtain of night, seeing how transient are their duration, come to man and every living thing as positive blessing, *inviting to repose*, and extend also to the vegetable world, which is refreshed and nourished thereby; and how sweet is that word of the Psalmist, "Man goeth forth unto his work and to his labour until the evening." (Ps. civ. 23.) And how soothing to his wearied spirit, as the light begins to fade away, to see the birds, some seeking the branches of trees, and others the cavities of rocks, for rest during the night; and thus, as Paley so beautifully says on this subject, "they give way to that sweet repose—that soft necessity." It is also in

* "Light is," gives the full idea of an *instantaneous answer* to the call of the Almighty Creator.

the night that the silent dew lights so gently and softly, that even the most fair and delicately pencilled flower is not injured but refreshed by it.

A difficulty has presented itself to some minds, how light, which is now so dependent on the sun, could have existed without it. But, my dear children, this is only *one* of the many things that are hidden from us for a time, but which in its season, if we but wait, the Lord, either here or hereafter, will explain. And indeed within the last few years, it has been proved, both in the animal and vegetable kingdoms, that light can exist independent of the sun. But even if we did not know *how* it was, yet God's word simply tells us, that it was so, and to the mind that bows to God's word, this is enough. GOD SAYS IT, and what I cannot now comprehend, I shall understand here or hereafter, and this to me is sufficient. Light did exist the first day, and illumined the waste of waters, and, on the fourth day, the Lord gathered it into its bright and glorious tabernacle, and the Sun and light thenceforth became inseparable.

Had we not certain facts by which to ascertain the amazing velocity with which light travels, we should think the statements of philosophers past belief. Sound comes to us quickly, but sound *creeps* when compared with the *darting* rapidity of light. You remember the other day when we saw a ship at sea fire a gun, after we saw the flash it was some moments before we heard the sound; the *light* and the *sound* actually set off on their journey at the same moment; but the rapidity of *light* left the *sound* as a wearied traveller in his course.

But I will illustrate this by an example more familiar to you:—standing a few days since on the North Malvern Hills, we saw a man in the valley

at his work, but his mattock was partly in the air again before the sound telling us that it had just struck the earth came to our ears. Watching the eclipses of the satellites of Jupiter from the earth, from the nearest and from the most remote part of her orbit (which will come under our observation when contemplating the starry heavens, on the fourth day), we get a demonstration of the rapidity with which light travels. Light moves at the rate of about 190,000 miles in a second, while sound passes at the slow and tardy rate of only 13 miles a minute. The difference between the velocity of sound and light is also perceived in a thunder-storm: if an interval elapse between the lightning and the thunder-clap, every one at the table says, "*Now the storm is at some distance,*" but if the flash be instantly followed by that fearful and terrible peal, then paleness steals on the countenance, and the next shock is waited for in awful expectancy. Happy, my beloved children, is it to be at peace with God, and then, though it were "the fire going before Him, and the whole atmosphere very tempestuous round about Him," yet should the word be full of consolation from the lips of a *Father*:—"Come, my people, enter thou into thy chambers, and shut thy doors about thee: hide thyself as it were for a little moment, until the indignation be overpast. For, behold, the Lord cometh out of his place to punish the inhabitants of the earth for their iniquity: the earth also shall disclose her blood, and shall no more cover her slain." (Isa. xxvi. 20, 21.) But though the Lord shall indeed come forth in indignation, and be "revealed in fire, taking vengeance on them that know not God, and obey not the gospel of the Lord Jesus Christ;"—yet not so to his people; no, in them, even his saints, as the next verse is,

“He shall come to be glorified, and admired in all them that believe.”—
(2 Thess. i. 7—10.) How beautiful is the word of that hymn you so well
remember,—

“Jesus, thy blood and righteousness
My beauty are,—my glorious dress ;
Midst flaming worlds, in these arrayed,
With joy shall I lift up my head.”

But as the fourth day’s creation will afford us a more ample field for the
contemplation of light, I will now close this long letter; and in my next,
ere I leave this subject, I hope to bring before you some of those beautiful
passages, from the Scriptures, where the Spirit of God sets forth divine
truth by the gracious emblem of Light.

Ever believe me,

My beloved Children,

Your affectionate Father.

THE CREATION.



LETTER II.

I AM THE LIGHT OF THE WORLD.—*John* viii. 12.

MY DEAR CHILDREN,

I HAVE sometimes imagined the dismay and terror that would strike all things living, if, suddenly, at noon-day, a total darkness were to cover the whole earth; or if, instead of the sun's rising, a darkness deeper than that of night were to spread over all things. Such, doubtless, was that of Egypt (*Exod.* x. 21), which lasted three days—a darkness that might be felt; and such also the awful darkness that was over the whole land (*Matt.* xxvii. 45) when our blessed Lord, bearing our sins in His own body on the tree, died the Just for the unjust, under the curse of God. But the darkness of Egypt, in God's mercy, had an end; for He is long-suffering: and the darkness of Calvary had an end; because the sufferer paid to the full the amazing debt of death, and satisfied divine justice. (*Gal.* iii. 13.) But there is a darkness hastening on; and oh! the terrors of that darkness that shall be eternal! It is called emphatically "the outer darkness,"—and who may abide it?

But we will turn from this contemplation to one as much filled with joy,

as this is with sorrow. Let us go and meditate on His Love, who, when He beheld the world buried in darkness, and judgment impending, stood forth at the call of the Father, and came *a Light into the world*. Yes, "He was the true light, which lighteth every man that cometh into the world" (John i. 9); for if He had not taken on Him the seed of Abraham, and stood on this earth God manifest in the flesh, death must have reigned, and darkness would have been over the earth for ever—even for ever and ever. But Jesus came *the Light of the world*; and "whosoever followeth Him shall not walk in darkness, but shall have the light of life." (John viii. 12.)

In the morning of the old Creation, we heard the song of the angels rejoicing over the works of God: now, in the new creation, when God, who commanded the light to shine out of darkness, shines in the hearts of His children, and gives them the light of the knowledge of the glory of God in the face of Jesus Christ (2 Cor. iv. 6), there are songs in heaven also; even joy in the presence of the angels of God over one sinner that repenteth. (Luke xv. 10.)

What an amazing scene is presented to us in this most blessed verse of Scripture! That tongue that was once "dried up like a potsherd," now leads the chorus of the skies (Psalm xxii. 15, 25, 27); and those bright spirits who never fell join in the hymn of Salvation, the great theme of which is, the turning of the sinner from darkness to light, and from the power of Satan unto God. Yes, even the conversion of a child—the cry of some little Samuel, "Speak, Lord, for thy servant heareth," (for, until this, Samuel knew not the Lord,) gives joy through the heavenly

host, though their number be ten thousand times ten thousand and thousand of thousands. Oh! my dear children, may each of you be turned to the Lord, as Samuel was; and so shall the song of Hannah be true of you,—“He raiseth up the poor out of the dust, and lifteth up the beggar from the dunghill, to set them among the princes, and make them inherit the throne of glory.” May you be adopted into God’s heavenly family here, to await the inheritance of the saints in light hereafter—born again of the Holy Ghost—“born again, not of blood, nor of the will of the flesh, nor of the will of man, but of God.” (1 Sam. ii. 8; iii. 7, 10. John i. 13.)

But I cannot leave this most instructive and beautiful figure of Light without calling to your remembrance the use our blessed Lord made of it in the Sermon on the Mount. (Matt. v. 14—16.) Addressing His disciples, gathered around him, He said, “Ye are the light of the world. A city that is set on a hill cannot be hid. Neither do men light a candle, and put it under a bushel, but on a candlestick; and it giveth light to all that are in the house. Let your light so shine before men, that they may see your good works, and glorify your Father which is in heaven.” It was a great thing for Christ to say of His disciples, “Ye are the light of the world;” for it was the very name He gave Himself: but it is even so; for His people are one with Him,—they are partakers of the Divine nature—children of light—children of God;—and as it is said, that God dwells within them, and God is light, therefore light dwells within them: thus, wherever the true Christian is called to go, he is to shew forth the light of God—he is to reflect the image of God. You remember when Moses came down from the Mount of God, his face shone—was radiant with light: and

so the Christian, that has communion with God in the Holy Mount, should have his face radiant with God's brightness upon it; and the world should be constrained to take knowledge of him that he has been with Jesus. (Exod. xxxiv. 29, 30. Acts iv. 13.)

We watched the day break the other morning. At first, it was faint, but then grew brighter; and so on, brighter and brighter to the perfect day. Now the Lord says, This is the pathway of the child of light,—it shines brighter and brighter unto the perfect day. He may indeed have storms and tempests in his way; but light is sown for the righteous, and gladness for the upright in heart. *Light is sown.* I cannot conceive any figure more beautiful than this;—a harvest of light awaits the child of light; and the Scriptures are full and sublime in their description of that period, when it is emphatically said,—“There shall be no night there.” The scene of the chapter (Isa. lx.) is doubtless the conversion of Israel; but in a more enlarged sense, (as the reference to Rev. xxi. 23 proves,) it refers to the whole family of God, seated with Christ in the heavenly places,—“The sun shall be no more thy light by day; neither for brightness shall the moon give light unto thee: but the Lord shall be unto thee an everlasting light, and thy God thy glory. Thy sun shall no more go down; neither shall thy moon withdraw itself: for the Lord shall be thine everlasting light, and the days of thy mourning shall be ended. Thy people also *shall be* all righteous: they shall inherit the land for ever, the branch of my planting, the work of my hands, that I may be glorified. A little one shall become a thousand, and a small one a strong nation: I will hasten it in his time.”

In passing on in the journey of life, my dear children, you will hear on the right hand and on the left many saying, "Who will shew us any good?" O think of the Psalmist's answer:—turning away from it all, for unsatisfying is the highest delight of earth, he says,—“Lord, lift thou up the light of Thy countenance upon me; and it shall put joy and gladness in my heart, more than when their corn and their wine increase.”—(Ps. iv. 6.)

But ere I conclude this letter, I must turn again to the Sermon on the Mount, where our Lord graciously instructed his disciples by a similitude, which we are every moment through the day realizing:—“The light of the body is the eye: if therefore thine eye be single, thy whole body shall be full of light. But if thine eye be evil, thy whole body shall be full of darkness. If therefore the light that is in thee be darkness, how great is that darkness!” This illustration is not only very striking, but very searching. When we look at any object, far or near, the eye is the agent used: it is the light of the body; it is the wondrous telescope by which we look at all the scenes around us. Now if our glass be rightly adjusted, and there be no film on the eye, and the whole body be in a healthy state, then will the landscape (be the view ever so extensive) fall on the retina, and the mind, acquainted thereby with the true distance, proportion, and colour of the objects, shall send down its wishes to the various members of the body, and so the whole body *shall be full of light* and intelligence; but if the eye be not single*—be unhealthy—and the view be obstructed, then will the mind get an imperfect return made to it; and

* The best Greek writers use this word in the sense of *health—clearness and freedom from obstruction.*

so no member will be in light, but the whole in darkness. This is the figure, and it is full of spiritual instruction. If the child of God is in health and vigour—no obstruction or film on his spiritual sight,—then shall he look out on the moral scene before him, and every thing shall come to him in its true proportions;—he will look at every thing with God's mind, for he is a partaker of his nature; and the glittering scene around him, the gaudy pageant, will appear in its true colours,—his soul will be full of intelligence,—he will see that all out of Christ is hastening to destruction,—he will not call light darkness, or darkness light,—but going on steadily in his path, in the power of God's grace, and by the guidance of His Spirit, he will choose the good and reject the evil; *his whole body shall be full of light.*

But, my dear children, I will now conclude this letter. I do not profess to write you a concordance of all that the Scripture says on Light or the other blessings of the six days, but desire just to bring a few of the leading passages before you. May the word of the Lord, shone upon by HIS Spirit, be ever a lamp unto your feet, and a light unto your paths. (Ps. cxix. 105.) This is the earnest prayer of your affectionate Father.

THE CREATION.



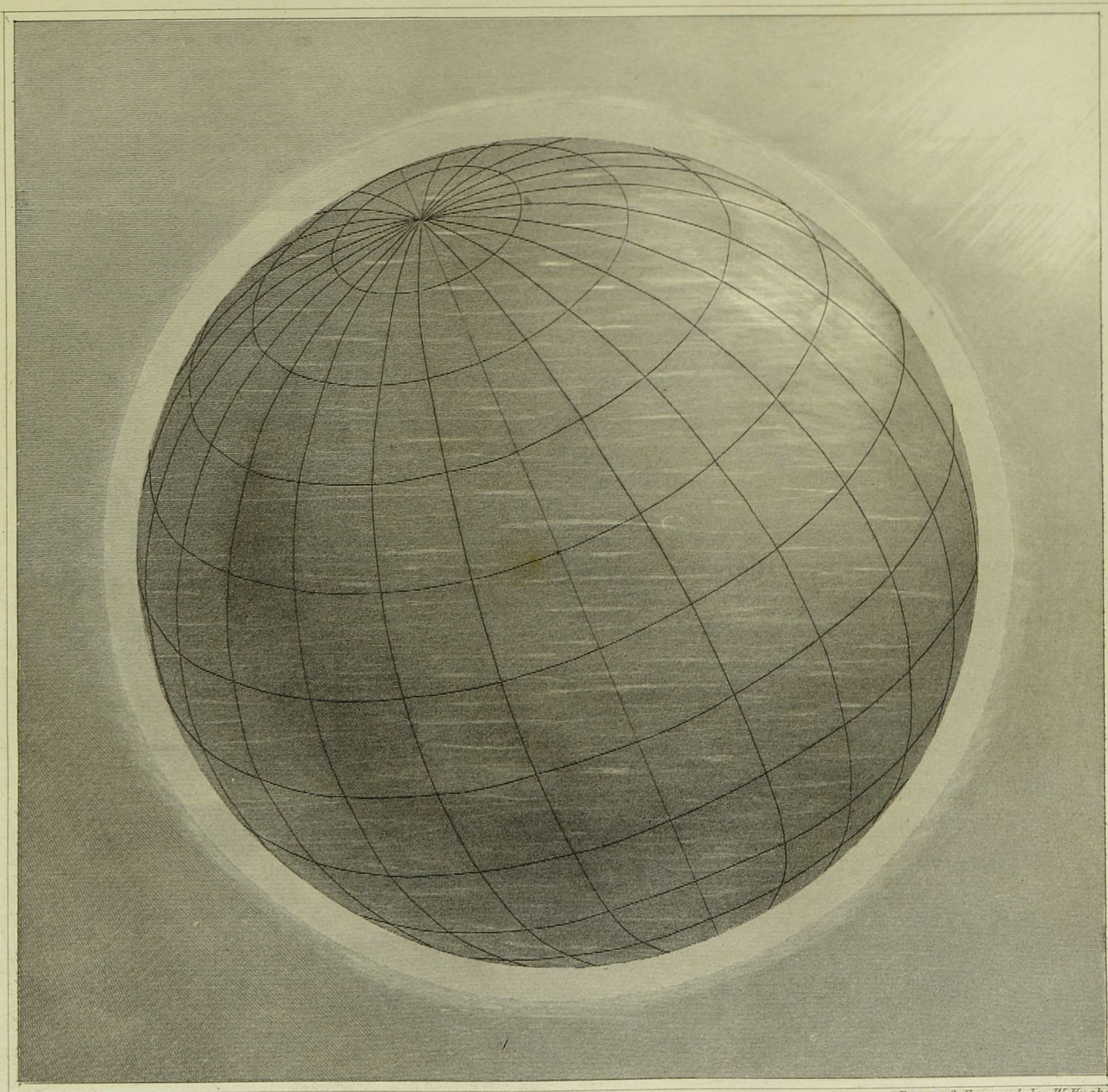
LETTER III.

BLESS THE LORD, O MY SOUL. O LORD MY GOD, THOU ART VERY GREAT ; THOU ART CLOTHED WITH HONOUR AND MAJESTY. WHO COVEREST THYSELF WITH LIGHT AS WITH A GARMENT : WHO STRETCHEST OUT THE HEAVENS LIKE A CURTAIN : WHO LAYETH THE BEAMS OF HIS CHAMBERS IN THE WATERS : WHO MAKETH THE CLOUDS HIS CHARIOT : WHO WALKETH UPON THE WINGS OF THE WIND.—*Psalm civ.* 1—3.

MY DEAR CHILDREN,

IN each of the days of Creation, as I before remarked, there was a wonderful provision made for those which followed. This is especially the case in the second day, when the Firmament, or what is better known to us as the Atmosphere, came into existence. The language which records its Creation is very full:—“*And God said, Let there be a firmament in the midst of the waters, and let it divide the waters from the waters. And God made the firmament, and divided the waters which were under the firmament from the waters which were above the firmament: and it was so. And God called the firmament Heaven. And the evening and the morning were the second day.*” Thus did the Lord by this one act of Creative Power bring into being that by which all life, whether vegetable or animal, was destined to be sustained. A vast body of water was also gathered up into the atmosphere, and suspended there in clouds, which became as the garment thereof. (Job xxxviii. 9.)

S E C O N D D A Y



Drawn & Engraved by W. Hughes.

London, S. Bagster & Sons, Paternoster Row.

Thus the waters were divided from the waters; and the means provided by which the earth might be continually refreshed by the early and the latter rain: for the clouds became, from this day, God's appointed reservoir of the rain and snows, which in due season should come and water the earth, to make it bring forth and bud, giving seed to the sower and bread to the eater. (Isa. lv.) But the subject of the atmosphere is so full of interest, both as to its formation and various properties, that we must not hastily pass away from it. And here I must of necessity use some scientific terms; but though I know such hard names at first sight may seem difficult to remember, yet be assured that the language of science, if not the most beautiful, is the most *expressive*; for every word carries within itself its own signification; whilst, therefore, dear children, I will seek to avoid an unnecessary use of these terms, I have little doubt but we shall soon agree that they are even easier to retain than words in common use.

First, then, let me explain to you the formation of the atmosphere, or the air, with which we are surrounded. Naturalists—that is, men of science who have made these subjects their especial study—have ascertained that the air is composed of two principal gases, or elastic fluids, which have been named by them Oxygen and Nitrogen. The first is emphatically the sustainer of life, animal and vegetable; the second has no such power, and so has been also called *azote*, that is, *without life*: but as the oxygen would be too active alone, it is diluted with nitrogen, as water dilutes wine. The relative proportions are,—twenty parts oxygen, eighty nitrogen. In addition to these, there is also a small proportion of carbonic acid gas, and some hydrogen, but only in the proportion of one part to ninety-nine. The

height of the atmosphere, it is calculated, does not exceed fifty miles,* expanding all the while as it ascends: and at that height it becomes so rarified, that it cannot be respired: indeed, *Æronauts*, or air sailors, as the word means, who have never ascended beyond $5\frac{1}{2}$ miles, have even then found great difficulty in breathing; and on account of the atmosphere being so much lighter in the higher regions, they have in many cases bled profusely from the nose and mouth;—but though the air thus expands, yet the parts of which it is composed *never in the least degree vary their relative proportions*. One traveller brought some air down from Chimborasso, the highest of the Andes, (that amazing range of mountains which I have so often described to you,) and compared it with some taken from the lowest valley beneath; but the proportions were the same. Others, again, have examined the atmosphere of the pestilent marshes near Rome; but in this case also there was not the slightest variation: if death was there, *it arose not from the absence of the vital oxygen*, (that was found true to its proportions,) but from some principle of too subtle a nature to be detected by chemical analysis. Indeed, the infectious atmosphere of an hospital has been examined with great care, even when its ill odour was intolerable, but no perceptible difference in its composition could be detected.

Having thus far explained the nature of our atmosphere, I will now endeavour to shew you some of its properties.

The first great function of the atmosphere, as I have before remarked, is to sustain animal and vegetable life. The removal of it from one or the other, causes immediate death. This has been abundantly proved by

* See Appendix.

experiment: for if we place either an animal or vegetable in any vessel, and then exhaust the air, *life is at once destroyed*. But, not only would death ensue, if the air were taken from us; but if it ever *varied its proportions*, every thing would be seriously affected. Yet near 6000 years have run out since its formation; and the little child just born inhales the air with the same freedom as the first offspring of man. But let us suppose, for instance, that we inhaled nothing but the pure oxygen, or vital air; speedily, the lungs would become so excited, that nature could no longer carry on its operations; and if, on the contrary, we inhaled only nitrogen, we should die; for it has been ascertained by experiment, that animals put into a vessel filled *only* with nitrogen, die instantly. And then, if the PROPORTIONS WERE DIFFERENT:—the oxygen prevailing, we should be in perpetual excitement, and rendered perfectly miserable; the nitrogen prevailing, we should be continually panting for breath, and at last faint away and die. But the air, being *measured and proportioned* by the hand of infinite tenderness and compassion, the simple act of respiration is in itself a continual pleasure. We seldom think about this, however, until, from bodily infirmity, or from being shut up in a little room with a great number of people, like the poor sufferers in the Black-hole at Calcutta, or walking through a dense fog, or passing some Lime Kilns, (from which carbonic acid gas is given off abundantly,) as we did the other day, we learn its value by the painful contrast.

The following beautiful remark on the action of the oxygen I know will interest you:—

“Animals cannot live without oxygen. By means of this gas, a change

which the eye can detect is produced in the blood,—the dark-coloured fluid of the veins combined with oxygen becomes the bright scarlet blood of the arteries, and in this blood is the life.”

But not only does man inhale the atmospheric air, but the whole of vegetable life also depends every moment on it; but with this remarkable difference, that whilst man and the animal retain the oxygen, but exhale or give out the carbonic acid gas, the grass and shrubs and trees care not for the oxygen, but greedily drink in the carbonic acid gas, which is so prejudicial to man. It is this that makes a walk in the country so healthy, as well as pleasant. At night, however, this is reversed: then the vegetable *demand*s its share of the *vital* air, and gives out carbon. Thus, while plants, or branches of shrubs in water, *are most useful* in a sick room BY DAY, they are very prejudicial BY NIGHT.

I might write you a great deal more on this subject; but I must pass on now to consider the second principal function of the atmosphere, as the great reservoir of rain and snow. Now, suppose you read in 1 Kings xviii. 2—5, there you will see what would be the state of the land if there were no such reservoir as I have mentioned; for then God withheld the rain in judgment, and all things perished. The accounts from Australia, also, received in our own letters, gave ample proof of the same thing in our day. But this is *the exception* to the general rule; for since the beautiful Bow has been seen in the cloud, seed-time and harvest have not failed. But here I imagine a difficulty that would be quickly proposed if I were sitting by you —“Do not the clouds ever get emptied? I should have thought that a few such nights as we had about a month since would have emptied ALL the

clouds." The remark, dear children, is not at all a foolish one; for the clouds of course would empty themselves, but for one thing. "Now what is that one thing?" I suppose you are all curious to inquire: and I answer,—it is the principle of evaporation, by which, in infinitely fine particles, lighter than the air is *near the earth*,* there ascends up to the clouds, and this continually, an amazing body of water; and so by this invisible agency they are kept always supplied. And here I place before you, dear children, two calculations of great interest:—*first*, it is estimated, that in England and Wales alone, rain falls yearly to the extent of 100,000 millions of tons (and so I do not wonder that you should think that the clouds should at last empty themselves): and *secondly*, that four-fifths of this rain or snow returns to the clouds by evaporation. This is truly perpetual motion, which the Philosophers have sought in vain to discover. It is thus *that these bottles of heaven are kept continually supplied*—and thus also that our earth is continually refreshed with *the early and the latter rain*.

But the subject of evaporation is one of great interest. Now suppose you go to your large map of the world, and look for the Mediterranean, known in the Scriptures by the name of the Great Sea, and in profane history as the *Mare-internum*. It is entered, you will observe, by the Straits of Gibraltar, which are about four leagues in width, having Africa on the right side, and Europe on the left; these were formerly called the Pillars of Hercules. Through this entrance, there is *continually* flowing a steady current from the great Atlantic Ocean; you will see also the Nile on the

* See Appendix.

right side, rising in the kingdom of Gojam, Abyssinia,* full 1,300 miles distant, and pouring down its torrents, till at last, through its seven mouths, it also empties itself into the Great Sea. Then, again, if you examine the left side, there are the Ebro in Spain, the Rhone in France, the Po and Tiber in Italy. These all flow into the Mediterranean; there is also the Black Sea, supplied by the great northern rivers, the Danube, Don, and Dnieper, whose waters come down through the Bosphorus, into the Archipelago, or Sea of Islands, (among which you will see *Patmos*, memorable as the scene where the Apostle John had the visions of the Revelation,) and finally empty themselves into the Mediterranean. And yet with all *this amazing continual influx*, the Great Sea neither rises nor falls; but is the same *to-day* as it was when St. Paul “sailed under Crete, and the south wind blew softly;” and this simply by the principle of evaporation, which, with a scale of the most accurate adjustment, preserves the balance in this astonishing manner.†

If there were no rain from the clouds, the earth would soon present a desolate wilderness; and if there were no evaporation from the earth, it would in time be a waste of waters. At the flood, the Lord opened the windows of heaven, and miraculously poured down in torrents the waters suspended above, and, it may be, stayed the principle of evaporation; but though, my beloved children, these results may be traced back to natural causes, yet we should never, no not for a moment, forget, that *the Lord*

* See Appendix.

† The remark, which is so common in the country, about the sun drawing water, has a good deal of truth in it: for its rays, beaming through the atmosphere, detect the principle of evaporation, which, however, is going on just as much all around.

presides over the whole of nature. He has not ordained certain causes and effects, and then LEFT the world to be governed by these—but Himself, who appoints, rules over all in infinite Wisdom, Compassion, and Love. I mention this, as it is now so much the fashion to say—“Nature did this;” but if you again refer to the beautiful thirty-eighth chapter of Job, it is manifest that all creation *is always* under the most minute government and direction of *Him* that made it,—“Who hath divided a watercourse for the overflowing of waters, or a way for the lightning of thunder; to cause it to rain on the earth, where no man is; on the wilderness, wherein there is no man; to satisfy the desolate and waste ground; and to cause the bud of the tender herb to spring forth? Hath the rain a father? or who hath begotten the drops of dew? Out of whose womb came the ice? and the hoary frost of heaven, who hath gendered it? The waters are hid as with a stone, and the face of the deep is frozen.” (Job xxxviii. 25—30.)

Yet even now if a drought *prevails*, or a flood increases, or the pestilence rages,* God is acknowledged and prayed to as the immediate governor of the universe; but the best and happiest state is, to wait on Him in the calm *continually*—and when the tempest arises, *we shall find Him ever nigh.* (Ps. cxix. 114.)

The next blessing connected with the atmosphere, which I will direct you to, is its power of *refraction.*

Though the atmosphere may extend in an exceeding rarefied state more than forty-five or fifty miles in height, yet it does not appear to refract

* Surely the Lord acknowledged the cry of England, in 1830, and turned back the cholera in answer to that cry, for his mercy endureth for ever.

the rays of light beyond that ; but within that distance, through the influence of the atmosphere, the rays of the sun come to us in a bent or arched line, and thus, excepting when the heavenly bodies are in the Zenith, that is, *immediately over our heads*, they always appear to us some degrees more elevated than they really are,—so that, long after the sun has set we continue to see it. And this is true of all the heavenly bodies ; thus, at the time of full moon, we see the sun *after it is gone*, and the moon *before it rises*.

Another important property of the atmosphere, is its power of *reflecting light*. We watched the setting sun the other evening ; the light of day seemed to linger on the earth long after the sun was gone, while colours of every hue glowed in the western sky, seeming to promise that the sun should rise again. “But how was the light prolonged?” you may inquire. The beautiful arch of refraction had kept the sun with us long after the orb itself was sunk ; and *now*, when ITS DIRECT RAYS could no longer reach our eyes, but passed far above our heads, we viewed them reflected as from a glass. And what language can describe that gentle, quiet light, the eventide ? so sacred to meditation, (Gen. xxiv. 63,) which an eastern writer beautifully calls “The curtain of night *gently* drawn around the closing day.”

Another most gracious property of the atmosphere is its *motion*, “the wind.” The principle on which this is regulated is very simple :—when, from a variety of causes, any portion of the atmosphere gets heated, it becomes rarefied, or expanded, and immediately ascends till it meets with air of the same weight as itself ; but instantly that this process begins, the air around hastens to fill the vacancy. If the previous process had been

gentle, the wind is gentle ; but if rapid, the wind is high and stormy ; sometimes the light breeze, at another time the terrific hurricane.*

The phenomena of the wind, or the atmosphere in a state of movement or agitation, come to man fraught with blessing : for the storm and tempest have beneficial results. It is the great conservator or preserver of health : but for it, disease and death would gather on every side. Have we not found, in climbing the sultry hills near MALVERN, when we reached the heights, the balmy air came to us all sweet and refreshing, adapted exactly to our wants, by the hand of that ever watchful Being who is as kind as He is powerful ? How often have I at Jamaica looked longingly to the sea, watching the sea-breeze come rippling and sparkling in the sun-beam, till at last it reached our vessel. It was a delightful sight to see our flag, (just like the one your dear grandmamma made for you,) that had been hanging down as if partaking in the general sultriness, on a sudden *stream out* almost instinct with the joy of all around. And at night, when the sea-breeze had died away, and all was calm and still, the air, cooling from the fervent rays of the sun which had “shone the live-long day,” now came hastening down the mountains, as the land messenger, vying in refreshment with that from the sea ; but though cooler, yet was not so invigorating. The cause of the land and sea breeze is simply the rarefying and condensing of the atmosphere. In the morning, after the sun has risen to some height, the whole air around begins to feel its power, and soon expands or rarefies ; and (as I before remarked on the causes of the wind) the neighbouring sea-air rushes in to fill the vacancy : and at night, when the heat has passed away, the air

* See Appendix.

that had ascended, again condenses, and comes down to us cooler than even the sea-breeze. But one must dwell, dear children, in tropical countries to know the value of these mercies.

But not only is the wind so valuable to us, as the preserver of health; but it is also the principal means of all our communications with other countries. Let us look again at your map of the world.* See how the water exceeds the extent of the land. Look at the various Ports and Harbours and Rivers, as if the Lord intended the sea as the great highway by which the nations of the earth should have intercourse. Imagine that you could in a moment of time see all the ships that are at this moment on the ocean, all with their respective colours, how full of interest would the sight be. There you would see the union of England, the eagles of Russia and Prussia, the tri-coloured flags of France and Holland, the stars of America, some sailing this way, some that; some for pleasure, and blessed be the God of peace, but few for war. All, however, intent on one thing,—to reach the port to which they are bound: for everything in a vessel's voyage bears on this. If you could hail each vessel, and ask them this question,—“Where are you bound?” not one † of the many thousands would say, “I don't know.” No; they are in earnest. Alas! how many hundreds of thousands are sailing on the ocean of life, surrounded with

* The surface of the globe contains about 196 millions of square acres, 147 millions being water, and 49 millions land.

† See a valuable little book, entitled “An Address to Seamen, by the late lamented Dr. Payson;” which, though addressed particularly to seamen, is equally suitable for all classes, as the language is so plain, heart-searching, and simple. — *Wright, Bristol.*

danger, and yet, if you ask them whither they are going, they would be constrained to say, "I don't know;" for without a pilot, without a compass, without a rudder, they are driven on by fierce winds; and, if the Lord interfere not, ere long they must inevitably make shipwreck of their souls.

But reflect, my dear children, on the scene we have imagined; and with the exception of those few steam-packets (few in comparison) which seem to pass on regardless of the winds, the commerce of the world is kept up by the *unaided* agency of the wind. I say unaided agency; for though the sailor spreads his canvass "low and aloft," yet he is altogether dependent: the wind bloweth where it listeth; and only as he is obedient to its dictates he prospers. At one time you see him, in the midst of storm and tempest, ploughing his way through seas that seem to threaten his destruction; and at another time, in the light and gentle airs of summer, his vessel, like the bird, seems to ruffle her plumage* with delight, extending her utmost sails to catch every straggling zephyr. I have sometimes been struck with wonder at the thought of a vessel leaving the Thames, and going the circuit of the globe, and coming back to her first anchoring, and not one finger of man put out to impel her. The wind has done it entirely—MAN has simply acted as ITS servant. Beautiful is the language of our poet Cowper, when speaking of the ship that bore some missionaries to India:—

* Looking on a beautiful vessel, with every sail spread, almost seeming instinct with life, hastening on at the rate of ten or twelve miles an hour, one can hardly wonder at the poor Esquimaux thinking that Captain Ross's ships were some large birds about to light on their coasts.

“*Heaven speed the canvass* gallantly unfurl’d,
 To furnish and accommodate a world;
 Let nothing adverse, nothing unforeseen,
 Impede the bark that ploughs the deep serene,
 That flies, like Gabriel, at its Lord’s commands,
 With message of God’s Love to heathen lands.”

Cowper’s Poems :—CHARITY, line 201.*

This is a favourite subject with me, as you know; but I must leave it, and pass at once to two other gracious properties of the atmosphere.

What made those sounds come to our ears so sweet the other evening? or, indeed, what made them come at all, when we heard the beautiful hymn—

“ Why those fears? behold ’tis Jesus
 Holds the helm, and guides the ship:
 Spread the sails and catch the breezes,
 Sent to waft us through the deep,
 To those regions,
 Where the mourners cease to weep!”

It was still the gracious agency of the surrounding atmosphere, one of whose properties is to convey SOUND; and this, too, just in the proportion to make those sounds pleasant: for if indeed they were deeper, or our sense of hearing sharper, or more acute, what misery should we be in;—or if the case was reversed, life would be a continual exertion, stretching the ear to hear; but as it is, loving-kindness and goodness mark this gracious

* See Appendix.

boon. The proof that sound is conveyed by the atmospheric air is very simple. Suppose we put a bell into a glass vessel, and then exhaust the air;—now shake the vessel hard—all is quiet, and yet we see that the clapper has touched the side. Why does it not sound? The air is gone. But now let the air in, and shake the bell, and it rings as usual. The sound is caused by the resistance of the atmosphere, through which it had to break its way. Suppose for a moment that the atmosphere was deprived of this property, what consternation would gather on every side,—all Christian communion, all social intercourse would be at an end, and the business of the world would stand still, and every man would be as one that was dumb. Well, then, may we join in that transport of praise, and with the Psalmist cry aloud, “Praise God in the firmament of his power.” (Psalm cl. 1.)

How fragrant the air was the other evening when we walked by the fields where they were gathering in the hay; but why did we inhale the fragrance so pleasantly? Here, again, the same means that conveyed the sound conveyed also the scent; for if instead of the bell you had plucked a rose, and put *it* in the glass vessel, and exhausted the air, it would wither and die, without emitting one particle of scent to tell you what it once was.

But, my dear children, I think I never wrote you so long a letter before, and I must hasten to relieve your attention by only just briefly recapitulating the seven properties of the atmosphere I have endeavoured to explain to you.

1st, Its power of sustaining life, whether animal or vegetable.

2d, Its being the reservoir of the rain,* snow, and dew, &c.

3d, Its gracious property of refraction of light.

4th, Its gracious property of reflecting light.

5th, The wind or agitated atmosphere;—the great preserver of health; and the means of commercial intercourse.

6th, Its being the medium of sound, and therefore that by which all social communion and general intercourse is kept up.

7th, As the medium of the sense of smelling.

Think of these properties, beloved children, and remember that you always enjoy the first, and continually one or more of all the other six; and so may you in everything be led by God's Spirit to give thanks; and thus living in a continual state of dependence, you will live in a continual state of peace.

Believe me,

Ever your affectionate Father.

* See Appendix.

THE CREATION.

LETTER IV.

AND THEY THAT BE WISE SHALL SHINE AS THE BRIGHTNESS OF THE FIRMAMENT.

Daniel xii. 3.

MY DEAR CHILDREN,

THOUGH the Scriptures say but little to us of the firmament itself by way of illustration, yet in a variety of ways it is alluded to. But if I were to mention and enlarge upon all the passages that introduce the rain and hail and snow, in this way, my letter would swell out to a very long one.

Now suppose you turn to your Bibles, and look at Gen. i. ii.; there you will see the order of Adam's creation;—first God formed him from the dust of the earth, and then breathed into his nostrils the breath of life, and man became a living soul; and from that time his natural life was sustained, according to God's appointment, by means of his inhaling, as we do, the vital air.

But both his spiritual and natural life depended on his obedience to the command to eat not of the tree of the knowledge of good and evil. Gen. iii. tell us, that listening to the counsel of Eve, who before had been beguiled by the serpent, Adam ate of the tree, and instantly, *dying, he died*:—that is, his soul died; his body became mortal or dying; and body

and soul exposed (when the day of judgment should come) to the second death. Gen. v. records, that Adam begat a son *in his own likeness*:—not God's, but his own; the likeness of a dead man—a man cut off from God: and to this St. Paul alludes when he says,—“by man came death:”—but though man was thus cut off from God, yet still, as St. Paul testified to the Gentiles at Athens, “In Him we live and move and have our being,”—that is, we depend every moment for our existence on God;—He takes *our breath*, we die. This, my dear children, brings strikingly to our minds the *omnipresence* of God, or God being always present, *in all places* and *at all times*. I know of no figure that so fully illustrates this as the all-penetrating, all-pervading atmosphere; so that, when light itself in vain knocks for admission, (as in a cavern or darkened room,) the air comes in as the rightful occupant and dweller in all things—day and night, place or distance, make no difference, and there is no possibility of putting it away but by artificial means, as I have shown in my previous letter; and then, wherever its absence is—*there is death*, reigning and ruling in all its power. There was *a scene* once acted upon the earth, the first (and, *oh! that it may be the last*) that affords us the most solemn and awful consideration on this subject: I allude to the French Revolution of 1793, of which we were reading some time since. Then it was that a nation of 20,000,000 of people, priding themselves on being the most polite nation of the earth, proclaimed by an edict of its *national assembly* two awful decrees,—first, that there was no God; and second, that death was an eternal sleep. Like the fool that said *in his heart*, they said OPENLY, “Tush, there is no God;” and the Lord left them for a little, and France *was as if there was no*

God. And, oh! who can describe the horrors of that awful period? Historians, by common consent, have marked that era in the world's great chart of time as the "REIGN OF TERROR." Scenes too terrible to describe followed each other in rapid succession! The rulers of to-day were the victims of the morrow! The prince of the power of the air seemed the alone monarch of that unhappy land; and the various forms of government that arose, were but as HIS VASSALS; till at last, drunk with the blood of her own children, the whole empire seemed *threatened with annihilation*. A military despotism succeeded the *reign of terror*; and this (bad as it is in itself) was hailed with acclamation by the people.

I did not, when I commenced this letter, at all intend to have introduced this subject to your minds, (though I am sure, in the PRESENT DAY ESPECIALLY, every child should know it,) but as it brought so forcibly before me *the blessing to man* of the omnipresence of God, I could not forbear. Oh, how full of consolation is it to that child who loves God, and who is at peace with him in the precious blood of Christ, to know that God is as much about his every footstep invisible, as He was VISIBLE about the tents of Israel when marching through the wilderness! We have our cloud by day, our light by night; we have our manna, our bread of life, in this desert wilderness, and water flowing from the rock that follows; we have a robe that never wears, and a foot that never swells; and above all, far above all, a Lamb, even the Lamb of God, which (like the heavenly pattern seen by Moses in the mount, and shown out in the altar of burnt-offering) is as a sweet savour unto God, and bears away the sin of the world. While then, beloved children, you breathe the air of life so freely and happily, oh, think

of Him who is yet nearer still to you than the air itself! for not only as his creatures “do we live and move and have our being in Him,” but if adopted into His family, then are we partakers, of the divine nature. The word is full of grace which speaks of the oneness of believers with the Lord Jesus,—“No man ever yet hated *his own flesh*, but nourisheth it, and cherisheth it, even as the Lord the Church.” (Eph. v. 29.)

In the prophet Daniel, chap. xii. 1—3, the firmament is figuratively introduced with great force and beauty; the scene is the Resurrection, and the prophet says, “And those that be wise shall shine as the firmament; and those that turn many to righteousness as the stars for ever and ever.” In the margin it is “those that are teachers;” but in either sense it is very beautiful.

But what makes the firmament so bright—so transparent—so dazzling? *The Sun has his tabernacle there*, and the firmament is bright in his brightness. Oh, never forget His love that purchased that glory! (for it is a glory of redemption) and remember, that to secure it He gave that brow, now surrounded with glory, to be encircled with thorns; and that we might cry “Abba, Father,” in the spirit of adoption, He uttered the piercing cry, “My God, my God, why hast thou forsaken me?” (Mark xv. 34.) “He was made sin for us who knew no sin, that we might be made the righteousness of God in Him.” (2 Cor. v. 21.) I know not how to stop, when on this subject. The love of Christ is infinite; it has lengths and breadths and depths and heights which pass knowledge. (Eph. iii. 19.) “Thanks be unto God for his unspeakable gift.” (2 Cor. ix. 15.)

How fertile the fields looked the other day, after that long and painful

drought. The rain had come down during the previous night, and we could almost see the arid and parched field change its colour as we gazed on it. Such, in effect, is the blessing of the word of God when ministered by God's Holy Spirit to the soul. His gracious presence is like the showers upon the mown grass! How beautiful the language of Moses,—“Give ear, O ye heavens, and I will speak: and hear, O earth, the words of my mouth. My doctrine shall drop as the rain, my speech shall distil as the dew, as the small rain upon the tender herb, and as the showers upon the grass.” (Deut. xxxii. 1, 2.) And again in that most interesting chapter of Isaiah,—“For as the rain cometh down, and the snow from heaven, and returneth not thither, but watereth the earth and maketh it bring forth and bud, that it may give seed to the sower, and bread to the eater; so shall my word be that goeth forth out of my mouth: it shall not return unto me void, but it shall accomplish that which I please, and it shall prosper in the thing whereto I send it. For ye shall go out with joy, and be led forth with peace: the mountains and the hills shall break forth into singing, and all the trees of the field shall clap their hands. Instead of the thorn shall come up the fir-tree, and instead of the brier shall come up the myrtle-tree: and it shall be to the Lord for a name, for an everlasting sign that shall not be cut off.” (Isa. lv. 10—13.) Here the illustration is exactly the same as in Deuteronomy, and though the ultimate extent of the prophecy looks forward to a period when all shall be joy—the times of the restitution of all things, when Creation, delivered from the bondage of corruption, shall rejoice in the reign of its rightful King who has redeemed it—the second Adam, the Lord from heaven, yet doubtless now there is an earnest of it in those who have

the first-fruits of the Spirit. (Rom. viii. 23.) For where the Holy Spirit dwells, the brier and the thorn, *the angry and cruel passions*, are exchanged for the myrtle and the fir—so beautifully emblematic of *the fruits of the Spirit*. (See Gal. v. 22, 23.) For though sin is not eradicated, it is subdued; and God's Holy Spirit, and not Satan, has the dominion, and reigns *in*, and *over* the new-born child of God. (Rom. vi. 14.)

Another beautiful figure in nature is *the Dew*, and none is more frequently used. I will mention three especial allusions to it. Do you remember the other morning, in our drive, it would have been in vain to attempt to count the glittering dew-drops of the morning: the sun was up, and every drop seemed a radiant gem upon the indescribable beauty around. I thought of that multitude which no man could number, and it seemed to me at once to expound the sublime description in Psalm cx.—“Thy people shall be willing in the day of thy power, in the beauties of holiness from the womb of the morning: thou hast the dew of thy youth.” Hebrew scholars say the word “willing” is used in *the highest degree*, IT IS MOST WILLING, and the last clause is literally “thy progeny shall be as dew from the womb of the morning.”

Bright and glorious will be the morning of *the Resurrection of the just*: then the Sun of Righteousness shining on the dew, every drop shall glisten and be resplendent in His brightness. But not only is the dew thus used, but it has also a second order of illustration; when speaking of Israel's captivity being turned, in Hosea xiv. 5th verse, the Lord says, “I will be as the dew unto Israel: he shall grow (or blossom) as the lily, and cast forth his roots as Lebanon.” Last year, if you remember, I told you of my visit to the great synagogue in Duke's Place, London, at the feast of the Passover;

and how I was struck with astonishment at the number of the prayers offered to the Lord as *the Father of the Dew*, entreating him to be as the dew to Israel. I asked an aged Jew by me what it meant, and he said it was *all a figure*; but I said *of what?* and he looked at me as if disinclined to answer. *Poor Israel!* yes, you shall again be visited by the dew, the Lord shall indeed return to Jerusalem with mercies, (Zech. i. 16,) he will yet be as the cloud of dew in the heat of harvest; for Israel, with the Spirit poured out from on high, shall blossom and bud, and fill the face of the world with fruit. (Isa. xxvii. 6; Micah v. 7; Zech. viii. 12, 13.)

There is yet one more use of this gracious figure; it occurs in Psalm cxxxiii., and sets forth the love that brethren in the Lord should have one to the other; the scene of the Psalm is supposed to be “the whole Levite family attending in the service of God.” “Behold, how good and how pleasant it is for brethren to dwell together in unity! It is like the precious ointment upon the beard, even Aaron’s beard: that went down to the skirts of his garments; as the dew of Hermon descended upon the mountains of Zion: for there the Lord commanded the blessing, even life for evermore.”

The dew of Hermon descended upon *all* the mountains of Zion; Mizar, *the little hill*, received it, as well as the lofty Lebanon: so in the sweet offices of brotherly love, the least disciple is not to be overlooked, and the gracious One that watches the whole family, says that a cup of cold water given in the name of a disciple shall not be forgotten of Him. It was the remark of a Pagan nobleman, that the early Christians sang hymns to Jesus as God, and that they loved one another; *blessed testimony* to their faith and practice; for truly *where the Lord Jesus is not acknowledged* as one

with the Father over all, *God blessed for ever*, THERE IS NO SAVING FAITH : and where brotherly love is wanting, *there is no evidence that the Faith is genuine.*

It is a singular fact, that when *the manna* fell on the ground around the tents of Israel, it fell *on the dew*, (Numb. xi. 9,) and when *the dew was exhaled* or drawn up by the heat, (Exod. xvi. 14,) *the manna remained in sight*, looking like the coriander seed—small as the hoar-frost. I do not attempt to explain at large, dear children, the connexion between the dew and the manna, but it seems beautifully to set forth, that we only know Christ as the True Manna, by the teachings of the Holy Ghost given to us. Thus when the poor leper was brought into the camp, at peace with God, the blood was put on his right ear, right hand, and right foot, and the oil was put over the blood, setting forth this same truth ; for so *the Spirit of God* consecrated him to serve God. (Lev. xiv. 14—18.)

The Clouds are often used in the Scripture as the symbol of the presence of God : thus it was in the *cloudy pillar* that the Lord manifested Himself to Israel in mercy—to Egypt in judgment. It was the cloud of his presence that overshadowed the camp. (Exod. xiii. 21 ; Ps. cv. 39.) Clouds and darkness are also said to be about Him.—The Lord ascended from Olivet, and a cloud received Him out of His people's sight. He was brought in the clouds of glory to the Ancient of days, (Dan. vii. 13,) and He will come again in the clouds of glory. (Matt. xxvi. 64.) When, then, you look on the clouds, dear children, think of those wondrous scenes, and of *that day*, especially called the day of the Lord. (Luke xvii. 24 ; 2 Pet. iii. 12.) In

the Epistle of Jude there is a figure used concerning the clouds, that I am not aware occurs in any other place; false professors of the religion of Jesus are called “clouds without water.” It often happens that clouds here and there present themselves, but pass over our heads,—there are no gentle droppings from them—no refreshing showers; they are floating clouds without water. Such are those who have a *name* to live, and are dead before God: you may meet them in society, and they will speak of the world, and its amusements, and vanities, and pleasures. They have indeed a Sunday’s form of godliness: but a religion that is confined to times and seasons, and that does not breathe through the every-day circumstances of life, *is a poor thing*. Such professors are as clouds without water, and awful is their state, if they repent not;—the Scripture says, “To whom is reserved the blackness of darkness for ever.” (Jude 12, 13.)

I think I must mention one more passage to you—it is in Job ix. 30, 31; about the Snow:—“If I wash myself with snow-water, and make my hands never so clean; yet shalt Thou plunge me in the ditch, and mine own clothes shall abhor me.” You remember that Job was a man that feared God and eschewed or avoided evil (i. 8); there was none like him on the earth. This God said of him (i. 8), but when Job thought of himself *as standing before God*, he said, How shall a man be just with God; if He will enter into judgment with him, he cannot answer Him one of a thousand (ix. 1—3): see also ver. 15, and then added the words I have quoted,—“though I wash me with snow-water.” Now there is no water so cleansing, so purifying, as the *snow-water*, and the Patriarch Job *alludes to this property*. Though, he said, I were cleansed and cleansed again from *every visible*

defilement, and not one single blemish could be detected on me BY MAN, yet when He *looks on me*, whose eyes are as a flame of fire, *searching to the inmost thought*, not only shall there be specks here and there, but like one plunged in the ditch, "*mine own clothes shall abhor me.*" So my beloved children, man in his own righteousness cannot stand before God; for in His sight can no man living be justified: see especially Zech. iii. 3, and compare Ps. xxiv. 3, 4, with Ps. xviii. 20. In each you will see the Lord Jesus as *the One*, and the only one, who had clean hands and a pure heart, and who, in the VIRTUE THEREOF, having not only obeyed the law, but magnified it and made it honourable, *claimed* the right of entrance into the holy place; and as the obedient *man who was God*, sat down, at the welcome of the Father, at his right hand, (Ps. cx. 1,) angels, principalities, and powers, being made subject unto him. (1 Pet. iii. 22.) The Scriptures afford *abundant illustrations* on this subject, but I will not fatigue you. You will find it a profitable exercise, if, during the next week at breakfast, each one brings some passage from the word of God, in which the rain and dew and snow are used in illustration. Some months ago, if you remember, you did so, and we were all much interested.

Believe me to remain, dear Children,

Ever your affectionate Father.

T H I R D D A Y



Drawn & Engraved by W. Hughes

London, S. Bagster & Sons, Paternoster Row.

THE CREATION.

LETTER V.

AND GOD CALLED THE DRY LAND EARTH ; AND THE GATHERING TOGETHER OF THE WATERS CALLED HE SEAS : AND GOD SAW THAT IT WAS GOOD. AND GOD SAID, LET THE EARTH BRING FORTH GRASS, THE HERB YIELDING SEED, AND THE FRUIT TREE YIELDING FRUIT AFTER HIS KIND, WHOSE SEED IS IN ITSELF, UPON THE EARTH : AND IT WAS SO. AND THE EARTH BROUGHT FORTH GRASS, AND HERB YIELDING SEED AFTER HIS KIND, AND THE TREE YIELDING FRUIT, WHOSE SEED WAS IN ITSELF, AFTER HIS KIND, AND GOD SAW THAT IT WAS GOOD. AND THE EVENING AND THE MORNING WERE THE THIRD DAY.—
Genesis i. 10—13.

MY DEAR CHILDREN,

Two days of the history of our globe had now run out, and the third came full of blessing. The character of this day's creation was two-fold, as the account in *Genesis* i. fully manifests. The first part was a call for the dry land (which evidently had been already created in the beginning) to appear ; the second was the Creation of the three great orders of vegetation—trees, herbs, and grass. I know of no part of Scripture that brings out the character of this day's creation so strikingly as the 104th Psalm. The *inspired* Psalmist looks back 3000 years, and brings the whole subject most blessedly before our minds, from 1st verse to the 6th of this Psalm:—"WHO laid the foundations of the earth, that it should not be removed for ever.

Thou coveredst it with the deep as with a garment: the waters stood above the mountains.”—The mountains were there, but the waters covered them.—“*At Thy rebuke—that is, at Thy word commanding them—they fled; at the noise of Thy thunder they hasted away,*” and the dry land appeared. And then how striking the description of the rivers and fountains of water, and the great sea:—“They go up by the mountains, they go down by the valleys, unto *the place* which Thou hast founded for them—(evidently the great ocean):—Thou hast set a bound* that they may not pass over, that they turn not again to cover the earth. He sendeth the springs into the valleys, which run among the hills, they give drink to every beast of the field.” But we must go back a little to the scene before us.—When the dry land appeared, it doubtless presented all the varieties of mountains and valleys, islands and continents; and the waters likewise, all their varieties of oceans and seas, lakes, rivers, and streams. At first the earth must have looked barren, but this could have been but of short duration; for no sooner had the command gone forth, than verdure and beauty covered the face of the land, and this, too, in a state of maturity, ALL having seed in themselves. So that every tree, and every shrub, and every flower we now see, had its *first parent* there; for though the vegetable world has branched out for man’s happiness in almost endless variety, yet doubtless *the heads* of all the respective families sprang into existence that third day. Some have supposed that this creation was confined to one place, the Garden of Eden;

* Some have applied this ninth verse to the promise to Noah, that the waters should no more cover the earth; but Creation is surely the subject throughout the whole Psalm.

and that the winds and waters, and fowl, have from age to age carried out the seeds to other lands. Others suppose that the great leading orders of the three divisions of vegetable life sprang up in the countries where God had destined they should flourish; so that the oak and the pine, and all the hardy families, had the north for their first home; and the palm, the vine, the olive, the myrtle, and the more tender trees, the south. This last idea seems to me to be much the more probable, and I have endeavoured to exhibit it in the plates, although of course, from the smallness of their size, I could but imperfectly accomplish it.

Having thus endeavoured briefly to explain to you what seems to me to have marked the order of this day's creation, I must now seek to tell you something of the blessings connected therewith, and also enlarge a little on the natural history of the metals and minerals within *the heart* of the earth, and of the trees and grass *on its surface*. In the twenty-eighth of Job there is a beautiful remark on this, "As for the earth, *out* of it cometh bread, and *under* it is turned up as it were fire; the stones of it, the place of sapphires, and it hath the dust of gold;" and in the first verse, "Surely there is a vein for the silver, and a place for gold where they mine it. Iron is taken out of the earth, and brass is molten out of the stone." In these few verses, what an amazing quantity of information is given to us! and, considering the antiquity of the book of Job, it is of increased interest. In the close of this chapter, when inquiring the value of wisdom, ALL the precious metals and gems of the earth are introduced, and then put aside; for the value of wisdom—the wisdom of God, even Jesus—is far above all the glory of the earth. But the verses are so beautiful that I quote them: and they tell us

how well the value of these things was known at this early period of the earth's history:—"It cannot be gotten for gold, neither shall silver be weighed for the price thereof. It cannot be valued with the gold of Ophir, with the precious onyx, or the sapphire. The gold and the crystal cannot equal it: and the exchange of it shall not be for jewels of fine gold. No mention shall be made of coral or of pearls, for the price of wisdom is above rubies. The topaz of Ethiopia shall not equal it, neither shall it be valued with pure gold."

If you compare Luke xi. 49 with Matt. xxiii. 34 and 1 Cor. i. 24, and then read Proverbs i. 20—23, viii. and ix., I am sure you will see that in applying the title of the Wisdom of God to the Lord Jesus, we have authority which cannot be gainsaid.

But the knowledge of the metals, with their uses, can be traced back far beyond the time of Job; for Genesis iv. when speaking of Lamech, the sixth from Adam in the line of Cain, says that he had three sons, Jabal, the father of such as dwell in tents, and have cattle, Jubal, the father of all such as handle the harp and organ, and Tubal-Cain, an *instructor of every artificer in brass and iron.*

And now, my dear children, in endeavouring to tell you some of the blessings connected with the third day, the subject is so extensive, that I hardly know where to begin. For look around on every side, and we are surrounded with its mercies; 1st, as it regards the mineral kingdom, (which includes all the metals,) what could we do without iron and coal? All our manufactories depend on these productions of the earth, and we know of no substitute for them; for though indeed the natives of the

South Sea Islands may make a rude substitute of bone and hard wood for their axes, war-instruments, and fish-hooks, yet bone and wood would make but poor steam-boilers, railroads, &c. Consider the prodigious strength of the boiler of *the Great Britain steam-ship* ;* nay, look at the ship itself, like *a massive island of Iron*, and then look at the hair-spring of a watch, or that delicate and fine needle that little Mary works with. From the iron, originally taken from the stone, and melted down by the agency of the coal, man has been enabled to produce these widely different results. Indeed, as I remarked before, there is no limit to the usefulness of this valuable metal; and therefore to meet this demand, while mines of other ores are comparatively rare, by the goodness of God, this abounds. But as I wish to give you a brief account of the principal metals separately, I will not enlarge any more in this place.

But, my dear children, whilst *the heart* of the earth thus supplies all kinds of metals for our machinery, *the surface* supplies all kinds of materials to be worked by that machinery. The earth may be called—

1. Our storehouse for food;
2. Our wardrobe for clothing;
3. Our dispensary for medicine;
4. And the great magazine of metals and all kinds of wood for the artificer, from the mountain oak, of which our ships are built, to the beautiful rosewood tree of which our furniture is sometimes made.

Having thus endeavoured to introduce the third day generally to you, I will now seek to go a little into detail, dividing the subject into the

* See Appendix.

contents of the earth *beneath* its surface, and the productions of the earth *above* its surface; and under the first head, I will tell you (1,) of the precious gems; (2,) of the metals; (3,) of the various rocks and different earths, coals and salt. Under the second general head, I will describe to you the principal trees, herbs, and grass—1, as used for food; 2, for clothing; 3, for medicine; 4, for the arts.

I. THE PRECIOUS GEMS.

THE DIAMOND.*—This was known to the ancients as the adamant, and is the most precious of all the gems of the earth. A single stone now belonging to the court of Russia, which was once the eye of an idol in India, was purchased by the Empress Catharine for 90,000*l.*, and an annuity of 4,000*l.* The finest diamonds have been found at Golconda, Visna, and Borneo, and some of an inferior quality in the Brazils. The former are called *oriental*, or diamonds of the East: the latter, *occidental*, or diamonds of the West. The poor slaves work for these quite naked, lest they should secrete the stones. Diamonds are used for ornamental purposes, and for various operations in the arts. The diamond is so extremely hard that it can only be polished by its own dust. It is also most useful in the more common art of cutting glass. Diamonds are combustible, and can be entirely consumed; and here they afford a striking picture of man in the zenith of his glory, and the depth of his humiliation. The diamond was

* All the precious stones which are printed with capital letters were in the breast-plate of Aaron.

one of the precious stones that was on the High Priest's breast-plate, and had engraven on it the name of one of the twelve tribes of Israel: but on this I will enlarge in my next. Diamond is pure charcoal in a crystalline form.

THE RUBY is a red sparkling gem of the first rank among precious stones; it is found in the rivers of Pegu and Ceylon, also in Hungary and in Brazil. This was the *first stone* in the breast-plate of the High Priest.

THE EMERALD is a green, brilliant, precious stone, exceedingly hard, found in the East and in Peru. The ancients appear to have obtained Emeralds from mines in Egypt.

THE TOPAZ is the third in order of precious stones, and is of a pink or yellowish gold colour. It is found in each quarter of the globe, India, Ethiopia, Bohemia, and Peru. Scotland also produces Topazes of a blue tinge.

THE CHRYSOLITE is the least hard of all the gems, and is found in Egypt, Ceylon, and the Brazils.

THE SAPPHIRE is found of various colours of azure or beautiful sky colour, red and yellow. It is found in Ceylon, Brazil, Bohemia, and Silesia; sapphires brought from the latter place are of less value than the oriental or eastern ones. Those which are blue are usually called sapphires; the red, the eastern ruby; and the yellow, the eastern topaz.

THE AMETHYST, or purple red crystal, is of a violet colour, bordering on blue;—found in the East and in Europe. The ancients imagined that wine drank from an amethyst cup would not intoxicate, whence its Greek name.

THE BERYL is a beautiful stone, like the emerald, of a pale green

colour, and for which it is sometimes mistaken. The finest come from Dauria on the confines of China, from Siberia, and from Brazil. It is known by jewellers as *aquamarine*.

THE AGATE is an aggregate of various minerals, with varied tinges of colours, veins, and spots, but they never exhibit orange or green; they are finest from Germany.

THE CHALCEDONY is semi-transparent, very hard, and of various colours. Found originally at Chalcedon in Asia;—found also in Saxony, Silesia, and the British Isles.

THE ONYX is a banded agate of a greyish brown colour. White zones or girdles are essential to the onyx, and any stone exhibiting strongly contrasted layers is called an onyx. This gem was on the shoulder-pieces of the ephod of the High Priest, as well as on the breast-plate.

THE OPAL is an exceedingly beautiful stone, with rainbow colours on a ground of white. It is found in Hungary, Mexico, the British Islands, and India. It is a very rare mineral.

The Jacinth is a purple gem, mingled with a deep yellow, approaching to a flame colour. It is found in the East, and Bohemia and Portugal.

The Carnelian, a species of Chalcedony, is generally of a blood-red colour, but sometimes white; it is easily engraved on, and receives a brilliant polish. It is found near Babylon, also in Hindostan, and in Bohemia.

Crystal, or rather rock crystal, may be reckoned among the precious gems: it is found in India and Europe.*

* See Appendix.

The *Pearl* is a hard, cream-white, round gem-like substance, of considerable lustre, found in shell-fish, both of the mussel and oyster kind; and although of animal production, it is reckoned among the gems. The oyster in which the pearl is most generally found inhabits both the American and Indian seas, and is sometimes met with on the coast of Scotland. In ancient Rome pearls bore an enormous price. The largest pearl at present known belongs to the Shah of Persia: it is about half an inch in diameter, and from two to three inches long. The most celebrated fisheries are in Ceylon, the Gulf of Persia, Algiers, the Bay of Panama.

Most of the precious gems are of little actual use: they are worn chiefly for ornament; but the most beautiful jewels are found in that sweet verse in Proverbs iii., "Let not mercy and truth forsake thee; *bind them about thy neck*, write them upon the tablet of thine heart:" and the christian female is exhorted to let her adornments not be of gold or costly apparel, but *the ornament of a meek and quiet spirit*, which is in God's sight of great price. (1 Pet. iii. 3, 4; 1 Tim. ii. 9, 10.)

II. OF THE METALS.

Our second subject of consideration is the metals. The ancients knew only seven; and these they represented under the signs of the heavenly bodies,—Gold had the Sun for its emblem—Silver, the Moon—Quicksilver, Mercury—Copper, Venus—Iron, Mars—Tin, Jupiter—Lead, Saturn. The moderns have discovered thirty-seven others.

Gold, which is the heaviest* of all the metals, excepting platinum and iridium, is found in small quantities in all the four quarters of the globe. The largest lump of gold ever discovered was found recently in one of the Siberian mines: its weight was about 23lbs. The gold of Asia is considered the finest;—but that of South America is comparatively the most abundant. Gold has a great variety of uses. The Tabernacle of the Wilderness had silver for its foundations, and boards covered with gold for its superstructure; and *all* the furniture of the Lord's dwelling was *covered* with gold. In the Temple, the pavement and the ceiling of the *Most Holy* were of the same. Gold is also used for the diadems of kings, and the coronets of nobles. The most valuable coins of the realm, as well as medals commemorating any event of moment, are also struck from this noble metal. Its tenacity is amazing; for it has been proved that a gold wire, not thicker than a crow quill, will support a weight of 500 pounds; and its malleability is almost beyond belief: for a grain of gold may be beaten into fifty-six square inches of leaf-gold.

Silver is the metal next in value to Gold and Platinum. It is also found in all quarters of the globe, but abounds chiefly in South America. It is a metal of brilliant lustre when polished. If you remember, the reflectors of our Light-house at Wicklow were made of copper coated with this metal. Its uses are various. Silver combined with nitric acid forms *lunar caustic*. Marking ink is made by dissolving lunar caustic in water. The white powder in percussion gun caps is a preparation of silver. Our shillings, sixpences, &c., are coined from silver, mixed with a little copper to harden it.

* See Appendix.

Quicksilver is the only metal fluid at an ordinary temperature. It was well known to the ancients, and called by them *hydrargyrum*, or, *water silver*. Quicksilver is found in Germany, Hungary, Spain, China, and Peru. This metal is used in a variety of ways, and is exceedingly valuable to man. I suppose you remember seeing it frequently in the tube of the weather-glass; its use there is to indicate the variations of the weight of the air—heavy dry air pressing it up, and light air allowing it to descend. The state of the weather is so connected with the weight of the atmosphere, that the Barometer becomes a useful index of *its* changes also. It is also in great demand for our manufactures, especially in gilding copper; for copper and gold have no affinity whatever with each other, and seem inflexibly set against any union; but the Quicksilver has friendship with both parties, and is used to amalgamate the surface of the copper substance intended to be gilt. Buttons, or other articles thus prepared, are then covered with a certain quantity of gold amalgam, which immediately adheres; afterwards heat is applied, which drives off the Quicksilver, and leaves the gold firmly fixed. Until these few years past, the Quicksilver thus evaporated was lost; but now its vapour is made to pass into water, where it instantly condenses and falls to the bottom. The Quicksilver in this case is a beautiful emblem of the Peace-maker: it brings two hostile parties together, and never leaves them until they are one, and then passes away ready again for any fresh act of love.

Mercury is also a valuable medicine, and is besides used in *water-gilding*, in making vermilion, and for silvering looking-glasses.

Copper may be ranked next in value. England supplies large quantities of

this metal, as do also the North of Europe, many parts of Asia and Africa, and the American Continents. Many of our domestic utensils and vessels are made of copper. Rolled out into thin sheets, it is used to cover the bottoms of sailing vessels, keeping them at once clean, dry, and free from the operations of marine worms. These sheets are also sometimes used as the covering of buildings. Copper, mixed with tin, was employed for cutting and warlike instruments, before iron was generally known and used. All the chemical preparations of copper are poisonous. Brass is a mixture of copper with zinc; and bell metal also has copper (which is the most sonorous of metals) for its chief ingredient. Many of our engravings also are executed on copper sheets; but the plates of this work are engraved on steel. The rust of copper, if we may so call it, is verdigris: and from this is made the brightest of our green paints.

Iron is the most useful and abundant of all metals. It is plentiful in England, especially in the county of Gloucester; also in Wales: and close to the Iron mines, generally speaking, there is a boundless supply of coals with which to work the Iron. And this, my dear children, with thousands of other things with which we are surrounded, tells us of God's merciful goodness; and proves that He made and furnished the world as a habitation fitted and suited for Man, destined to be its occupant. The uses of Iron cannot be enumerated; for look around on every side, and there is not a thing you can gaze on, which, in one way or another, is not indebted to Iron for its form. Dr. Ure, speaking of Iron, says, "It accommodates itself to all our wants, our desires, even our caprices; it is equally serviceable to the arts, the sciences, to agriculture, and to war; the same ore

furnishes the sword, the ploughshare, the pruning hook, the chisel, the chain, the needle, the graver, the watch and carriage spring, the anchor, the compass, the cannon." Iron is remarkable from its being attracted by the magnet. It and nickel are the only metals so affected. Iron combined with charcoal in one proportion is steel, and in another proportion constitutes what is called blacklead.

Tin is a metal most useful in all our domestic concerns, from its being employed to coat over copper and iron vessels, to keep them from rust and verdigris. It is a white, brilliant metal, softer than silver; but harder than lead. Tin is found in small quantities in the East Indies, France, Spain, and Saxony; it is more abundant in Devonshire and Cornwall, which in a great measure supply the demands of Europe. Malacca, however, furnishes the purest tin. At a white heat tin takes fire and burns with a bright flame. Tin is the principal ingredient in Pewter, and Britannia metal, of which teapots and other articles are made. One of the most important applications of tin is in the manufacture of what are called tin-plates, from which such numerous utensils are formed. These plates consist of a thin sheet of iron coated with tin.

Lead is a coarse, heavy metal, of a whitish grey colour; it is found in great quantities in England. Its uses are well nigh innumerable; for, being so easily melted, it may be cast into any shape. Printing types are formed of lead mixed with antimony. *White Lead* and *Red Lead* are produced by chemical means from this valuable metal, and are used to form paint and for glazing earthen vessels. In medicine several combinations of lead are usefully employed; indeed, almost all the metals, under one form or another,

come into the pharmacopœia ; and in the hands of skilful men, by God's blessing, are sometimes of great service. The principal use of lead is in the form of sheet, and pipes for conveying water. Shot also are formed of lead.

The less important metals I do not go at large into ; but will just mention a few of them.

Platinum or *Platina*. This ranks in *value* above gold, from its great scarcity and remarkable infusibility. It is only found in South America. It is of great value for chemical vessels, making the best crucibles ; it is also used for the indexes of nautical and other instruments. In colour it is like silver. Platinum is the heaviest substance known.

Zinc is a metal that has come much into use during the past few years. It forms an excellent substitute for lead for many purposes, and is not so expensive. It is found in many parts of Great Britain. Its appearance is similar to lead, but it is not so heavy. Zinc is used for lining cisterns, covering roofs, making vessels of various kinds, as well as for printing drawings from by the art called Zincography. Zinc may be burned in an ordinary spirit lamp. Brass is an alloy of zinc and copper.

Antimony is a brittle, silvery-looking metal, of much value, when combined with lead, for the formation of printer's types. It is much used in medicine also.

Arsenic, although known almost only as a white poisonous powder, is also a metal. Poisoning by arsenic should be met by as speedy an emetic as possible, while the assistance of the stomach-pump is sought.

Nickel is a white metal, which is remarkable in being attracted by the

magnet. It is found in Westphalia. Nickel is an ingredient in German silver, which is composed of nickel, copper, and zinc.

Potassium is the lightest known solid. It floats and burns with brilliancy on the surface of water. Potash and pearlash are products of this metal, the principal supply of which is brought from Russia and America.

Sodium is a metal much resembling potassium in its chief properties. When placed upon water it floats, but does not burn. Soda, which is so extensively used in the arts, is a compound of Sodium.

The number of metals at present discovered is about forty; those which I have not enumerated possess no particular interest for your consideration.

Plumbago, or black-lead, of which our pencils are made, is a natural composition of iron and carbon. It is found in such abundance in Cumberland, that not only is the whole island of Great Britain supplied from it, but many parts of the Continent. Plumbago is also very useful in the Electrotype process, as the friendly medium between the copper deposit and the wax model.

OF THE ROCKS AND EARTHS.

The various materials of which the substance, or crust, of this world is formed differ greatly in character and in their value to man. Some are found in enormous masses, as the giant mountains; some in a state of minute division, as the delicate sand of the hour-glass; some hard and impenetrable, as the granite; others plastic and yielding, as the clay. Almost all, however, in some way or other, afford to man an opportunity of increasing

his comfort, and prove the goodness of the blessed Creator, whose ways are full of wisdom and mercy. I shall not bring before you the names of all these substances, but choose for your attention those which possess most interest, from being comparatively familiar, and shew you some of their most striking properties and uses.

I will begin with those nearest to the surface.

Vegetable Mould is a mixture of decayed vegetable matter and pulverised earth of various kinds. It forms the storehouse whence almost all the food of every living creature is drawn.

Peat is the natural accumulation of vegetable matter on uncultivated land. When dried it burns with a gentle heat, and is much used as fuel, especially in Ireland, where it abounds. The peat to be employed as fuel, is cut out in small square pieces in summer, and spread to dry. These are afterwards stacked for use.

Gravel is a term applied to the well-known material of our paths and roads. It consists of small stones of various sizes mixed up with other substances, such as clay, flints, ores, &c.

Millstone Grit is a most valuable material. It is a sort of sand-stone, generally containing small shells, of extreme hardness; and is used for grinding corn and other things. For this purpose two flat stones are laid one on the other, and made to revolve, and the corn being made to pass between them, is crushed in its passage and falls from them as flour.

Gypsum is the geological name of a well-known article—the *Plaster of Paris*, of which the beautiful figures carried about by the Italian boys are formed. When ground, and fresh, it possesses the curious property of

becoming hard if mixed with water. It is this property which renders it so valuable for moulding. The powder gypsum is formed into a thin paste with water and poured into moulds, where it speedily hardens, and is then turned out. The ornamental cornices of our sitting rooms are formed of plaster of Paris.

Limestone—a general name for a variety of substances yielding quick-lime when burned. I need not dwell upon the importance of Lime to man, nor tell you of its great value in building. If you think for a moment of what a house would be formed of bricks merely laid one upon another, without any *mortar* to bind them, you will be convinced of its usefulness, I might almost say of its indispensable usefulness. Limestone contains carbonic acid gas and lime; it is to drive off this gas that the limestone is burned in the kilns, and it is the hurtful character of this gas which makes it so disagreeable to go near a kiln, and so dangerous to attempt to sleep on or by them. Indeed, many poor persons have lost their lives from venturing to lie on limekilns for the sake of the warmth.

Clay is an exceedingly common ingredient of soils. It may be almost said to be essential to a permanently fertile soil. Its properties are too well known to need description. The species of clay used in the formation of earthenware is called *Plastic Clay*. It would be difficult to imagine the extent of the wide-spread usefulness of this material. Suppose man had been left to hew out of stone or wood all the various vessels he now so easily forms of clay: how scanty must have been our supply, and how inconvenient their use. There are few more really interesting processes than the manufacture of earthenware. The sudden, and as it were, magical

transformation of a shapeless lump of clay into forms of beauty and utility under the potter's hand invariably delights and astonishes those who witness it.

Chalk is a substance of peculiar interest, inasmuch as its whiteness in the tall cliffs of our shores has conferred upon the island generally its name of Albion.* Chalk is remarkable for various fossils, but especially for the *flint* often imbedded in it. Chalk is extensively used to manure land, and for the production of quicklime, for which purpose it is simply burnt in a kiln, to expel the carbonic acid gas.

Sandstone is a kind of stone composed of grains of sand formed into a solid mass. The various kinds of sandstone are much used for building purposes.

Lias—a species of clayey limestone, much used for the production of quicklime, and remarkable for the numerous and important fossil animals which have been discovered imbedded in its substance. The British Museum contains a large collection of these.

Rock Salt is a term applied to the masses of common salt found in the sandstone of Cheshire and other places.

Coal. I need not explain to you the uses of coal. We all know and value the comforts we derive from its consumption in our fire-places, and its agency in the preparation of our food. Besides these domestic uses, however, the importance of coal to almost all our manufactures is quite beyond calculation. It is generally agreed among geologists that coal is of vegetable origin; that the coal-beds of this and other countries are the

* *Albus* is the Latin for *white*.

accumulation of the trees of primeval forests, drifted, by unknown agencies, to their present position. There are few productions of the earth so extensively useful to man as coal. In this country at least he depends upon it to supply him with warmth, to cook his food, to produce the metals from their ores, to drive all his cotton and other machines, and to impel his railway carriages and steamboats: without it England must desist from her manufactures and her commerce. A country may be rich in almost all the varied products of the earth, but lacking COAL its inhabitants are unable to avail themselves of their treasures.

The coal mines of Durham are some of them 1000 feet deep. The trade in coals in England employs about two hundred thousand persons. But I must not forget to remind you of the beautiful light we obtain from coal. Gas is produced by heating coal in large iron bottles. The gas as it is produced is passed through lime water for purification, and is then ready for use. What remains in the iron bottles or retorts is called coke, an article much used for furnaces, where the draught is strong. A description of the mines from which the coal is extracted, and of the manner of working them, I may give you at another time; but for the present my object is to bring before you a general view of those mercies with which we are perpetually surrounded.

Slate. I know of nothing more full of interest than the operation of splitting and forming slates. Our chief supplies are drawn from quarries in Cornwall and Wales. Its value, besides the assistance it affords to the schoolboy in doing his sums, is considerable; for it is extensively used for covering the roofs of houses.

Granite. A kind of stone composed of various sorts of crystal, talc, &c. It is exceedingly hard and durable, and much used for buildings and pavements. It occurs of various shades of grey and red. Most of the famous Egyptian monuments, which have lasted so long, are of granite.

Thus, my beloved children, “the earth is full of the goodness of the Lord;” from the beautiful gem that adorns the diadem of our Queen, to the common brick of our houses and the pavement of our streets, the earth is our storehouse of unfailing supply.

I will now endeavour to take up the second part of this subject as I promised, and speak to you a little of *the fruits of the earth*—(as Moses says) “for the precious fruits brought forth by the sun, and for the precious things put forth by the moon, and for the chief things of the ancient mountains, and for the precious things of the lasting hills, and for the precious things of the earth, and fulness thereof.” (Deut. xxxiii. 14—16.) This is the way that holy man of God spake of God’s gifts: to him they were *all precious*: and so they should be to us. In one sense, dear children, never seek to be independent; but depend on the Lord God—even the good-will of Him that dwelt in the bush—for every thing; so that every drop of water, and every thread of raiment, and every grain of wheat, may all be received by you, not as coming by chance—no, nor yet from nature—but from God, the Father of our Lord Jesus Christ, and the Father of all such as flee to him as their alone Saviour; for *in* him, and in him only, they can call God, Abba, Father. (Rom. viii. 15.)

Sweet is that Hymn, and happy the man or child that can from the heart sing it (1 Cor. xiv. 15):—

"Abba, Father," Lord! we call thee,
 (Hallow'd name!) from day to day;
 'Tis thy children's right to know thee,
 None but children "Abba" say.
 This high glory we inherit,
 Thy free gift through Jesus' blood;
 God the Spirit, with our spirit,
 Witnesseth we're sons of God.

The world, even in its fallen state, is fertile beyond calculation: and when cultivated is capable of being covered with beauty: indeed, on walking out on a summer's morning, when the sun is high enough to have opened the flowers, and the birds are singing, and all seems happy around, one can hardly imagine it to be the world of which it was said, "*Cursed be the ground* for thy sake;" if so beautiful in its ruins, what must it have been in its primeval beauty—what will it be in "the times of the restitution of all things!" (Acts iii. 21.)

FRUITS OF THE EARTH.

But I will now detail to you a little of the Lord's goodness, as shown forth in that part of the vegetable kingdom which provides food for man; and the first thing I will speak of, is WHEAT.

"The Staff of Life." This is the name given by common consent to this most precious gift, *put forth by the sun*; WHEAT grows almost in all quarters of the globe, and is pre-eminent for its nutritive qualities among all the fruits of the earth. Wheaten flour is almost wholly composed of

gluten and starch, both of which are highly nutritious. *Gluten* is a peculiar substance that approaches nearer to animal matter than any other; and wheat produces twofold more than any other grain of this substance. Besides starch and gluten there is a small proportion of sugar in wheat.

You are all doubtless familiar with the appearance of wheat, both as a grain and when growing, and have, I feel sure, enjoyed the beautiful sight of a waving crop of corn just ready for the sickle.

Wheat is generally sown in the autumn, and is ripe about July or August, in the following year; but that which is deferred to the spring ripens later.

Rye is a grain much like wheat in its properties, but it is of much less value as bread corn. In England it is not used for food, but in Germany it is still made extensively into bread. The straw of rye is valuable for thatching, and for stuffing such articles as horse-collars.

Barley ranks next to wheat in general value to man. Barley is in some respects even more valuable than wheat, for it will grow in soils that will not produce wheat; and coming to maturity in about three months after it is sown, it is peculiarly adapted for the short summers of northern countries. In Spain and Sicily it is not uncommon to reap *two* harvests in the year.

In Judea the barley harvest was the first reaped; and ere it was gathered, there took place, according to Jewish historians, this most solemn ceremony. The High Priest of Israel (God's family on earth) went into the barley-field with a golden basket, reaped a sheaf of the first-fruits, and laid it up in the Tabernacle before and during the sabbath; but on the morn-

ing after the sabbath, (Lev. xxiii. 10,) he took the sheaf, and standing at the brazen altar, waved it on high before the Lord, to the four quarters of the land, acknowledging thereby that all that sprang from the earth, in the north, east, south, or west, was the Lord's; and theirs only by first being acknowledged to be his—THE GREAT LORD OF THE HARVEST. The whole of this, in its various parts, is applied in the New Testament spiritually; but I will tell you of it in the next letter.

The principal use made of barley in England is for brewing; for which purpose it is made into malt by being allowed to germinate in heaps, and then dried. Pearl barley is common barley deprived of its skin.

Oats. The Oat is the most hardy description of corn grown in England. Oats are principally used as food for horses and cattle. Oatmeal is an article of large consumption throughout Scotland, and is esteemed by many families in England as extremely wholesome for children when made into porridge. Groats are the grain of oats without the skin.

I must now take you from our own happy island, which, although so plentifully supplied with other mercies, will not, from its climate being too chilly, produce all the fruits and grain of the sunny regions of the south. And first, I will tell you about a plant which to the poor Hindoo is more valuable than even wheat is to us; for he is more dependent than we are on the single article which constitutes his support. I refer to *Rice*. Forbidden by his superstitions to eat meat, the native of India subsists almost wholly upon Rice. Their indolence prevents their providing a variety of aliment, and consequently, whenever there is any failure in the rice crop the suffering is extreme and irremediable. This is much the case at the

present moment with the poor Irish and their potatoes. They have been accustomed to content themselves with a single article of food, and now that this is blighted the most dreadful misery prevails.

India, China, the West Indies, America, and some parts of Southern Europe, produce immense quantities of rice. It is brought to this country ready shelled, as we use it, and also unshelled, in which state it is called poddy.

Maize, or Indian Corn, must also be mentioned to you as one of the valuable gifts of God's hand, for owing to the scarcity of potatoes it is coming much into use. Large quantities of it are grown in America. The different kinds of maize vary much in their growth; some being from seven to eight feet high, and others not more than two feet. Besides grinding the ripe grains into flour, the Americans boil the unripe heads of this corn as a vegetable. Maize will not grow to perfection in England.

Millet and *Buck Wheat* are also grain of some consequence, but their use is almost confined to the feeding of domestic animals. For this purpose they are admirably adapted; almost all animals being exceedingly fond of buckwheat. It is often cultivated in our fields as well as abroad.

But I find I must return again to England, to dwell a little on that most valuable root the *Potatoe*. You have heard, I dare say, that we had no potatoes before the time of Queen Elizabeth. There is every reason to suppose that it was brought from America by Sir Walter Raleigh about 1586. This excellent vegetable has since been spread almost over the world, and wherever it will flourish is highly prized. In India the European population deem the potatoe indispensable. Bishop Heber, in his *Journal*,

remarks, "wherever the Englishman seeks a home, he always strives to naturalize this root. Amid all the luxuriant and delicious vegetation of tropical climes, he still retains his preference for that simple vegetable, which he considers almost a necessary of life. At Ceylon all his attempts to cultivate this plant have been nearly in vain, as it will not thrive in that island, except in the inland districts near the town of Candy. A supply of these roots is furnished from thence for the Governor's table, as all the native vegetables are considered inferior to this necessary auxiliary to an Englishman's more substantial fare."

The distressing failure of the potatoe crop last year teaches us a humbling lesson. We are slow to learn that it is not with ourselves to command success for the work of our hands. The God of all the earth has seen fit to withhold the preserving power which has hitherto kept these valuable roots for our use, and they have passed into premature decay as the consequence. Our place before God is one of reverential awe. Shall not the Judge of all the earth do right? Let us deny ourselves, that we may have to give of the mercies yet continued to us, to those who need. We are alike undeserving of the least of God's mercies.

There are, besides the various kinds of food I have enumerated, an immense number of other plants yielding nourishment to man. These are however of much less importance than those already named, and I will content myself with just mentioning some of them.

Cassava. A Brazilian root, from which a sort of bread is made. It is remarkable for containing, when fresh, a juice which is poisonous, but which can be so completely squeezed from the pulp as to leave it wholesome for food.

Arrow Root. A plant much cultivated in the West Indies and South Sea Islands, which yields the well known starchy powder called by the same name.

Sago is the farinaceous pith of a tall slender tree, growing in the Molucca Islands. The sago we are accustomed to use is prepared from the raw flour by moistening and baking slightly. In this state it is called Pearl Sago.

So great is the variety of blessings yielded by the vegetable world for our use, that I am really at a loss which to select for your notice. There are *Asparagus*, the *Cabbage Palm*, the *Sea Kale*, *Celery*, *Lettuce*, *Cress*, and many others. Besides these there are the numerous fruits which grow in *Pods*, which form a distinct and important class of food for both man and beast. And first of these stands the *Pea*, which is used by us generally in its green state, although for some purposes when ripe, in which state only it is given to cattle and fowls. The variety of the pea is remarkable. It is much cultivated throughout the world.

The *Bean* also is an important plant. Its fruit is little used for human food, but as the food of horses it is of great value. Some kinds are however cultivated for our consumption, and are eaten when green. Of the *Kidney Bean* we, as you know, eat only the young pods.

Another rather extensive class of vegetables embraces the *Turnip*, the *Carrot*, the *Parsnip*, the *Beet-root*. Another class includes the immense variety of the Cabbage plants; to which belong the *Cabbage*, *Cauliflower*, and *Brocoli*. Then there are the *Spinach* and the *Artichoke*, the *Onion*, *Leek*, &c. Besides these there is a rich assortment of sweet-scented flavouring herbs: Thyme, Marjoram, Parsley, Sage, &c., with Mustard, the Radish,

Endive, Rhubarb, Capsicum, and Capers. I might go on to tell you of the sweet spices of the East, but I will only mention the *Cinnamon*, the *Clove*, the *Nutmeg*, *Ginger*, *Pepper*, and *Allspice*. For our daily wants God has provided *Tea*, *Coffee*, *Cocoa*, and *Sugar*. Truly we may well exclaim, "The earth is full of thy goodness, O Lord."

If the variety of vegetables and other products of the earth is such, dear children, yet the trees that are good food, in variety at least, abound as much; and in them man's delight seems to be more contemplated than his sustenance. Every stage of the fruit, on to maturity, is replete with interest—from the bud to the blossom, and from the blossom to the full-grown fruit: indeed, it would be difficult to decide whether the orchard in its blossoms of spring, or its fruits of autumn, is most beautiful; and then the fruits are so adapted to the state of man in his peculiar localities. In the West Indies, though the pine-apple and the rich melon have both spread out their beauties before one's eyes, yet I have often found the large green water melon, filled with its cold delicious nectar, far more refreshing; and this abounds beyond other fruits: those living there, however, can alone appreciate this fruit.

But there is one peculiar description of vegetation so interesting to me, that I must not pass on before I describe it to you; for, as with an angel's voice, it proclaims the exceeding goodness of our God. The first in this order is the *bread fruit tree*, which seems at once, without any preparation or kneading, to provide us with *bread* almost ready for the oven. Then, again, there is another tree, which, in the absence of the cow, yields to us a delicious fluid like milk: another gives us a sort of butter; and last of

all, and perhaps the most to be desired under certain circumstances, are the *water trees*, which may be called *vegetable springs continually flowing*. There is goodness so very apparent in this order of vegetation, that the hymn of praise spontaneously bursts from the new man,—“The Lord is good to all, and his tender mercies are over all his works. The eyes of all wait upon Thee, and thou givest them *their meat* in due season.” (Ps. cxlv. 9—15.)

Bread Fruit was first brought into notice by Captain Cook, who discovered it at Otaheite. The tree on which it grows is about the height of a middle-sized oak; and yields three or four harvests in the year. Its leaves resemble the fig-tree, and when broken, exude a juice like milk. The fruit is about as large as a child's head, and is white, and of the consistence of bread. The tree not only supplies a sort of bread for the table, but the table itself is made from its trunk; and the cloth which covers it, from the bark. The natives also use its wood for their canoes, and extract a valuable resin from it.

The *Cow-Tree* grows in the Caraccas and other parts of South America, in rocky districts, where for months there is no rain. It is also found in Demerara. Its height is about one hundred feet. On piercing the trunk, a sweet and nourishing milk springs forth, which the natives catch in bowls. In coffee this milk cannot well be distinguished from that drawn from the cow.

The *Butter Tree* is described by Lander, the African Traveller, as yielding a vegetable marrow like *butter*, very pleasant to the taste. In Jamaica, I have used the fruit of the *alligator* pear-tree on bread, with pepper and salt, exactly in the same way as butter, and always greatly preferred it.

And, lastly, the *Water Trees*, of which the three following are the best known, must in no wise be omitted, manifesting, as they do, the most marked contrivance to meet man's wants. Their names are: the *Wild Pine*; the *Water Tree of Jamaica*; and the *Pitcher Plant*.

The *Wild Pine* is an inhabitant of South America, and the Caribbean or West Indian Islands. It grows on the branches of other trees: its leaves grow enfolded round one another so compactly, that the water which runs in at the top is preserved from evaporation; and thus these reservoirs, holding from a pint to a quart of water, produced and filled alike without the agency of man, wait on his necessity.

The *Water Tree* is like a vine in size and shape; and although it grows in parched districts, is so full of clear sap, that by cutting a piece two or three yards long, and holding it to the mouth, a plentiful draught is obtained. *The drinking vessel and the water alike from the same tree.*

The *Pitcher Plant*, found in the East Indies, is most remarkable in its structure. It has literally *leaf mugs*, or *tankards*, hanging from it, each holding a small quantity of water. The tankards have also a leaf cover, so closely fitted, that no evaporation takes place. There is a little hook behind this lid, which, when the vessel is full, extends and seizes some of the neighbouring tendrils, and holds by them: and what is of the deepest interest, this tree grows in a marshy unhealthy soil, where the water is most impure; but distilled through its veins, it comes clear as from a cooling fountain.

In leaving this first part of the vegetable kingdom that is *good for*

food, remember also, my dear children, that the great mass of animal life that comes to our aid, both for food and clothing—from the ox and sheep down to the silk-worm that our young friends keep so carefully—all depend on the vegetable kingdom for support.

THE EARTH OUR WARDROBE.

But now we come to the great field of nature for our Wardrobe: for though our ancestors, the early Britons, once painted their bodies, like the poor African and New Zealander, and in winter covered themselves with coats of skins, yet now we require warm apparel. Your own clothes, dear children, from your little straw hats to your cotton stockings, are derived from this third day's creation. The two great articles used for clothing are linen and cotton; and both of these are of vegetable production,—Flax and Cotton.

Flax. You doubtless remember this plant in Ireland. Though we ourselves grew but little, yet it was enough to explain its character to you, both in its growth and manufacture. It is an annual, with a slender stem, about two feet high, *which consists of fine fibres*, and it is these which are manufactured. The time of gathering the flax is in September; it is first soaked in water for a few days, until partially rotted in the outer covering; then it is dried and beat hard with sticks, hackled, (or combed,) and then dressed:—threads of different degrees of fineness are afterwards spun from it, and these are manufactured into cambric and lace, and linen of every kind: so that shirts, table-cloths, sheets, trowsers, and a variety of other

clothing, are indebted to this pretty little delicate blue-flowered plant for material. The seed of flax, called Linseed, is also valuable in medicine; especially in the early stages of consumption, God's blessing being added. The oil expressed from linseed is also much used in painting. The North of Ireland is famous for the growth of flax, and its manufacture into linen.

I introduce *Hemp* here, as it has such close affinity with Flax. It is also prepared in much the same way. Hemp is altogether coarser than Flax: *but this is just the thing desired*; for cambric would make poor sails for a frigate, or indeed the strongest coarse linen would soon go to ribbons in a storm; but then Hemp just supplies this want; so that if the second day's creation filled the snowy canvas with the wind of Heaven, carrying our ships round the circuit of the globe, it was the third day's creation that provided the wood for the hull, and hemp for the sails; ropes also to strengthen the masts, and spread the sails,—as well as ports and havens to shelter in.—Russia affords the principal supply of hemp; though our own country also grows it. It flourishes best in sandy soils.

The Cotton Plant. I have sometimes thought, when looking at one of the currant bushes in our garden,—is it a little shrub like this that gives such an amazing supply of clothing for people of almost every clime. It is indeed so: for not only does England itself consume an almost untold quantity for her own use; but her annual exportation of cotton manufactures to other countries, exceeds in value a sum of twenty millions sterling, and of cotton twist and yarn alone, three millions: so that the cultivation of flax *must be but like a little flower-bed* compared with the vast plantations of this lowly shrub.

The Cotton Plant grows in the East and West Indies, and in the southern part of North America, in Turkey, and also in Egypt in great quantities. The cotton plant is about the size of a tall currant bush, from four to six feet high; and the pods which contain the cotton are of the size of a large gooseberry, sometimes of a small apple; it is propagated by seeds sown in March and April; and will bear pods three years in succession.

The value of cotton one can hardly describe, as it is now so universally used, being much cheaper than linen, and on some accounts preferred.

The Lace-bark Tree of Jamaica yields an extraordinary production: the inner bark of it is like the finest lace. Caps, ruffles, and even whole suits have been made from it, as curiosities.

The Cocoa-nut Tree. Ere I close the second division of the vegetable kingdom, I must mention this tree. Most children know the cocoa-nut, and have watched with no little anxiety the last knock of the hammer that has split it open and rendered the milk visible. This tree grows erect in a stately column from fifty to ninety feet in height, with a beautiful verdant crown of leaf-like branches, spirally disposed: under this foliage you will see bunches of blossoms, clusters of green fruit, and others in maturity (the blade—the ear—the full corn in the ear) at one glance, in mingled beauty. The trunk, although porous, yet makes beams and rafters for the native dwellings, and the broad leaves serve for thatch;—of these also are made umbrellas, and mats, from those in the dwellings of princes to the poorest cottage: and whilst ropes and cloth are spun from the outer covering of the fruit, that nothing be lost, the shell is cut into beautiful devices, and thus provides a goblet to be filled with the palm wine, made

from the young tree. The oil also of this invaluable tree affords a pleasant light, and of late years has become an article imported into this country for the manufacture of candles.

I will just refer again to the spices to tell you that in some places they grow so abundantly as to render the air fragrant for miles and leagues at sea.* How sweetly our poet Cowper alludes to the Spice Islands in that all-beautiful poem on his mother's picture: speaking of her REST, he says—

“ Thou as a gallant bark from Albion's coast,
 The storms all weathered and the ocean cross'd,
 Shoots into port at some *well-haven'd isle*,
 Where *spices breathe* and brighter seasons smile;
 There sits quiescent on the floods that show
 Her beauteous form, reflected clear below;
 While *airs impregnated with incense play*
 Around her, fanning light her streamers gay:
 So thou, with sails how swift, hast reached the shore
 Where tempests never blow, nor billows roar.”

These and numberless other mercies, all and every one of them, tell of the gracious and especial care of this third day's creation. Whilst in the garden, before we pass to consider the medicinal plants, let us look around on all the beautiful flowers that seem *to demand our praise*: and who that loves the Lord can gaze on their endless variety, from the lowly violet of

* When sailing to the leeward of the Island of Bermuda, where the Cedar so abounds, I have distinctly inhaled its fragrance, even when no land was to be seen. This I remember at one particular season *most especially*.

the woods to the full-blown rose of summer, without an adoring song of gratitude? Perhaps of all the circumstances of creation, flowers most seem sent to gratify *the passing moment* as we gaze upon them; and how graciously did our blessed Lord describe their beauty, when he said, "Consider the lilies, how they grow; they toil not, they spin not; and yet I say unto you that Solomon, in all his glory, was not *arrayed like one of these.*" And oh! the sweetness of that "*if,*" which follows. "*If* God so clothe the grass of the field, which to-day is, and to-morrow is cast into the oven, how much more will he clothe *you*, O ye of little faith!" Thus *the flowers, replete with beauty and fragrance*, also come to God's children full of instruction, and they are encouraged to remember that the hand that adorned and wrought the beautiful texture of the lily and other flowers, will also provide food and raiment for them. (Luke xii. 27—32.)

THE EARTH'S MEDICAL TREASURES.

AND now we come to consider, thirdly, that department of the vegetable kingdom which may be called "*Our field of herbs for medicine.*" The irrational creation, directed by the hand of that gracious God that brought them into being, not only *select the food* good for them, but also, in some diseases, by instinct, as it is called for want of a better name, have been observed to go to the field of herbs, and cull from thence, with wonderful sagacity, the plant suited to their wants.* Who gave them this wisdom?

* See Appendix.

To answer this question let us turn to our favourite Book of Job on this subject, and look at chapter xxxviii. 41 : “ Who provideth for the raven his food, when his young ones cry unto God, they wander for lack of meat ? ” The Lord did ; even that God who, as Bishop Hopkins so beautifully says, “ provides the spray that the sparrow is to light upon, and the barley-corn for its food. ”

Who would have thought, on seeing the common red poppy glowing in the wheat, (and *there* a most undesirable weed,) that the seedy head of the flower, of one of its family, should exude a juice which (though, like every other gift of God, sadly perverted) is of great value. Opium, which is the poppy-juice hardened into substance, and Laudanum, which is the tincture or wine of Opium, is capable, under God’s blessing, of alleviating the sufferings of man to an amazing extent. Think of this, dear children, and the sight of the poppy will be more than pretty to your eyes.

In South America, beneath the ground, there grows a little insignificant root, of a brownish dingy colour, held in great estimation by the natives, and called, in their tongue, *Ipecacuanha*, or *vomiting root*. The blessing of this root also to man is very great. It has been known in Europe more than two centuries. Louis XIV. of France richly rewarded Helvetius, who first discovered its value in cases of dysentery. It is now much used in the medical practice of our own country. The briefest glance at the substances which are used medicinally will unduly extend my letter ; but I must not pass them over, as the enumeration of the principal will furnish you with many proofs of the tender mercy of God in providing alleviations for the sickness and bodily pains brought in by sin.

In thinking over the long catalogue of these mercies, my attention is first attracted by the *medicinal springs* which are found in various places of the earth. These are springs of water impregnated with peculiar salts and gases, and are resorted to and drunk by numerous invalids for the cure of their several disorders. Some are called *acidulous* springs; that is, they contain some acid, commonly carbonic acid, which escapes in sparkling bubbles when the water is poured from one vessel into another. Such are the springs at Seltzer, Spa, Carlsbad, &c. Other springs are called *alkaline*, from having a large amount of soda or other alkali mixed with their water. These are however very uncommon.

Chalybeate waters are those impregnated with iron in some form. These have an inky taste, and turn black if an infusion of gall-nuts be added. These springs are common. Tunbridge, Cheltenham, and Brighton contain chalybeate springs. Again, there are what are named *sulphurous* waters, which have an unpleasant odour and taste from the presence of a peculiar gas. At Aix-la-Chapelle and Harrogate there are such. Others are remarkable for their *saline* character. Epsom, from whence the well-known *salts* take their name, Cheltenham, Bath, and various continental places are provided with these springs.

There are also *hot-springs* of every degree of temperature, which are greatly and deservedly prized by the sick and infirm.

Among the more remarkable medicinal agents is *alcohol*. It has a value as a stimulant in certain cases, either pure, or as wine; but its chief value consists in its power to dissolve other substances and form with them tinctures—as tincture of opium (laudanum), tincture of aloes, &c. As a beverage,

alcohol, or spirits, in any form, is at least unnecessary to almost all persons, and generally most pernicious to the health.

But I will just run over the names and properties of a few of these substances; and that you may be able to refer to them, I will speak of them in alphabetical order.

The *Acids* are perhaps the most important class of agents existing. For besides possessing extraordinary powers alone, they combine with other substances in an almost infinite variety of forms, and constitute by far the principal number of chemical compounds. There is *Carbonic acid*, which is one of the most abundant. Alone, it forms the refreshing soda-water; combined, it gives us the carbonate of soda, which we use in making cakes and unfermented bread; carbonate of ammonia, our smelling salts; carbonate of magnesia, carbonate of lime, (common chalk,) and many others. The sour taste of some of our fruits, and especially the lime and lemon, depends on the presence of *Citric acid*. This is an invaluable medicine to the sailor, being a remedy against the ill effects of a continual salt diet, to which seamen are compelled to submit from the impossibility of keeping fresh meat during voyages of any length. *Muriatic acid* is another important acid. It is sometimes called "spirit of salt," from its being a principal ingredient of common table salt. It forms a number of valuable compounds. *Nitric acid* is one of the most powerful acids. In the Arts it is much used. Saltpetre is a familiar example of one of its compounds. You all know how terribly important this substance is in the manufacture of gunpowder. *Acetic acid*, of which common vinegar is an impure form, is also a most valuable acid. The process of pickling, and many other

culinary processes, depend upon it; and it is of extensive application in medicine. Aromatic vinegar is acetic acid with perfumes. Acetate of ammonia is much used under the name of "Mindererus's spirit," as a fever beverage. Sugar of lead is an acetate. Verdigris is a combination of acetic acid and copper. A valuable eye-water is acetate of zinc. These will suffice to give you an idea of the richness of this part of the medicinal list.

Aloes is the name of the dried juice of a plant growing plentifully in Bombay, the Cape, and other places. It is much used as a medicine for cattle. *Ammonia* is chiefly used as a stimulant; it has a well-known pungent taste and smell. *Antimony* is the active ingredient of Tartar emetic and James's powders. *Arsenic*, a valuable medicine in skilful hands, is chiefly notorious for its poisonous qualities. In cases of accident, if a stomach-pump be not procurable, every attempt should be made to induce vomiting, and large quantities of warm water should be given. *Belladonna* is derived from the "deadly nightshade," and is much used by homœopathic practitioners. It is a powerful poison. *Calomel* is a preparation of mercury. It is very much used at present by medical men in a great variety of different cases. It is a dangerous medicine from its durable effect on the system.

Cinchona, or *Bark*, is the well-known remedy for ague-fever. Modern science has extracted the beautiful Quinine from Bark; and this has almost superseded the former mode of administering the Bark itself. We are indebted to Peru for this medicine. But I must forbear what I intended, and pass on; for space would fail me to describe the immense variety.

There are Camphor, Chalk, Oil of Cloves, Creosote, Ether, Gums, Iodine, Ipecacuanha, Lime-water, Magnesia, Mercury, Nitre, Oils of various kinds, Potash, Resins, Salts innumerable, Sulphur, &c. &c.

Let these suffice to show you the Divine bounty and goodness in respect of healing our poor bodies. But oh! what is the apothecary's art to the healing of the Great Physician? What the renovated body to the soul's restoration? What the flow of health to the possession of the peace of God? Do we suffer ever so small a pain, immediately our medical friend is summoned to relieve it, while to souls dead in trespasses and sins are addressed the words, "Ye would not come unto me that ye might have life." Dear children, this is the healing ointment—the Balsam of universal application;—God gave all these admirable things of which I have been speaking, but "He so loved the world that He gave His only-begotten Son, that whosoever believeth in Him should not perish, but have everlasting life:"—

" Venture on Him; venture wholly;
Let no other trust intrude:—
None but Jesus
Can do helpless sinners good."

But who gave the medicinal herbs their properties? Even the compassionate Lord that made them. And surely on this third day, when the first parents of all the vegetable tribes came into existence in all their maturity, *man's benefit*, whose fall and subsequent *sickness* had been foreseen, was before the mind of the ever-blessed God; and so he gave the herb of the field—some thereof to be food, and some thereof for medicine.

And now we must consider, *lastly*, the vegetable kingdom as our GREAT FOREST, from whence may be hewn trees for the artificer, from the mountain oak to the lowly willow of the brook.

Solomon's knowledge of natural history is strikingly brought before us in that scripture, "He spake of trees, from the cedar that is in Lebanon even to the hyssop that springeth from the wall" (1 Kings iv. 33); evidently marking the two extremes of vegetation—the cedar, the kingly tree among the trees of the forest, and the hyssop, the lowliest of shrubs—"a root out of a dry ground." The mention of the cedar and the hyssop also occurs together in two other parts of Scripture, and is *most significant*. The first in the cleansing of the leper (Lev. xiv.); the second in the purifying of the Israelite who had touched the dead (Numb. xix). In the first case, *i. e.* the leper's cleansing, cedar wood, hyssop, and scarlet, with a living bird, were dipped in the blood of a bird, its fellow, just slain over living water, *without the camp*; and then the blood was sprinkled on the leper, and he was pronounced clean, and the living bird was let loose in the open field. In the second case, cedar, hyssop, and scarlet were cast into the devouring flame which consumed the unyoked spotless red heifer, which was burned to ashes without the camp, and the ashes being mingled with living water made the water of purification from sin, which, with a bunch of hyssop, by the hands of a clean man, was sprinkled, the third and the seventh day, on the one who had touched the dead, and he was clean. In both these types or shadows, the cedar and the hyssop set forth the glory and humiliation of that blessed sufferer, the Lord Jesus, who died as the great sacrifice without the camp.—*burnt to ashes in the consuming flame*,—that the unclean leper,

even the wretched undone sinner, might be cleansed, and the saint who had fallen might be restored. (1 John ii. 1.)

The Cedar of Lebanon.—This beautiful and interesting tree flourishes particularly, and almost only in the Lebanon region. Durability and fragrance are its characteristics. You all remember the smell of its wood from using the lead-pencils, and, as to its indestructibility, I will tell you that its bitterness preserves it from insects, and its resinous nature from general decay; so that beams of Cedar, used in the construction of a temple at Utica, were found to be sound above two thousand years afterwards.

Cedars grow well in England, but seldom reach a height above fifty feet, which is about one-third or a quarter of their full altitude on the mountains of Lebanon.

The Cedar belongs to a very important division of forest trees—the PINES; which may be said to be, upon the whole, the most valuable to man of any.

The Pines (or Firs) are of great variety, and are widely distributed. The principal of those found in AMERICA are the *silver fir*, which yields timber, and the beautiful *Canada balsam*, so valuable for preserving and rendering transparent small objects for the microscope; the *black spruce*, of strong, light, elastic timber; the *white spruce*, whose bark is used for tanning; the *hemlock spruce*, a noble tree, of inferior timber, but valuable bark; the *yellow pine*, of resinous valuable timber. Besides these, there are numerous others of various qualities and uses. In EUROPE, we have the *Scotch fir*, the hardiest and most valuable of all the pines; its timber furnishes the red and yellow deal of the carpenters. From its resins are produced tar, pitch, and turpentine. The *common larch*, this is next in

value to the Scotch fir—its timber is heavy, firm, and compact; the *Norway spruce*, which rises to two hundred feet—its timber is the white deal. The *silver fir*, much used for ship-building and carpentry, with about eight other sorts. In ASIA there are the following: *the cedar*, of which I have spoken, and about twelve other varieties which yield timber of more or less value, but which are almost unknown to the arts in Europe.

Chittim-wood, called by some *the white thorn of the desert*, was used in the wilderness for the boards of the Tabernacle and all the holy vessels, and was covered with the purest gold—except the Altar of Burnt Offering, the covering of which was brass. When the wandering was over, and the people had entered the land, the cedar-tree took the place of the Chittim-wood, and of it the beams, rafters, &c., of the Temple, and all the vessels of the Sanctuary, were formed, and then covered with gold: not, indeed, the ark—there was but *one ark*, both for the Tabernacle in the wilderness and the Temple, and that was made of *the wood of the wilderness*; and though, when placed in its pavement of gold in the most holy place in the Temple, the staves, the symbol of its wilderness state, were taken out, yet were they left visible, resting on the golden rings. And if the Temple sets forth the final state of blessedness of the righteous, when all shall be purity, which many of the best of men have thought, then may not this symbol of the ark, both in its wood of the wilderness and the place of the staves, mark this truth, that the children of God will *for ever remember* that God tabernacled with them, and wandered with them through the wilderness of this world, to bring them to his resting-place—even the dwelling-place of the Most High?

Not only did Solomon build the Temple with hewn stones and the cedar, but in the Most Holy place, there was cut *on* the cedar, in relief, cherubim and palm-trees, which afterwards were covered over with gold ;—all this was doubtless most significant. But we will pass on to the other trees of the forest.

The Oak.—Of all the trees of the forest the Oak is the greatest favourite with English people ; and where durability is desired, there is no tree, the cedar excepted, that surpasses it. In England there were once large forests of this noble tree ; but our plantations have not kept pace with our consumption—hence we are obliged to have recourse to foreign markets. The oak timber imported from America is very inferior to our own. The Oak is a very majestic-looking tree, and has a beautiful spreading foliage ; the fruit of it is called the acorn. It is not confined to cold countries, but flourishes even in Palestine. At no great distance from Nazareth, Burckhardt found everywhere a grateful shade of fine oaks ; and the country round Damascus seemed to owe part of its attractiveness to large plantations of this tree. The wood of the Oak is used for ship-building—it is pre-eminent for this : the house carpenter also makes considerable use of its timber for beams, rafters, staircases, and wainscoting ; and from the bark the physician gets a useful tonic, and the tanner, by its astringent properties, converts the skins of animals into leather.

One species of the Oak supplies us with *Cork*, which, as you know, aids man in a variety of ways, from the little stopper of a phial to the fisherman's floats for his nets, and the safety linings of a life-boat.*

* Large pieces of cork fastened underneath the seats of a *common* boat, give it the character of a life boat.

Then, as to the Acorn, the fruit of the Oak, it proves a nutritive food for many animals, and, in times of necessity, *has been used by man himself*: and the curious *excrescence* on the young shoots, called oak-gall, is the principal substance of which writing-ink is made. Thus every part of this favourite tree is useful; for not only does it provide shelter and food in its numerous insect depredators for birds of every wing, and grace our plantations, but, as you have seen, the ship and house builder—the physician and farmer—the bleacher and fisherman—the sailor and wine-merchant, go to some part or other of this valuable tree for their various wants; and the ink made from the oak-gall puts us in possession of our dear absent friends' thoughts, though they be buried in the wilds of Australia. Ere I close about the Oak, I may say, that most little boys remember the 29th of May as oak-apple day, which commemorates the deliverance of King Charles II., who escaped his pursuers by secreting himself in a large Oak.* Thus, my beloved children, the next time you sit under the shade of an Oak, count over how many things this noble tree is used for, and think of the goodness of God, who thus considered man, when he created it on the third day.

The Elm is a very lofty tree; it grows taller than the oak, but is not so spreading in its branches: it abounds in Devonshire, and in the most fertile districts of England; and there are some of peculiar beauty in Torquay and Paington. The Elm is useful to the turner for pumps—blocks; and the carver, seeing how little the Elm chips, cuts out his leaves and flowers from

* The period of King Charles's escape was A.D. 1651;—the Oak was situated in the farm of Boscobel, belonging to a farmer called Penderell, in Staffordshire, and was ever after called *The Royal Oak*.

it. The undertaker, too, makes his coffins of Elm. It is difficult to decide whether the Elm is intended in Hosea iv., for the same word is in other places translated oak.

The Ash is a tree very beautiful in its foliage, and in the smoothness of its bark, and has an almost endless variety of uses; its chief properties are *toughness and flexibility*. Men of all trades go to the Ash for some description of their tools; and the little boy, when he cannot get a piece of yew for his bow, always considers the Ash *the next best*; and the sailor, well knowing the *fine spring* of an ash-oar, never chooses any other. Thus the Ash meets us with help on every side. The mountain ash is of smaller stature than the Ash itself, but it looks beautiful with its white blossoms of spring, and the red berries of autumn. In plantations it affords many a delicious repast to the little songsters of the wood. The medicinal substance *manna* exudes from the bark of a species of Ash.

The Beech is a great favourite with turners and upholsterers; and for the cog-wheels of water-works, it is said even to surpass the *oak*. Its leaves, when dried, are sometimes used for mattresses: while the nuts, wrapped up in their little prickly covering, afford many a sweet meal to the beautiful little squirrel, who loves to dwell near the fruitful Beech. The grain of the wood of this tree is so hard and fine, that in old times, before mill-board was made, they used to cover books with it.

The Poplar.—This well-known tree was in great request with our forefathers for avenues, but now the custom of planting it in this way has grown into disuse: yet its very stateliness adds greatly to the beauty of the landscape.

The Aspen belongs to this family. The leaves of this tree have a longer stem than most others, *thus the least air moves them*; and on a sultry day there is something inexpressibly refreshing to hear the *gentle murmur* in its topmost branches. The wood of all this family is used by the turner for white vessels.

The Alder is used for water-pipes and sluices, and also in old times for ship building. It bears wet admirably. The bark is used by dyers.

The Walnut Tree is fragrant in its leaves—very fragrant—and delicious in its fruit, which, in its green state, is also made into pickles. The wood of the Walnut is of a beautiful dark colour, and is used by joiners, &c. The Walnut abounds in Kent, especially near Maidstone. One of the principal uses of the wood of the Walnut tree is for the stocks of guns, for which an immense quantity is required.

The Chestnut is a favourite with most little boys, owing to its fruit, which, however, is not very wholesome, unless the nuts are roasted. The wood of the Chestnut is esteemed next to the oak in value for furniture and other purposes. The apparent soundness of the tree is sometimes deceptive; though it makes a fair show, it is decayed at the heart; affording a painful illustration of those who look well before men, but whose souls are not right with God.

The Willow.—This lowly tree was used by Israel in the construction of their commemorative dwellings at the great feast of Tabernacles. The lofty cedars I alluded to furnished the uprights and rafters of their beautiful dwellings, and among them the Willow of the brook was entwined—the one the woof and the other the warp. But I will enlarge on this again.

The chief properties of the Willow are flexibility and lightness; and I may add, ease of propagation and exceeding rapidity of growth. But to speak of its uses:—we were watching a man the other day fishing in his little *coracle*; presently we saw him paddle to the shore, and to our astonishment (for until of late we were strangers to the river Wye) he took up his little vessel on his shoulders, and went away as if it were only a great coat and umbrella in one. The Willow of the brook had formed his boat, after which it was covered with canvas, and the whole did not weigh above 22 lbs. *Baskets* of all kinds are made from the young shoots of this tree; and when its white wood is split very fine, it is made into bonnets and hats.

The Weeping Willow is one of the most elegant and graceful trees we know. It is generally found over ponds and lakes. The ancients were wont to sculpture either the cypress or the willow over the tombs of the departed:—the *Jewish* burying ground in the island of Curaçoa, one of the windward islands of the Caribbean sea, which I visited about twenty-eight years since, has some beautiful specimens of sculpture of this kind.

The Mahogany Tree is a native of Jamaica and Cuba; it grows to a great height, and its wood is used for all kinds of furniture. An immense quantity of Mahogany is brought to this country, and the annual duty on their importation exceeds 60,000*l*.

The Caoutchouc Tree.—I must not forget this singularly useful tree, from which we obtain India rubber; for though many plants, in a measure, yield a juice of the same character, yet the Elastic Gum-tree of South America supplies the principal demand. The Indians have, from time

immemorial, known its value; using it for bottles, boots, cups, and flambeaux, and even in the construction of a sort of cloth. The gum is obtained by boring the tree, and receiving the *flowing* juice in shells. In England, the difficulty would be to say what Caoutchouc is not used for. There are India-rubber great coats, clogs, boots, &c. It is a most valuable gift to man.

The Ebony Tree yields the darkest of woods, and is very durable: it is a native of the East Indies.

Then there is the *Sandal-wood Tree*; the *Rose-wood*; the *Brazil-wood*, of a beautiful red; the *Box Tree*; with many others, all most useful to man. But I must pass on, although I have dwelt somewhat upon the trees of the English forest, as being more familiar to us.

And now, dear children, I must conclude this long letter; but long as it is, it is only a brief outline of the subject;—my anxiety, you know, is, that in your walks it may not be the mere beauty and loveliness of creation that you should admire; but, searching into these manifold gifts of God,* we

* The parts of vegetation I here dwell upon, are those more immediately in relation to man; but if I introduced the animal creation at large as benefited, both in their dwelling-places, food, and medicine, the subject would be endless. The trees, grasses, flowers, fruit, herbs and leaves, both green and dry, all afford a boundless variety to them; for the Lord opens his hand, and fills all things living with *plenteousness*. And in winter, when all nature seems at rest, then strength is gathering for the spring. And how wonderful is the mutation of nature!—look at that heap of dried leaves and all kinds of things swept together: death seems to reign there; but it is for a time only; for in the spring (that great type of resurrection) all this apparent hideous deformity shall nourish the seeds sown therein, and they shall spring up in every form of fruitfulness and beauty—sown literally in weakness, raised in power.

may see goodness and loving-kindness crowning all his works. How sweet is that language of David, and especially in the busy month of harvest:—
“Thou visitest the earth, and waterest it: thou greatly enrichest it with the river of God, which is full of water: thou preparest them corn, when thou hast so provided for it. Thou waterest the ridges thereof abundantly: thou settlest the furrows thereof: thou makest it soft with showers: thou blessest the springing thereof. Thou crownest the year with thy goodness; and thy paths drop fatness. They drop upon the pastures of the wilderness: and the little hills rejoice on every side.” (Ps. lxxv. 9—12.)

Believe me, my dear children,

Your affectionate Father.

THE CREATION.

LETTER VI.

AGAIN, THE KINGDOM OF HEAVEN IS LIKE UNTO A MERCHANT MAN, SEEKING GOODLY PEARLS: WHO, WHEN HE HAD FOUND ONE PEARL OF GREAT PRICE, WENT AND SOLD ALL THAT HE HAD, AND BOUGHT IT.—*Matthew* xiii. 45, 46.

MY DEAR CHILDREN,

I WAS struck, some months since, in reading the account of the ceremony that takes place in the Brazils when a slave finds a diamond;* and it brought forcibly to my mind the passage in our Lord's ministry, concerning "the pearl of great price;" for though the analogy is not perfect in all its parts, yet in its great features it is. And who can tell the emotions of the poor slave as he holds up the precious gem and claps his hands, exulting in his prize? and who can look unmoved on his intense anxiety, until he hear the word from the overseer's lips,—"*It has been weighed in the balance, and has passed the demand: there is no speck or flaw in it;*—THE SLAVE IS FREE!" Life is in that word. So it is with "the Pearl of great price:"—BEYOND PRICE,—it MORE than answers the demand for freedom, for the Lord magnified the law and made it honourable; there is no speck or flaw in it,

* See Appendix.

for he was the beloved Son in whom his Father's soul *delighted*; for the Lord was *well pleased* for his righteousness' sake. (Isaiah xlii. 1, 21; Matt. xii. 18.) The possessor of this precious pearl *is free indeed*—he is freed *by the great Administrator*, who purchased his freedom by his own life;* and now he goes forth to work indeed—not *for* life, but *from* life, and clothed with beautiful raiment, the gift of God, a habitation awaits him, of joy unspeakable, and full of glory. If, when the tidings reached the Islands of the West, that England had wiped away the great blot of slavery from her laws, at a national expense of 20,000,000*l.*, and had decreed that all born in her dominions should be free, the joy was unbounded, *how much more* should the Christian rejoice when the glorious proclamation is gone out, “God so loved the world, that he gave his only-begotten Son, that whosoever believeth on him should not perish, but have everlasting life?” (John iii. 16, 18.) This is indeed freedom; and God gave not for the redemption the most glorious thing he had created;—that would have failed, and been utterly without avail; but he spared not his Son, *his only Son*, and gave him up for us all. (Rom. viii. 32.) O dear children, think on this; and whilst you rejoice (and every one ought to rejoice) that the man-stealer has been stopped, both in the taking of his prey, and in the traffic of the market, yet *rejoice still more* when the strong man armed, that kept the city of man's heart, is bound and cast out, and the Holy Spirit has taken his place, dwelling in, and ruling over the new-born man, *sealing him unto the day of redemption*.

* “Feed the Church of God, which he hath purchased with his own blood.”—Acts xx. 28.

How glittering must the breast-plate of Aaron have looked with those twelve precious gems set therein, in the curious embroidery of the blue, purple, scarlet, and gold, of the Ephod ; which, with a chain of wreathed gold, was fastened to the two shoulder-pieces, wherein were also two precious stones, and the NAMES of the twelve tribes *engraved* on both. The names also of Christ's children, *the Israel of God*, are engraved on his heart : and are more precious to him than the glowing ruby, the sparkling diamond, the sapphire, the jasper, and all the gems on Aaron's breast-plate : indeed, he calls his people his jewels, his peculiar treasure. (Mal. iii. 17.) *The affection of the High Priest, and the power of the High Priest, are wreathed in one*, as set forth by *the golden chain* that fastened into one the precious stones on the heart and shoulders of Aaron ; and there is never a moment that the Lord Jesus, the great High Priest of the true Israel,—circumcised with the circumcision made without hands—does not bear every one, even to the least little child that loves him, on his heart. Not a sigh, nor a tear, nor a grief is forgotten ; the hairs of their heads are all numbered by Him that feedeth the young ravens when they cry, and that watcheth over the sparrow : therefore they may not—they must not let go their confidence ; for they are of “ more value than many sparrows.” (Luke xii. 7.)

As twelve* precious stones shone in the breast-plate of Aaron ; so also

* The names of the precious stones in the breast-plate of Aaron.

Twelve Tribes. Exodus xxviii. 17.

Sardius	Ligurite	Topaz	Agate	Carbuncle	Amethyst
Emerald	Beryl	Sapphire	Onyx	Diamond	Jasper

twelve* precious stones formed the foundation of the Holy City, and, with the exception of four, they were the same in each case, and were doubtless emblematic of the exceeding value of the family of God. When, then, my beloved children, you look on any of these precious stones, think of that breast-plate of Aaron, and ask if *your name* is on the High Priest's heart, *before God*, and whether you have found the Pearl of great price, and sold all that you have to possess it. (Matt. xiii. 45, 46.)

I have been oftentimes much struck with that solemn, but yet most gracious prophecy of our Lord in Mal. iii. † “And he shall sit as a refiner and purifier of silver: and he shall purify the sons of Levi, and purge them as gold and silver, that they may offer unto the Lord an offering in righteousness. Then shall the offering of Judah and Jerusalem be pleasant unto the Lord, as in the days of old, and as in former years. The figure of a refiner is one of the deepest interest:—*the refiner never leaves the crucible*; the precious metal is of too high a value: as it purifies, it gets clearer and clearer, until at last the scum or dross is gone, and the image of the refiner is reflected as in a glass, in the molten gold; and this was the thing desired. So our blessed Lord never puts his children into the furnace of affliction, but to purify them; *to purge away the dross, and make them more like himself*: and this accomplished, the crucible is removed.

* The names of the precious stones in the foundations of the Holy City.

Twelve Apostles. Rev. xxi. 19, 20.

Jasper	Chrysolite	Sapphire	Beryl	Chalcedony	Topaz
Emerald	Chrysophrasus	Sardonyx	Jacinth	Sardius	Amethyst

† See Appen

How forcibly does the patriarch Job allude to this: "He knoweth the way that I take; and when he hath tried me, *I shall come forth as gold.*" (Job xxiii. 10.) The value of the word of God, and its infinite purity, is also beautifully illustrated by this figure. The words of the Lord are pure words, as silver tried in a furnace of earth, *purified seven times.* (Ps. xii. 6.) And again, the law of thy mouth is better unto me than thousands of gold and silver. (Ps. cxix. 72.) So also ver. 127, "I love thy commandments above gold, yea, above fine gold." Dear children, is David's language yours? can you thus speak of God's blessed word? This is how a man on the eve of execution would speak of the Queen's proclamation of pardon when read in his ears—all language would fail to tell its value. But the word of God proclaims tidings far above an earthly pardon; even forgiveness in the precious blood of Jesus. And the soul that receives these good tidings can say, passing on beyond the gold, even the gold of Ophir, "*the price of wisdom is above rubies,* and all the things thou canst desire are not to be compared to her: LENGTH OF DAYS is in her right hand—in her left hand riches and honour; her ways are ways of pleasantness, and all her paths are peace." (Prov. iii. 15—17.) And again in chap. viii., "My fruit is better than gold, yea, than much fine gold: I lead in the way of righteousness, in the midst of the paths of judgment; that I may cause them that love me *to inherit substance.*" (Ver. 19—21. See also ii. 4.) We have often read the 60th chapter of Isaiah* together. It contains a passage of exceeding beauty:—the prophet is evidently describing the

* The Canticles, or Songs of Solomon, also abound in illustrations from the precious stones and metals; likewise the Revelation of St. John. Eph. v. 22, &c. where the Lord is

tribes of Israel, in the last days, rising up into the favour of God; the days of their widowhood past, and their sorrows gone. "Thou shalt also suck the milk of the Gentiles, and shalt suck the breast of kings: and thou shalt know that I the Lord am thy Saviour and thy Redeemer, the Mighty One of Jacob. For brass I will bring gold, and for iron I will bring silver, and for wood brass, and for stones iron: I will also make thy officers peace, and thy exactors righteousness. Violence shall no more be heard in thy land, wasting nor destruction within thy borders; but thou shalt call thy walls Salvation, and thy gates Praise." Any comment of man on this word would but weaken it,—“Happy is the people that is in such a case; yea, happy is that people whose God is the Lord.”

Sometimes the figures are in judgment; and then, in allusion to the sternness of the metals, instead of the clouds dropping the fertile showers and the gentle dew; the earth yielding her thirty, sixty, and hundred fold; the word concerning the obstinate and obdurate Israel is, “I will break the pride of your power: and I will make your heaven as iron, and your earth as brass; and your strength shall be spent in vain: for your land shall not yield her increase, neither shall the trees of the land yield their fruits.” (Lev. xxvi. 19, 20.)

And so in Jeremiah vi., where, under the imagery of refuse rejected metals, the judgments of God are thus awfully described: “They are all grievous revolvers, walking with slanders: they are brass and iron; they revealed as the heavenly Bridegroom, the Church the Bride, is a key to the former; and a deep spiritual acquaintance with the Tabernacle and Temple service, would surely throw much light on the latter.

are all corrupters. The bellows are burned, the lead is consumed of the fire; the founder melteth in vain: for the wicked are not plucked away. Reprobate silver shall men call them, because the Lord hath rejected them."

The Rock is a figure frequently used in Scripture to denote stability and protection. In the song of Moses, which closed his forty years' ministry in the wilderness, how striking are these words:—"Because I will publish the name of the Lord; ascribe ye greatness unto our God. He is the Rock, his work is perfect; for all his ways are judgment; a God of truth and without iniquity, just and right is he." (Deut. xxxii. 3, 4.) The figure is also again introduced in ver. 15, 18, 30, 31; all denoting the same thing—great stability and perfection. But that which gives the Rock the deepest interest to the christian mind, is the application of it in 1 Cor. x. 3, 4; from which it is manifest that the rock, the water of which followed Israel through the wilderness, as well as the manna that came down from heaven, set forth the Lord Jesus. Yes, my dear children, He was the angel (the angel of the covenant) that was with his people in the wilderness, guiding all their ways. (Acts vii. 38.) He was also the Lion of the tribe of Judah, (Rev. v. 5;)—the true High Priest, (Heb. iii. 1;)—the Lamb of God, (1 Pet. i. 19;)—the Vail, (Heb. x. 20;)—the golden Mercy-seat, (Rom. iii. 25;)—the Bread which came down from heaven, (John vi. 33;)—and the Rock that followed. (1 Cor. x. 4.) Truly he was the Alpha and Omega of the church in the wilderness in type and shadow, as he is to the church now in reality and substance. (Rev. i. 11.)

Sometimes the church of God is set forth as a temple; then the stone—the tried stone—the sure foundation—the precious corner-stone Jehovah

laid in Zion, even that stone on which was engraven the seven eyes, only gets its ANSWER in our blessed Lord; for other foundation can no man lay, than that is laid, even Christ Jesus, (compare Isa. xxviii. 16, and Zech. iii. 9, with 1 Pet. ii. 6;) and he that builds on this foundation can never fail; for though the storm beat vehemently against his house, it falls not; it is founded on a rock—THE ROCK OF AGES. (Luke vi. 47, 48.)

The Rock is also blessedly introduced, as the emblem of protection and shade; and the traveller in an open plain can well understand the beauty of the text, when, reaching some towering rock, he shelters himself beneath its shade from the fervent heat of the sun. Such is the Lord: “the shadow of a great rock in a weary land.” (Isa. xxxii. 2.)

Sometimes in our walks in Ireland, we came between two heights, where the impending rocks seemed to threaten us with destruction; nothing could be more sublime, and we were glad to escape; and yet, when the sixth seal opens, and the Lamb of God is manifested, that countenance that beamed with compassion when he said, “Father, forgive them, for they know not what they do,” (Luke xxiii. 34,) shall then be covered with wrath; and so terrible will be the sight, that the wicked, high and low, rich and poor, bond and free, shall CALL on the mountains and rocks *to fall on them*, to hide them from *the wrath of the Lamb*. (Rev. vi. 12—17.)

The wrath of the Lamb! There is something inconceivably awful in this expression; indeed, the three characters in which the Lord Jesus was and is now manifested in mercy, will then be changed into judgment; for the Son will be angry, (Ps. ii. 12,) the Lamb will be wroth, (Rev. vi. 17,) and the Man will be Judge. (Acts xvii. 31; Rev. xx. 11, 12.) Oh, my

beloved children, may each of you “to-day, while it is called to-day,” flee for refuge to lay hold on the hope set before you. Now is the day of grace, and *now* there is rejoicing in the presence of the angels of God over one sinner that repenteth. (Luke xv. 10.)

I alluded to the *Harvest* in my last letter, and promised to enlarge on it a little in this. We saw the High Priest wave the sheaf of first-fruits the morning after the sabbath, which sheaf had been reaped previous to the sabbath, and laid up during the sabbath. This the Spirit of God, in 1 Cor. xv. 23, explains to us; and passing beyond the offering of thanksgiving for the temporal harvest, (though that is most blessed in its place,) we see in that wave sheaf the Lord Jesus, *raised from the dead*;—*gathered* previous to the sabbath—*laid up* during the sabbath—and *raised up on high* the morning after the sabbath, the first-fruits of an abundant harvest. To this the Psalmist alludes, for the original word is the same. There shall be *a handful, an omer* of corn in the earth, on the top of the mountains; the fruit thereof shall shake like Lebanon. (Ps. lxxii. 16.) Jesus was *the true corn of wheat* that fell into the ground and died, and brought forth much fruit. If he had not died, he would have remained alone; but he died, and rose, and revived, that he might be Lord both of the dead and living. (Rom. xiv. 9; 1 Thess. iv. 16, 17.)

If you search the Scriptures, my dear children, you will find abundance of passages where the figures taken from the creation of this third day are used by the Holy Spirit to set forth divine truth, but perhaps in none more than in the Psalms. I would call your attention particularly to those commencing at Ps. xevi. and extending to Ps. c. Ps. xcvi. and xcviïi., and

xcvii. and xcix., seem to go together; the two previous ones being the exhortation to the church to sing the hymn of triumph; and the two latter, the song itself. The scene is explained by Rom. viii. 22, 23: "For we know that the whole creation groaneth and travaileth in pain together until now. And not only they, but ourselves also which have the first-fruits of the Spirit, even we ourselves groan within ourselves, waiting for the adoption, to wit, the redemption of our body." But when the Second Adam, the Lord from heaven, shall be manifested, and all his saints with him, he will take unto himself his great power and reign, (Rev. xi. 15,) *and then will all creation rejoice.* Nothing can exceed the triumph of the Psalms I have alluded to:—"Let the heavens rejoice, and the earth be glad; let the sea roar and the fulness thereof; let the field be joyful and all that is therein: then shall all the trees of the wood rejoice before the Lord; for he cometh, for he cometh to judge the earth; he shall judge the world with righteousness, and his people with truth." (Ps. xcvi. 11—13; see also Ps. xcvi. 6—9.) You remember, my dear children, how beautifully our favourite poet Cowper speaks of this glorious period—the times of restitution, (Acts iii. 21)—

“ O scenes surpassing fable; and yet true!
 • Scenes of accomplished bliss! which who can see,
 Though but in distant prospect, and not feel
 His soul refreshed with foretaste of the joy?
 Rivers of gladness water all the earth,
 And clothe all climes with beauty: the reproach
 Of barrenness is past: the fruitful field
 Laughs with abundance; and the land, once lean,

Or fertile only in its own disgrace,
 Exults to see the thistly curse removed ;—
 The various seasons woven into one,
 And that one season *an eternal Spring.*—*Winter Walk at Noon.*

But not only do the Psalms, under these sublime similitudes, thus speak of the glories of the latter day ; they also set forth the more retired walk of the individual believer. How sweet is that description in Ps. i. of the man whose delight is in the law of the Lord :—“ He shall be like a tree planted by the rivers of water, that bringeth forth his fruit in his season : his leaf also shall not wither ; and whatsoever he doeth shall prosper.” (Ver. 3.) In winter, as in summer, the Christian bears his leaf ; and the Lord ever watches over him, and prospers him in his ways. One more Psalm I cannot but refer to, as it is among the earliest in my remembrance :—“ The righteous shall flourish like the palm tree ; he shall grow like a cedar in Lebanon. Those that be planted in the house of the Lord shall flourish in the courts of our God. They shall still bring forth fruit in old age ; they shall be fat and flourishing ; to shew that the Lord is upright : he is my rock, and there is no unrighteousness in him.” (Ps. xcii. 12—15.)

The New Testament does not so abound in figurative language as the prophetic parts of the Old, though indeed the instruction of our blessed Lord was greatly after this order. The parable of the Sower, and all the parables of Matt. xiii.—the scenes of every-day life—are used in spiritual instruction. And in that solemn word spoken on the Mount of Olives, but a few hours before the crucifixion, how forcible is the instruction from the

similitude of the VINE ! Christ is the TRUE Vine ; the Father the Husbandman ; his people the branches. There is no fruitfulness but by continually abiding in him. Fruitfulness is the effect of union, not the cause of it. The barren, fruitless branches are cut away ; and men gather them, and they are burned : but he that abideth in Jesus bears much fruit. The true Christian delights to do his Father's will ; he delights to abound in good works ; but he does not do them to be saved ; but being saved he does them ;—it is his meat and drink to do his heavenly Father's will. There is no *true morality* but by union with Jesus, and then it abounds ; and the Christian's standard is found in the Lord's exhortation, “ Be ye therefore perfect, even as your Father which is in heaven is perfect.” (Matt. v. 48 ; John xv.)

But ere I close this letter I must call your attention to one most beautiful figurative passage in the prophecy of Ezekiel, chap xvii., as it so vividly sets forth the glory of the Lord Jesus in the latter days :—under the parable of two great eagles, long winged and full of feathers, THE ONE cropping a sprig of the loftiest cedar of Lebanon, and transplanting it to a city of merchants, and then sowing the seed of the kingdom in a fruitful field, and it springing up a vine of low stature ; and THE OTHER strengthening this vine, which shot forth her branches towards him : the Lord sets forth the vain* attempts of the king of Babylon TO RAISE UP, and the king of Egypt TO SUCCOUR another branch of the house of Judah,

* The temporary reign of Jehoiakim, for three months, (who was then led captive to Babylon, according to the fourth verse,) was Satan's subtle but vain attempt to thwart the purposes of God.

when the Lord had, in Jehoiakim, (who had filled up the cup of his iniquity, by burning the word of God, Jer. xxxvi. 22—32,) closed up the kingdom until the Shiloh, the true Son of David, should come with Jehoiakim. The first parable of the two great eagles, having been thus explained by the Lord in ver. 12—15 of Ezek. xvii. and the destruction of Zedekiah (the vine of low stature) *plainly* prophesied in ver. 19—21, the Lord again resumes the language of similitude, and introduces the dominion of the true Son of David, the rod out of the stem of Jesse. (Isa. xi. 1.) “Thus saith the Lord God; I will also take of the highest branch of the young cedar, and will set it; I will crop off from the top of his young twigs a tender one, and will plant it upon a high mountain and eminent: in the mountain of the height of Israel will I plant it: and it shall bring forth boughs, and bear fruit, and be a goodly cedar; and under it shall dwell all fowl of every wing; in the shadow of the branches thereof shall they dwell.” (Ezek. xvii. 22, 23.*) This was the glorious One, who should be God’s salvation to the end of the earth, whose dignity the angel Gabriel thus announced, —“He shall be great, and shall be called the Son of the Highest: and the Lord God shall give unto him the throne of his father David: and he shall reign over the house of Jacob for ever; and of his kingdom there shall be no end.” (Luke i. 33.)

I might, my beloved children, mention numberless other passages from

* “Behold, the days come, saith the Lord, that I will raise unto David a Righteous Branch, and a King shall reign and prosper, and shall execute judgment and justice in the earth. In his days Judah shall be saved, and Israel shall dwell safely: and this is his name whereby he shall be called, THE LORD OUR RIGHTEOUSNESS.” (Jer. xxiii. 5, 6.)

the Prophets and the Psalms ; but, as I told you in my second letter, it was not so much as a concordance, but as *a little help* to your memory, that I purposed *these letters* on the illustrative language of scripture. Therefore I will now conclude with an earnest prayer that the Father of mercies may, by the power of the Holy Ghost, give you a *part and lot* in that heavenly country ; and that, gathered either in the great harvest, when the Son of Man shall be revealed with the golden crown and the sharp sickle, (Rev. xiv. 15,) or as a shock of corn, ripe in its season, (Job v. 26,) you may shine forth as the sun in the kingdom of the Father. (Matt. xiii. 43.)

Believe me,

Ever your affectionate Father.

THE CREATION.

LETTER VII.

PRAISE YE THE LORD. PRAISE YE THE LORD FROM THE HEAVENS: PRAISE HIM IN THE HEIGHTS. PRAISE YE HIM, SUN AND MOON: PRAISE HIM ALL YE STARS OF LIGHT.—
Psalm cxlviii. 1, 3.

DEAR CHILDREN,

THREE days the earth had revolved on its axis, and now the fourth morning opens with exceeding glory. The trees and herbs and flowers had indeed covered the earth with beauty, but yet without the gracious CREATION of the sun they could not continue: for just as the second day provided them beforehand *air* to breathe, so did the fourth send forth the bright and fervent rays of the sun, to open every flower, and to give the state of *absolute* perfectness to the trees, bearing fruit and seed after their kind.

The ordering of the fourth day is thus described in Gen. i.:—“ And God said, Let there be lights in the firmament of the heaven, to divide the day from the night; and let them be for signs and for seasons, and for days and for years: and let them be for lights in the firmament of the heaven, to give light upon the earth: and it was so. And God made two great lights; the greater light to rule the day, and the lesser light to rule the

F O U R T H D A Y



Drawn & Engraved by W Hughes

London: S. Bagster & Sons, Paternoster Row.

night: he made the stars also. And God set them in the firmament of the heaven to give light upon the earth, and to rule over the day and over the night, and to divide the light from the darkness: and God saw that it was good. And the evening and the morning were the fourth day." (Ver. 14—19.) *Instantly* the sun glowed in the firmament of the heavens, and the moon and the stars also, each in its own appointed orbit; and the creation (I should gather from the verses I have quoted) not only embraced what is called the solar system, *i.e.* the sun, moon, and planets, but the whole of the celestial luminaries—"the starry host"—whether fixed or planetary.

The light of the first day was indeed glorious; but it had no glory, by reason of this glory that excelled; for the sun, the future source of light, was ALL GLORIOUS, and came forth on this, the first day of its creation, as a bridegroom out of his chamber, and rejoiced as a strong man to run his race. (Ps. xix.) And when, by the daily rotation of the earth, the sun had sunk in the western sky (the first sun-set in the new world) to light up in its course the other parts of the globe; then as the light faded away, that vast concave above us, which had been from the second day as the deep and heavy azure, now became illumined with innumerable bright and beautiful stars, some of one magnitude, some of another;—some comparatively so near to the earth, that the agitated atmosphere did not ruffle the rays of light passing from them; others so remote, that though of amazing magnitude, they twinkled as their rays reached us. And then the moon, nearly at its full, rising in the opposite sky, where the sun had set, seemed to come forth the queen of the night, to rule over it as

the sun had over the day ; and so the evening and the morning were the fourth day. I remember, when very young, being struck with those sublime lines, I think of Dr. Young :—

“ Behold this midnight glory ! worlds on worlds !
Amazing pomp !—redouble this amaze ;
Ten thousand add ; add twice ten thousand more ;
One soul outweighs them all.”

The glory and the mercy of this fourth day's creation are so vast, that, like as it was on the third day, I hardly know where to begin, in describing them to you ; for the sun is not only the source of light and heat to us, and the principal cause, under God, of all vegetation, but it also gives light to the moon and planets, which, in its absence, shine upon us. But in a lesser point of view, all our astronomical calculations depend entirely on the known *distance, position, and motion* of the heavenly bodies, which to all countries, and especially a commercial island, like our own, is of immense importance ; and, excepting to those who have witnessed it, the accuracy with which *the pathway* of a ship is marked through the great ocean seems almost incredible ; so that it not unfrequently happens that a vessel will come from Sydney to the English Channel, and not be ten miles out of her reckoning ; and if I remember right, your uncle T. made the Scilly lights within four or five miles ; that is, he found himself, after traversing some thousands of leagues, *just where he expected to be*, within four or five miles ; and though his *chronometer* (which, as you know, is a watch, or larger time-piece, constructed with extreme accuracy, whose balance-wheel is so formed

as to be uninfluenced by changes of temperature) was of the first importance to him, it would have been of little use without the sun.

A summer without sunshine, and we should have a famine;—a winter without the sun's occasionally cheering the earth, and most of the seeds would perish: but the Lord has given the ordinances of heaven for man's blessing; and summer and winter, seed-time and harvest, day and night, all come round according to their Creator's will and promise. (Gen. viii. 22.)

I have been oftentimes struck with that graphic narration of Paul's voyage, in Acts xxvii.; but the climax of the storm seems wrought up to the highest pitch in that description of ver. 20: "And when neither *sun nor stars in many days appeared*, and no small tempest lay on us, all hope that we should be saved was then taken away." But there was One with Paul, who had him in his care,* and he could either rebuke the storm or protect him in it: the latter was his will, and *thus it was* "that some on boards, and some on broken pieces of the ship; and so it came to pass, they all came safe to land." (Ver. 44.)

Relative to the heavenly bodies, it is the opinion of some of the best and most learned of men, that they are inhabited; but this, as they themselves would readily allow, *is all conjecture*—they may, or they may not be; for the Scripture, which is the only book which could give us information on the subject, (because it was written by Him who made them,) is entirely silent concerning it. I am not aware that from Genesis to Revelation there is the slightest or most remote hint that such is the case. But it has been

* "Lo, I am with you alway, even unto the end of the world." Matt. xxviii. 20.

said that it so enlarges our thoughts of the majesty and greatness of God to imagine all this glory : systems on systems, and the glorious throne of the Lord the sun of all—the source of light to all! But, my beloved children, we need not go abroad into the region of conjecture to get ideas about God's greatness; there is one subject connected with our earth, so full of glory, that if our souls were rightly directed, they would never be taken from it; and this object is the *cross of the Lord Jesus Christ*—THE WISDOM OF GOD; for THERE mercy and truth meet together, righteousness and peace kiss each other, (Ps. lxxxv. 10;) THERE Justice sheathes her glittering sword, and is the *advocate* of all who flee to the cross for refuge, (1 John ii. 1;) THERE Mercy rejoices; for from the cross go forth blessings that never fail while there is an empty vessel to fill, (Luke xv. ;) THERE righteousness gets its full answer, for that blessed Sufferer who by that cross expiated sin, did in his own person magnify the law and make it honourable, (Isa. xlii. 21.) Indeed, had there been one blemish, one personal blot on him, he could not have been a sacrifice; but God's Lamb, the only-begotten of the Father, was holy, harmless, undefiled, separate from sinners, made higher than the heavens: THERE peace gets authority for its blessed message of good-will to man; for Jesus made peace by the blood of his cross, (Col. i. 20;) he was the One that was pre-eminently the Peace-maker, and had by nature and by right that BEATITUDE:—“Blessed are the peace-makers, for they shall be called the children of God.” (Matt. v. 9.) Oh, my beloved children, if a man's soul be once steadily fixed on the cross of that blessed One who was with the Father over all, God blessed for ever, (Rom. ix. 5;) all other glories will fade.

Supposing to-day that there were some astronomer, who had delighted in the thought that all the fixed stars were, like our sun, the centres of other systems, and that worlds on worlds were spread out illimitably on every side, but yet whose thoughts concerning his own future existence were all in vague uncertainty. If tidings came to him, *for the first time*, that the Son of the ever-blessed God had become a man, and had bled and died upon *this very planet, this earth, this speck in creation*, and moreover that he had died for him, to bring him to peace here and happiness hereafter; and if the Spirit of God blessed these tidings to him, so that he believed them, and realized the blessed truth, *and knew in his own soul that he was forgiven*, (Luke vii. 48;) that his sins were put away, (John v. 24;) that he was adopted into the family of Him who made him, (Gal. iv. 6, 7;) taken from the wretchedness of nature and set among princes, to inherit the throne of glory, (compare Eph. ii. 1—6, with 1 Sam. ii. 8;) beloved children, the eye of that astronomer *would be fixed on that cross of Calvary*; he would go to Jesus without the camp, bearing his reproach; and there he would offer ceaseless songs of praise, (Heb. xiii. 12—15,)—ONE OBJECT, one vast object, would fill his soul, and the language of his heart would be, “God forbid that I should glory, save in the cross of our Lord Jesus Christ, by whom the world is crucified unto me, and I unto the world,” (Gal. vi. 14;) and this cross of Christ would supply him with infinitely more enlarged views of the glories of God than all his former speculations.

The word astronomy is taken from two Greek words, meaning “the law of the stars.” Astronomy was the earliest of the sciences, and this seems most natural; indeed, God says that his invisible glory is mani-

fested by that which is seen, so that the idolater is left without excuse. (Rom. i. 20.)

When we consider the great disadvantages the ancients laboured under, in the want of telescopes,* &c., the extent of knowledge they acquired concerning the heavenly bodies is wonderful.

The heads of the two great schools of ancient astronomy were Pythagoras and Ptolemy. The former was a native of Greece, and flourished five centuries before the Christian era, and the latter two hundred and twenty years after. Ptolemy held that the EARTH was the great centre round which the sun and all the heavenly bodies revolved. Pythagoras held the SUN to be the centre, round which the earth and planets all revolved; and thus he accounted for the APPARENT movement of the heavenly bodies. The system of Ptolemy, though now nearly exploded, prevailed for ages; but in the fifteenth century, COPERNICUS, a native of Thorne, in Polish Prussia, revived the principles of Pythagoras, and from him the Solar system is called the Copernican system. GALILEO,† a native of Florence, in the next century, followed in the same line; and to him we are indebted for the knowledge of the telescope; he also determined from observation that the sun revolved on its axis. Then came Kepler, born at Wirtemberg, a man of great genius; and, finally, the system was established by the means of our illustrious countryman, Sir Isaac Newton; so that now a follower of Ptolemy is rarely met with.

* See Appendix.

† So strenuous was the opposition to the views of Galileo, that he was obliged, at the command of the church of Rome, to retract his opinions.

It was by the swinging of a lamp that Galileo was led to investigate the laws of the oscillation of the pendulum, which he was the first to apply as a measure of time, but he left the subject incomplete. His son, Vincenzo, improved upon his father's labours, and Huygens perfected it, who thus may be considered the true inventor of the pendulum clock. The telescope was not, strictly speaking, invented by Galileo, but he so improved it, that the heavens became opened to him by its powers to an astonishing degree.*

“Mere curiosity, without reference to practical utility, would prompt mankind to study the movements of the vast machine which rolls over our heads; but the application of astronomy to the affairs of life are so numerous and important, that an accurate knowledge of its principles is almost indispensable to society. First—It is by means of the celestial bodies that we are enabled to determine the relative positions of points on the surface of the earth, to fix geographical latitudes and longitudes, and ascertain the dimensions and form of our planet. Second—It is to astronomy that we are indebted for all the advantages resulting from navigation. With this knowledge the mariner can direct his course to any given coast; and the ocean, which, without this science, would present an insuperable barrier to the intercourse of distant countries, is rendered the ‘highway of nations.’ Third—Astronomy also presents us with the means of establishing the divisions of time necessary for the regulation of civil affairs, and of fixing chronological epochs. The diurnal revolution of the sphere gives the smaller divisions of time; the revolution of the moon gives the

* Popular Encyclopædia, vol. iii. p. 346.

month; that of the sun, the year; and the various configurations of the planets mark out periods of all magnitudes, from a few months or years to millions of ages."—*Brande*.

Having thus introduced the subject of astronomy, by this brief reference to its history, I will now call your attention, first, to the Solar system, and then to the heaven of the fixed stars.

THE SOLAR SYSTEM.

The SUN is the *centre* of the Solar system, and never moves from its place. It revolves on its axis in twenty-five days ten hours. The sun is the source of the Earth's light, heat, and vegetation. The diameter of the sun is 890,000 miles, so that its magnitude is more than a million times greater than the bulk of our earth; and if you could imagine our globe to swell out and reach the moon, it would still have to go 200,000 miles beyond it, ere it occupied a space equal to the sun's enormous bulk.

The distance of the sun from the earth is upwards of 95,000,000 of miles; and yet so fervent are its rays, that, on a summer's day, before it is noon, we are glad to shelter ourselves from its burning heat. A cannon ball at its highest velocity would be ten years reaching the sun. Sound would require five years to reach the earth from the sun. A ray of light could not travel the mighty space in less than eight minutes.

It seems impossible to ascertain what the precise character of the body of the sun may be. Sir Isaac Newton, and the great French astronomer La Place, imagined it to be *a body of fire*; but the opinion that now

obtains is, that it is an opaque body, surrounded with a fiery atmosphere. The dark specks on its disk are thus accounted for.

THE PLANETS.

Immediately dependent on the sun are the planets, all deriving their light from him. These all revolve round the sun in unequal periods of time: those which are within the orbit of the earth, make their annual revolution in less than our year, and those planets which are beyond our orbit, in a period greater than our year, according to the extent of their respective orbits. But, to prevent confusion in your minds as to their relative sizes, &c., I have drawn out a table of the planets,* with their names, distances from the sun, the duration of their annual circuit, and their size as compared with the earth.

Some of the planets have moons or satellites; the *Earth* has one, *Jupiter* has four, *Saturn* seven, *Uranus* six. The motion of these moons is from west to east, excepting those of the last named planet, which are from east to west.

The planets whose orbits are less than the earth's orbit are called *Inferior*, and those without *Superior*.

The planets are preserved in their orbits by a two-fold attraction; the sun ever attracting them to the *centre*, and their own tendency to fly in a straight line impelling them from the centre; but let us now view them for a little in their order.

* See Appendix.

Mercury is the smallest of the *primary* planets, as well as the nearest to the sun. We consequently know little of his constitution from the superior blaze of the sun's light. If Mercury be inhabited its people must be able to bear intense heat, for the sun shines with seven times more brilliancy and heat than on our earth. Mercury is about one-sixth as large as the earth. The year of this planet, that is, its circuit round the sun, is only eighty-eight days.

Venus.—This beautiful planet is a good deal larger than Mercury, and farther from the sun; her bulk being nearly that of the earth. Venus travels round the sun in about seven and a half of our months. Her revolution upon her axis occupies about half an hour less than our own. It is called a morning or an evening star, according as it rises before the sun or sets after him.

THE EARTH.

I have preferred waiting until we reached the orbit of the earth, to explain to you a few particulars concerning it. Here, indeed, we can speak with more certainty, as from the most accurate observations, its size, &c., have been all ascertained.

The earth is a dark opaque body, and has no light of its own. It is composed of sea and land, in the proportion of three-fourths water to one-fourth dryland. The earth is about twenty-five thousand miles round; its shape, however, is not a perfect globe, as it is rather flat, like an orange, at the poles; so that if a line were run from the equator through the centre

to the other side, it would extend twenty-five miles further than if run through the earth from pole to pole.

The earth has two motions, one diurnal, or daily, the other annual, or yearly; by its diurnal motion, it revolves on its axis once in twenty-four hours, and this gives the changes of day and night; by its annual motion it performs its circuit in the heavens round the sun in three hundred and sixty-five days six hours, and this gives the changes of the seasons; and thus it is that the Lord's gracious purposes are fulfilled—"Seed time and harvest, cold and heat, summer and winter, day and night," fulfil their course. (Gen. viii. 22.)

The earth's annual pathway, as she passes on through the heavens, is at the rate of fifty-eight thousand miles an hour, and yet all this while we are not sensible of the least motion whatever; for though we revolve round, as well as hasten on, with this inconceivable velocity, yet we are quite unconscious of it. *The sun appears to change its place, but yet is fixed; we appear fixed, and yet are never still.**

"In the ordering of these events, we trace the hand of an Almighty Creator, ever watchful over the comforts of the human race.

"The inclination of the earth's axis to the orbit in which it travels, and its constant direction to the same point in the heavens, viz., the pole, afford us the agreeable changes of summer and winter, spring and autumn.

* This you will see strikingly illustrated on board a ship passing up the river Thames, with a *strong flood tide* and easterly wind; THERE IS NO PERCEPTIBLE MOTION, the vessel appears fixed, and the land seems *approaching, passing, and receding* from you, and this is especially the case if you are looking through the cabin windows; and yet the reverse is the real fact.

“ If the axis of the earth, or the line round which it turns, were upright and not slanting, the parts about the equator would be *constantly* exposed to the full effects of the sun’s rays, and be burnt up with intolerable heat : the day and night would be *equal all over the globe*, and the *same season* reign perpetually.”*

Thus, in place of the grateful vicissitudes of the seasons, the earth at *the equator* would be *always* parched with burning heat, and countries *in our latitude* would have *always* a cold and cheerless spring, while a stern unyielding winter would reign in the higher regions of the north ; but our God is a God of mercy and of love, and thus it is that every country has its harvest ; and though the summer of the north *is short*,† it is blooming and fresh.

The earth’s atmosphere I have treated of at large in the day of its creation. (Page 19.)

THE MOON.

This grateful planet, which cheers us through the night, has been the continual theme of poets as well as of astronomers; and *this too in all countries*. How beautiful is the language of our own Milton :—

* See a very valuable little Treatise on Astronomy, by the Rev. G. T. Hall.—Parker, Strand.

† Journal of a Lapland and Siberian Summer.—“ *June 23*, snow melting ; *July 1*, snow gone ; *July 9*, fields green ; *July 17*, plants full grown ; *July 25*, plants in flower ; *August 2*, fruit ripe ; *August 18*, snow.”—*Sharon Turner’s Sacred History of the World*, vol. i. p. 208.

“Fragrant the fertile earth
 After soft showers; and sweet the coming on
 Of grateful evening mild; then silent night,
 With this her solemn bird, and THIS FAIR MOON,
 And these the gems of heaven—her starry train.”

Paradise Lost, book iv.

Although the moon does not convey to us any heat, but simply reflects from its surface the light of the sun, yet the language of Moses in the blessing of Joseph seems to imply that the moon is the source of vegetation to some things. “The precious things put forth by the moon,” can hardly bear any other meaning. (Deut. xxxiii. 14.) The margin makes the word “moons,” and this indeed may mean the months, each yielding fruit in its appointed season.

The blessing of the moon to the earth is very great. “It rules the night;” and in those countries where the sun is so long absent, its presence must be *invaluable*. Its effects on the earth are considerable: this is shown especially in its power over the waters, which, by a powerful attraction, it draws towards its disk, making them rise* many feet above the usual level. This action of the moon on the waters produces what is called “THE TIDES,” the *benefit* of which to man cannot be told; by it the waters are kept continually agitated, and thus are preserved pure; and, in a commercial point of view, do but watch the operation of the Tides on the Thames, or the Mersey, the Clyde, or the Shannon, or any of the great

* As the waters nearest to the moon are *most* drawn up, so the waters opposite must be *least* drawn up; and thus the tide is “flood” at the same time on both extremes of the globe.

rivers, on which commerce sends its thousands of ships, and you will at once see the importance of the ebb and flow of the waters. Notice the anxiety with which mariners of all nations await the commencement of the “ebb tide” to carry their vessels out of port, and the “flood tide” to carry them in; and every sailor, and many a landsman too, knows the sprightliness of that sound,—“THE FLOOD’S MADE;” the anchor then is soon up, and THE WHOLE BODY OF THE OCEAN becomes the sailor’s friend, to carry him to the port or haven where he would be. (Ps. cvii. 30.) But not only does the sailor benefit by the moon in this particular, but many of his most valuable calculations are derived from the same source, especially the *lunar observations*. The *chronometer*, which the sailor carries with him, *always tells what the time of day at Greenwich is*, (its owner setting it to the Observatory clock before he leaves port;) consequently, when I am on the ocean, if I know the time where I am, (and this the sun will always tell me,) then the difference between the chronometer, which shows what the time is at Greenwich, and my time, is my difference of longitude in hours; and one hour being equal to fifteen degrees, the calculation of how far round the earth I have travelled is soon made. But the watch or chronometer *may be* wrong, (if there are *two*, and they agree, then, in general, it is safe,) but the lunar observations are *invaluable*, as a check on the chronometer and common reckoning. The “Nautical Almanack” gives certain tables which tell the distances between the sun and moon, or the moon and some particular fixed star, at a *given time at Greenwich*—the distances also observed on board the ship, and *the time* ascertained,—the difference of time is the difference of longitude. Once on coming from the

Chesapeake to Bermuda, a distance only of 600 miles, our *common reckoning* was wrong 100 miles,* but the lunar observations were correct within two or three leagues; this, however, was thirty years since, and the chronometer was then hardly known; the fact was, we were some days in that extraordinary current called the *gulf stream*, and then all calculations that are not made on the heavenly bodies are baffled. But not only to the mariner, to the farmer is the moon valuable. And here I must tell you something of the HARVEST MOON.

The moon rises later and later every day, but the difference of time varies at different seasons of the year: sometimes there being an hour's interval, sometimes only a quarter, and at the autumnal equinox even less. At that period, the moon is in that part of her orbit where the time of her rising on successive evenings alters the least; in fact, *for some days* its variation is only a few minutes; *it lingers on the earth*, as if in sympathy with the harvestman, so that the sheaves may be gathered in. How gracious is this provision, for not only does the Lord "crown the year with his goodness," but by this merciful appointment, *prolongs the day!* Who can reflect on this, and not see the most marked and most merciful design in all the appointments of God! (Ps. lxxv. 1—11.)

The moon, like the earth on which it attends, is an opaque body, and derives all its light from the sun. Its diameter is about 2,000 miles, that is, one-fourth of that of the earth, and so its magnitude is about 1-49th of it. Its distance from us is about 240,000 miles, that is, equal to the length of a cord passed ten times round the earth; so that a traveller who has

* See Appendix.

gone ten times round the world, has travelled a journey equal to the moon's distance: this calculation seems to bring that planet very near to us; and two hundred days' journey, at fifty miles an hour, would just equal the distance.

THE MOON'S PHASES.

The moon never presents the same appearance to us on two successive evenings; for as it is ever changing its relative position with the sun and the earth, so its PHASES or appearances vary. We watched the new moon the other evening,—the sun had sunk in the western sky; after a little while we discovered its beautiful silver crescent, which seemed to be looking for the sun, as it was the part of its disk next the sun that was illuminated; the following night the crescent was enlarged, it had caught more of the sun's rays; and in five nights more (for it was on the second day of its age we first saw it,) it was half illumined; and on the fourteenth night it *faced the sun*, AND THE WHOLE ORB WAS BRIGHT. But you may say, my dear children, if the sun had sunk, and the earth was between it and the moon, would not the earth eclipse the light of the sun, and shut it out from the moon? Yes, this would be the case if the earth were actually between the sun and moon, but this is not the case always when it may appear so to us: however, this intervention of the earth occasionally happens, and your question, therefore, leads me to say to you a little about the principle of eclipses.

ECLIPSES.

An eclipse is the darkening of one heavenly body by the shadow of some other heavenly body. It occasionally happens that the earth and moon, in travelling together round the sun, pass between one another and that great luminary their common source of light; when, therefore, the moon happens to be in a direct line between us and the sun, she obscures the light of the sun. If the moon is near to us at the time, more of the sun's light is intercepted; and if she is at her greatest distance from us she cannot cover the whole of the sun's immense face, and an annular eclipse is formed; that is, you see the shadow of the moon in the centre of the sun, and a ring of light all round. When, however, the earth gets exactly between the sun and the moon, the moon is eclipsed. There are numerous other eclipses of the planets and their moons, but what I have said about our earth will enable you to understand the principle of all the rest. I dare say the next time one of your friends puts his head in the light of the lamp, as you sit round the table, you will ask him to make the *eclipse* as short as possible.

The darkness at the Crucifixion was altogether miraculous: it was connected with the terrible vengeance of God, "the outer darkness" gathered round the head of that most blessed sufferer, who, with the handwriting of ordinances that was against us, and contrary to us, nailed to his cross, suffered there the just for the unjust. (Compare Col. ii. 14, with Gal. iii. 13, and Mark xv. 33, 34.)

How beautifully Young, in the fourth night of his "Night Thoughts," alludes to this:—

“ And was the ransom paid? it was: and paid
 (What can exalt the bounty more!) for you.
 The sun beheld it—no, the shocking scene
 Drove back his chariot; midnight veiled his face;
 Not such as this—not such as nature makes;
 A midnight nature shuddered to behold;
 A midnight new! a dread eclipse (without
 Opposing spheres) from the Creator’s frown!
 Sun, didst thou fly thy Maker’s pain? or start
 At that enormous load of human guilt
 Which bow’d *His blessed head?* ”

Having spent so much time in considering our own habitation, THE EARTH, and its Moon; let us now pass on and see what is the next planet in the heavens;—it is Mars.

Mars, which is so named after the heathen god of war, because its red colour gave rise to the idea of bloodshed, is fifty millions of miles further from the sun than the earth. This red hue is supposed to be caused by either an actual redness of the substance of the planet, or owing to the presence of a dark foggy atmosphere. Mars is about half as large as the earth. The year of this planet is nearly twice as long as our own, and his day about half an hour longer than ours. If we could see our earth from the surface of Mars, it would look just as Venus does to us now.

Vesta, *Juno*, *Ceres*, and *Pallas*, are at nearly the same distances from the sun, and are very small. *Vesta*’s year is equal to nearly four of ours; *Juno*’s to rather more than four years; *Ceres* to nearly five years; and *Pallas* about five years.

Jupiter is the largest planet of our system, its diameter being eleven times greater than the earth's, and is next in brilliancy to Venus; at times it even surpasses Venus in brightness. The *bulk* of Jupiter is thirteen hundred times greater than that of the earth; but although it is so large, it is far less solid than our earth, and his *weight* (if we could place both in a great pair of scales) would be found not more than 350 times more than the earth's. Our year would make just one of Jupiter's months, for Jupiter is twelve of our years going round the sun. The discovery of the moons of Jupiter, by Galileo, was one of the first fruits of the invention of the telescope. Jupiter has four moons attendant on him, which can be seen with a good common telescope; the knowledge of the motions of these is very valuable. The times of their eclipses, as seen at Greenwich, are marked in the Nautical tables, and the time of the same eclipses being noted in another part of the globe, the difference of time is the difference of longitude: of course this cannot be done at sea. The discovery of these satellites and their eclipses also determined *the important astronomical fact*, that light was not communicated instantaneously, but that it occupied TIME in coming from a luminous body to the eye.*

Saturn is still more remote from the sun than Jupiter. Saturn has seven moons, and is also encircled with a brilliant broad ring, sometimes exceeding in brightness the planet itself; Saturn is nearly as large as Jupiter, but its want of solidity is very remarkable. It has been calculated that it is not heavier than a ball of the same bulk made of deal or other light wood. Saturn's bright ring is a solid substance, for it casts

* See Appendix.

a shadow from the sun on the planet. It is about $29\frac{1}{2}$ years travelling round the sun. The satellites, or moons, of Saturn, are estimated to be as large as the planet Mars.

Uranus, or *Georgium Sidus*. This used to be considered the last of the planets, and was thought to be placed in the *utmost bounds* of the solar system; another planet has, however, lately been discovered, of which I will speak directly. *Uranus* completes its vast orbit in about eighty-four of our years. Its bulk is about equal to eighty earths.

Le Verrier's Planet, as it is at present called, was discovered in September, 1846. Little or nothing is yet known about this heavenly body, but the circumstances under which it has been discovered are so extraordinary, that I am sure a reference to them will interest you.

Astronomers had found that the last-mentioned planet, *Uranus*, moved irregularly; it seemed to be diverted from its exact course by the agency of some unknown body; and Le Verrier, a Frenchman, was led to calculate how much was this movement, and how large a body it must be to produce it, and how far from *Uranus* such a body ought to be to affect it as had been observed; and he arrived at the conclusion by mere calculation, that there must be another planet beyond *Uranus*, and he actually pointed out where it would be found. It was found just where he affirmed it must be!

THE COMETS.

Ere we leave the solar system, to pass into the regions of the stars, we must not omit to consider this singular order of heavenly bodies.

The word Comet is derived from the Greek word for *hair*, and probably the ancients thus applied the word on account of the luminous tail that almost always accompanies them. Though irregular in their movements, yet the return of some of the Comets has been predicted with great accuracy. They are supposed to be of inconsiderable size.

The number of the Comets which come within the range of the earth's orbit is estimated at about 1,400. The return of most of these cannot be predicted. Some of them have been observed however with accuracy, and their time of revolution is known.

THE HEAVEN OF THE FIXED STARS.

Leaving the solar system, one is lost in amazement in passing on into the boundless regions of the apparently motionless stars, all shining in unborrowed lustre; the thought of the Psalmist irresistibly recurs to the mind, "When I consider thy heavens, the work of thy fingers, the moon and the stars, which thou hast ordained; what is man, that thou art mindful of him? and the son of man, that thou visitest him?" (Ps. viii. 3, 4.) And again, how sublime is that appeal to Job, when the Lord

evidently in direct reference to the starry heavens, says,* “Canst thou bind the sweet influences of the *Pleiades*, or loose the bands of *Orion*? Canst thou bring forth *Mazzaroth* in his season? or canst thou guide *Arcturus* with his sons? Knowest thou the ordinances of heaven? canst thou set the dominion thereof in the earth?” (Job xxxviii. 31—33.) Yes, beloved children, God WALKETH in this circuit of the heaven, (Job xxii. 14,) and all these orbs of light move at his direction; he has appointed them “for times, and for signs, and for seasons.”

In the absence of the moon, “THE STAR-LIGHT OF NIGHT” is most cheering; and in an astronomical point of view, the knowledge of the stars is very valuable; night after night have I at sea beguiled the time in watching this or that fixed star coming to its meridian, and by taking its altitude, ascertained the latitude of the ship: of course these observations, from the obscurity of the horizon, cannot be so accurate as those taken from the sun; but if the sun has not been seen for many days, then they become very valuable; the polar star, with some slight variations allowed, may be thus taken *any hour of the night* when the sky is clear.

The distance of the fixed stars from us is beyond our calculation: it may be thus illustrated:—“If we look down a straight road, the pathway on each side seems to unite in the distance; *and at this point*, if there were two trees, one on each side, they would *appear one*; but as we walk along the road, the trees gradually separate, and we see the road beyond them;

* Again, how striking is that reference to the constellations in Job ix. 1—10. See also Amos v. 8.

now the earth at one period of her revolution is a hundred and ninety millions of miles *nearer* to some fixed stars, than she was six months before, yet this *enormous space* makes *no difference* betwixt any of the fixed stars; *how vast* then must be their distances from us!" *

The brightest of the fixed stars is Sirius, but even *its* rays twinkle as they reach us; in this respect the fixed stars differ from the planets, whose light is steady. We have eleven stars of the *first magnitude* visible to us; these are found in the following constellations:—

In *Canis Major*, one called Sirius; in *Taurus*, one called Aldebaran; in *Gemini*, Castor; in *Leo*, Regulus; in *Virgo*, Spica Virginis; in *Scorpio*, Antares; in *Ursa Major*, Dubhe; in *Auriga*, Capella; in *Bootes*, Arcturus; in *Lyra*, Vega; in *Aquila*, Altair; and in *Cygnus*, Deneb. In the constellations visible to the Southern hemisphere of the earth there are seven other stars of the first magnitude. These constellations are groups of stars imagined to have some resemblance to the objects whose names they bear. Since it was necessary to define the position of each star, the ancient astronomers adapted the plan of dividing the whole starry heavens into the imaginary figures of men, women, animals, and other objects; as you may see are depicted on any celestial globe. These figures have of course no corresponding limits in the sky, but they serve well enough to arrange the stars into groups or constellations, and by the aid of the device we can readily find any large star we want. Twelve of these constellations, which appear to occupy the space behind the sun as we travel round him, are called the signs of the Zodiac. Their names are *Aries*, *Taurus*, *Gemini*,

* Rev. T. G. Hall's Exercises in Astronomy, p. 21.

Cancer, Leo, Virgo, Libra, Scorpio, Sagittarius, Capricornus, Aquarius, and Pisces. The English names of these have been arranged in a little verse easy enough to remember.

The *Ram*, the *Bull*, the heavenly *Twins* ;
 And next the *Crab*, the *Lion* shines,
 The *Virgin* and the *Scales* ;
 The *Scorpion*, *Archer*, and *Seagoat*,
 The *Man that bears the Waterpot*,
 And *Fish* with glittering tails.

As to the *number* of the fixed stars, it is calculated, that on the brightest star-light night we can seldom see more than two thousand; *yet are the stars numberless.* (Gen. xv. 5.) Dr. Herschel says, when gazing on the MILKY WAY, that beautiful galaxy of light so like a wreath of bright silvery clouds fixed in the azure sky, that he observed five hundred and eighty-eight stars through his telescope *at the same time*, and they continued, as the revolution of the earth moved his telescope across the heavens, equally numerous for a quarter of an hour.

Thus, my dear children, I have sought to bring before your minds the blessings of this fourth day's creation; *little, indeed, I have said compared with what might have been said*, for the subject is boundless. I have endeavoured to give as much information about the heavens as I could in so small a compass as a letter, but I know the subject is one of profound depth; "a few pebbles have been gathered on the sea-shore," Sir Isaac Newton so beautifully and humbly said, "but the illimitable ocean is before us," and yet the little we do know is, as I before remarked, of amazing benefit to us.

A little while, and the whole scene will fade away, for the day is hastening when the heavens shall be gathered together as a scroll, and as a vesture shall the Lord fold them up, and they shall be changed. (Ps. cii. 26; Heb. i. 12.)

Beloved children, may the Lord give to each of you *to be His own*, so that *that day* shall have no terror in it to you; but with loins girded, and lamps burning, may you wait His return, (Luke xii. 35,) who shall rise "THE SUN OF RIGHTEOUSNESS, with healing in his wings." (Mal. iv. 2.) Then shall the night pass away, and all will be joy, *unutterable joy*, to those who love His appearing. (2 Tim. iv. 8, compared with Heb. ix. 28.)

Believe me, dear Children,

Ever your affectionate Father.

THE CREATION.

LETTER VIII.

THEIR LORD, IN THE BEGINNING HAST LAID THE FOUNDATION OF THE EARTH ; AND THE HEAVENS ARE THE WORKS OF THINE HANDS : THEY SHALL PERISH ; BUT THOU REMAINEST ; AND THEY ALL SHALL WAX OLD AS DOOTH A GARMENT ; AND AS A VESTURE SHALT THOU FOLD THEM UP, AND THEY SHALL BE CHANGED : BUT THOU ART THE SAME, AND THY YEARS SHALL NOT FAIL.—*Hebrews* i. 10—12.

MY DEAR CHILDREN,

I HAVE been thinking much of the scene to which I alluded at the close of my last letter, and of the verses especially which I have selected as a motto for this. That which so forcibly strikes me, is the progression we had made in passing on from one planet to another, thousands and millions of miles ; until, having reached the just discovered planet, we found ourselves in the utmost known bounds of the solar system ; from thence we passed on into the boundless *heaven of the fixed stars*, and here all calculation was at an end, and space seemed lost in *infinitude* : and yet this is the language of Scripture concerning those illimitable heavens : “ As a *vesture* shalt THOU fold them up, and they shall be changed.” Consider this figure, “ *as a vesture.*” That starry sky shall be folded up, shall be changed ; whatever this in its extent may signify, it conveys at one glance the most vast and sublime conceptions of the power of God ; yes, *those*

hands once suspended on the cross of Calvary, shall one day fold the azure sky together: "they shall perish, but Thou endurest; they shall wax old as doth a garment, and as a vesture *shalt Thou fold them up*, and they shall be changed." The quotation of Psalm cii., by the apostle in Hebrews i. 10, most explicitly applies this act to that Blessed One who died for us.

I will again recur to this subject at the close of this letter, but will now seek to bring before your minds some of the scriptures that draw their illustrations more especially from the fourth day's creation. Let us first, then, turn to the Old Testament, and remember that the testimony of Jesus is the spirit of prophecy (Rev. xix. 10); to him gave all the prophets witness (Acts x. 43); and thus, whether in Moses, in the Prophets, or in the Psalms, (Luke xxiv. 44,) we shall (if we search, by the Spirit's guidance) find HIM THERE, even Jesus, the Alpha and Omega—the beginning and end—the first and last of all Revelation. (Rev. i. 8.)

How beautiful is the nineteenth Psalm, "The heavens declare the glory of God; and the firmament sheweth his handywork. Day unto day uttereth speech, and night unto night sheweth knowledge. There is no speech nor language, where their voice is not heard. Their line is gone out through all the earth, and their words to the end of the world. In them hath he set a tabernacle for the sun, which is as a bridegroom coming out of his chamber, and rejoiceth as a strong man to run a race. His going forth is from the end of the heaven, and his circuit unto the ends of it: and there is nothing hid from the heat thereof." Now we are not left to conjecture in the application of the figures of this Psalm; the Spirit of God, in the Epistle of Paul to the Romans, (chap. x. ver. 18,) explains it

to us, and shows, that as the heavenly bodies visited all parts of the globe in their circuit; so had the gospel gone out to every creature, yes, to every creature, for there is no limit to “these glad tidings of great joy to all people,” (Luke ii. 10,) none are to be hid from its blessing. But what is the great character of the gospel message? It is Jesus. Philip went down and preached Christ at Samaria, and testified to the eunuch of Jesus (Acts viii. 5, 35); this was the name wherewith he was named by the angel, (Matt. i. 21,) because, as the name implies, he should save his people from their sins; you remember, I believe, all of you, the sweet hymn of Cowper:—

“How sweet the name of Jesus sounds
 In a believer’s ear!
 It soothes his sorrows, heals his wounds,
 And drives away his fear.

“It makes the wounded spirit whole,
 And calms the troubled breast,
 ’Tis manna to the hungry soul,
 And to the weary rest.”

Yes, this is the name which is above every name (Phil. ii. 9); and this Psalm most beautifully sets it forth. Now suppose we look again at the fifth verse: “In heaven hath he set a tabernacle for the sun, which is as a bridegroom coming forth of his chamber; and rejoiceth as a strong man to run a race.” Jesus, the true Sun of Righteousness, (Mal. iv. 2,) is the heavenly bridegroom; and he, by the Spirit, dwells ever in his church, (1 Cor. vi. 19,) and manifests through her his own light. The church is

his tabernacle, "the goodly building fitly framed," (Eph. ii. 21,) and her office is to make the circuit of the globe, to go to every creature and preach Jesus—and Jesus only, as the way—the truth—the life (John xiv. 6); she is to proclaim the blessed message of mercy far and wide, nothing is to be hid from the heat thereof. The church of God is essentially missionary—her field of operation is the habitable globe, and "*every creature*" her only limit (Matt. xxviii. 19); she has received the light of the knowledge of the glory of God in the face of Jesus Christ, (2 Cor. iv. 6,) *not to hide it*, but to manifest it; not to put her light under a bushel, but to place it on a candlestick, that it may give light to all that are in the house (Matt. v. 15); but we must read the whole portion through, for it beautifully shows forth how the Lord, by the ministry of the word, *converts, enlightens, makes wise, makes glad, and establishes* a people unto himself; and the last verse is one of the sweetest and most blessed of prayers for the child of God to use: "Let the words of my mouth, and the meditation of my heart, be acceptable in thy sight, O Lord, my strength and my Redeemer." Commit this Psalm to memory, dear children, and whenever you find the Old Testament quoted in the New, *know that you have God's exposition of his own truth*; cherish it, and may his whole mind be to you, as this Psalm says, more precious than gold, yea than much pure gold, sweeter also than honey, and the honeycomb (Ps. xix. 10); but, as I said, all the Psalms testify of Jesus, and for your instruction I just subjoin a little selection on the life of our Lord, with New Testament references.*

The eighty-fourth Psalm has also a beautiful illustration drawn from

* See Appendix.

this fourth day, "How amiable are thy tabernacles, O Lord of hosts!" This Psalm is evidently the meditation of an Israelite absent from the courts of the Lord, in one of the intervals of the three great feasts (Exodus xxiii. 14). I shall have, however, again to recur to this Psalm in my observations on the fifth day's creation, and will therefore now simply allude to the closing verses. "The Lord God is a sun and shield, he will give grace and glory, and no good thing will he withhold from them that walk uprightly;" whatever the sun is, to gladden the day, to make fruitful the harvest, to cheer the traveller, such is the Lord to his children. The *early* blessings of grace, and the *final* blessings of glory, the seed-time now, and the harvest hereafter, are all from Him, who delighteth in the happiness of his children.

The sun, moon, and stars, are introduced very strikingly in the second dream of Joseph, which he told to his brethren; and Jacob's application, or unfolding of the dream, shows us that he understood the sun to set forth himself—the head of the family; the moon deriving her light from the sun—his wife; and the eleven stars—his family. And one may hereby get a key to the understanding of these figures, in this relation; for our Lord himself, the head, the bridegroom of his church, is called the Sun of Righteousness; and the church, deriving all her light from him, is called the moon; and the children of God are said to shine as the stars for ever and ever, (Dan. xii. 3;) though in the passage of the Canticles that speaks of the church as the moon, it also compares her to the sun: "Who is she that looketh forth as the morning, fair as the moon, clear as the sun, and terrible as an army with banners?" (Song of Solomon, vi. 10;) so also

(Matt. xiii. 43) the children of God are said to shine forth as the sun in the kingdom of their Father: but this blessedly sets forth the people of the Lord under another figure, even as *the sharers of his glory* (Eph. v. 30); sitting with him—his bride—his elect one, in whom his soul delighteth. (Ps. xlv.)

The vision of the Transfiguration, again, most strikingly introduces this figure of *the sun*: the Lord had said to his disciples that there were some standing by him, who should not taste of death until they had seen the Son of man coming in his kingdom, (Luke ix. 27,) *concerning which he had just been speaking*; and after eight days* he took Peter, James, and John, and went up into a mountain alone; and whilst in prayer, suddenly that countenance that was so “marred more than any man’s, and his form more than the sons of men,” became transfigured, and SHONE AS THE SUN, and his raiment became white as the light; there were also two others with him *in glory*, whom Peter recognised at once as Moses and Elijah; the former had died, and God had buried him, and concerning his body, SATAN had been rebuked by the archangel Michael when contending with him; and the other—Elijah, without tasting of death had been caught up to heaven in a chariot of fire. Now, dear children, what did this vision of glory, for such doubtless it was, signify? Evidently the kingdom of God,—the foreshowing of the Son of man coming in his kingdom; for so St. Peter explains it, when he says he was an eye-witness of HIS MAJESTY. (2 Pet. i. 16.)

* In the seventeenth of Matthew it says *six days*, but Luke included the day on which the Lord spake, and the day of which he spake; this reconciles the apparent difficulty.

There was the King in the dazzling brightness of his glorified body; Moses as the earnest of the raised saints; and Elijah of the living; and Peter, James, and John, *in the body*; and yet, unlike Daniel by the waters of Ulai, and John in Patmos, capable of sustaining this superhuman glory; they had not, as the Lord had promised them, tasted of death, and they had seen the Son of man coming in his kingdom.

But one of the most blessed allusions to the sun, is in the conversion of Saul of Tarsus. He was on his way to Damascus, bent on the destruction of the church, when suddenly there shone round about him A GLORY above the brightness of the sun—ABOVE it; and what a change was this from that scene of Calvary, then the sun was darkened, while the righteous judgment of death visited that holy surety; now the sun is eclipsed *by the greater glory* of that blessed One, in his risen splendour, and he that ere now lay a dead man in the sepulchre of Joseph, can say in all his power as King of kings and Lord of lords, "I AM JESUS whom thou persecutest. But rise, and stand upon thy feet: for I have appeared unto thee for this purpose, to make thee a minister and a witness both of these things which thou hast seen, and of those things in the which I will appear unto thee; delivering thee from the people, and from the Gentiles, unto whom now I send thee, to open their eyes, and to turn them from darkness to light, and from the power of Satan unto God, that they may receive forgiveness of sins, and inheritance among them which are sanctified by faith that is in me." (Acts xxvi. 15—18; see also chap. ix. 3, &c.)

In the Revelation also the symbol of the sun is frequently used; "An angel descended from heaven, whose countenance was as the sun." (Rev.

x. 1.) “There was a great wonder in heaven: a woman clothed with the sun.” (Rev. xii. 1.) I refer you to the passages; I do not attempt to explain them; but there is a blessing on him that reads, and hears, and keeps the words of this prophecy, for the time is at hand. (Rev. i. 3.) The book of the Revelation is deeply mysterious,* but the soul *that waits* upon God, gets light on the word; *patient waiting* in the spirit, and the shoes from off the feet, is the way we should approach God’s Scriptures. It was a great word of St. Peter, “If any man speak, let him speak as the oracles of God.” (1 Pet. iv. 11.)

The figure of the morning star is very striking; often have I at sea watched this planet, the harbinger of day, than which nothing could be more beautiful. When the moon was not up, its brightness was such that its rays might be seen sparkling on the water. At first a faint streak of light is seen in the eastern sky—in a few minutes it rapidly increases, till “the morning spreads upon the mountains,” and the east glows with light;—and in a little time the sun arises, and from beneath its wings sheds health, and verdure, and glory. Both these figures are applied to our blessed Lord; he is the Root and Offspring of David, the bright and the morning star (Rev. xxii. 16); he is the Sun of Righteousness, that rises with healing in his wings. (Mal. iv. 2.) Thus, my beloved children, the sun by day, and the moon and stars by night, not only bring to us temporal blessing, but also beautifully set forth divine truth.

Sometimes *the stars alone* are used in illustration. The Lord had promised Abram, when he called him out of Ur of the Chaldeans, that he

X * See Appendix.

would make of him a great nation, and that all the families of the earth should be blessed in him (Gen. xii. 1, 3); but years elapsed; and therefore, when the Lord the second time appeared to him, with the promise of blessing, the answer of the patriarch was, "*I go childless*" (Gen. xv. 2); and then it was that the Lord brought him abroad, and said, "Look now toward heaven, and *tell the stars if thou be able to number them*: and he said unto him, *So shall thy seed be*; and Abram believed God, and it was counted to him for righteousness." After this those sacrifices took place, which were commanded of God, and these must have occupied the whole day, for it was when the sun went down that the horror of great darkness fell upon Abram; when he saw the smoking furnace and burning lamp pass between the divided animals; thus God ratified his covenant with Abram, and gave unto his seed the land, from the river of Egypt to the great river, the river Euphrates. (Gen. xv. 18.)

Sometimes, however, the sun is used as the instrument and emblem of judgment; thus, its scorching rays beat upon the defenceless head of the disobedient prophet (Jonah iv. 8); so also in the parable of the Sower, it detected the shallowness of the stony ground hearer (Matt. xiii. 6—21); but he whose eyes are lifted up to God for strength and protection, shall not be hurt by it. How sweet is the word of the Psalmist, "The Lord is thy keeper: the Lord is thy shade upon thy right hand. The sun shall not smite thee by day, nor the moon by night. The Lord shall preserve thee from all evil: he shall preserve thy soul. The Lord shall preserve thy going out and thy coming in from henceforth, and even for evermore!" (Ps. cxxi. 5—8.) Once in the Old Testament, the stars in their courses

are said to have fought against the enemies of God: it was at the defeat of Sisera; and mention of it occurs in the triumphant hymn of Deborah (Judg. v. 20). At another time, also, the sun and moon stood still a whole day, until Joshua had fully effected his victory. (Josh. x. 12.) And for the strengthening of Hezekiah's faith, the sun-dial of Ahaz went back ten degrees. (Isa. xxxviii. 8.) THESE WERE MIRACLES. And he that made the sun, and moon, and stars of light, stayed them in their course: *they were miracles*, and happy is it for man not to attempt to explain them; God spake, and it was done; he commanded, and it stood fast; and this is enough for the humble child of God to know.

In the Prophecy of Joel, (ii. 31,) also in that of our blessed Lord himself, (Matt. xxiv. 29,) the heavenly bodies are represented as being shaken, in the terrors of the approaching judgment; and so also in the opening of the sixth seal, for then "the sun became black as sackcloth of hair, the moon became as blood, and the stars of heaven fell unto the earth, as a fig-tree casteth her untimely figs, when she is shaken of a mighty wind" (Rev. vi. 13); and terrible indeed will be that day to the wicked and impenitent, to the thoughtless and the gay: *but not to the righteous*; to them the future is THE DAY, the present is the Night;* and the night is far spent, the day is at hand (Rom. xiii. 12); for not only are they not to fear the day of the Lord, but to long for it, to be looking for, and hasting unto the coming of the day of God (2 Pet. iii. 12); to lift up their heads

* The taunting inquiry of Edom to Israel, and the Prophet's answer, are most strikingly descriptive of present things: "Watchman, what of the night? watchman, what of the night? the morning cometh, also the night: if ye will inquire, inquire ye: return, come." (Isa. xxi. 11, 12; see also 2 Pet. iii. 6.

when they see it appear (Luke xxi. 28); to groan within themselves, waiting for the adoption, to wit, the redemption of the body (Rom. viii. 23); for when the Son of man shall be manifested, and they shall see him again, their heart shall rejoice, and their sorrow shall be turned into joy (John xvi. 22); then in a moment, in the twinkling of an eye, they shall be translated (1 Cor. xv. 52); caught up to meet the Lord in the air, and so shall ever be with the Lord. (1 Thess. iv. 17.) How striking is the description of the redeemed in Rev. xxi. 2, 3, and 22—24; “And I John saw the holy city, new Jerusalem, coming down from God out of heaven, prepared as a bride adorned for her husband. And I heard a great voice out of heaven, saying, Behold, the tabernacle of God is with men, and he will dwell with them, and they shall be his people, and God himself shall be with them, and be their God.” “And I saw no temple therein: for the Lord God Almighty and the Lamb are the temple of it. And the city had no need of the sun, neither of the moon, to shine in it: for the glory of God did lighten it, and the Lamb is the light thereof. And the nations of them which are saved shall walk in the light of it: and the kings of the earth do bring their glory and honour into it.” But while the church of God will be thus happy and blessed in HER GLORY CELESTIAL, the ancient people of God, THE JEWS, will also be blest in THEIR GLORY TERRESTRIAL; for when the fulness of the Gentiles is come, all Israel shall be saved; for there shall come out of Zion the Deliverer, and turn away ungodliness from Jacob (Rom. xi. 26); then shall their light be most bright, for this is the word concerning them: “Moreover the light of the moon shall be as the light of the sun, and the light of the sun shall

be sevenfold, as the light of seven days, in the day that the Lord bindeth up the breach of his people, and healeth the stroke of their wound." (Isa. xxx. 26.) Then shall the nations come to their light, and kings to the brightness of their rising (Isa. lx. 1); and, anointed in the fulness of the Spirit, they shall carry out the light to the nations, and Israel shall blossom and bud, and fill the face of the world with fruit (Isa. xxvii. 6); and so shall Malachi's prophecy be fulfilled: "From the rising of the sun unto the going down thereof, my name shall be great among the Gentiles" (chap. i. 11); then shall the seventh angel sound his trumpet, and the kingdoms of this world shall become the kingdoms of our God and of his Christ, and he shall reign for ever and ever. (Rev. xi. 15.) Thus:—

To the wicked, that have heard the gospel and rejected it, all will be sorrow and darkness.

To the Jew and converted Heathen will be great blessedness.

To the Children of God, waiting for the Lord, will be light and glory.

Beloved children, may God indeed bless you! may you be his own, and so shall *the day of the Lord open* to you with unutterable glory!

Believe me to remain ever,

Your affectionate Father.

THE CREATION.

LETTER IX.

AND GOD SAID, LET THE WATERS BRING FORTH ABUNDANTLY THE MOVING CREATURE THAT HATH LIFE, AND FOWL THAT MAY FLY ABOVE THE EARTH IN THE OPEN FIRMAMENT OF HEAVEN. AND GOD CREATED GREAT WHALES, AND EVERY LIVING CREATURE THAT MOVETH, WHICH THE WATERS BROUGHT FORTH ABUNDANTLY, AFTER THEIR KIND, AND EVERY WINGED FOWL AFTER HIS KIND: AND GOD SAW THAT IT WAS GOOD. AND GOD BLESSED THEM, SAYING, BE FRUITFUL, AND MULTIPLY, AND FILL THE WATERS IN THE SEAS, AND LET FOWL MULTIPLY IN THE EARTH.—*Genesis* i. 20—22.

MY DEAR CHILDREN,

THOUGH the sun had shone with brightness and glory on all the newly-created beauty of the third day; yet still, up to the morning of the fifth, all was hushed and silent; *life* had indeed pervaded the vegetable world, yet still it was *inanimate*; but now the creative word has gone forth, “Let the waters bring forth abundantly the moving creature that hath life, and fowl that may fly in the open firmament of heaven.” *Instantly* birds of every wing lighted on the trees of Eden, and the air became vocal with their song; while the great whales and fish sported in the deep. We can have no conception of the exceeding joy and happiness that must have

F I F T H D A Y



Drawn & Engraved by W. Hughes.

London: S. Bagster & Sons, Paternoster Row.

accompanied this fifth day's creation; the Lord himself, in his controversy with Job, briefly refers to it: "Doth the eagle mount up at thy command, and make her nest on high? doth the hawk fly by thy wisdom, and stretch her wings towards the south? gavest thou the goodly wings to the peacock,* or wings and feathers to the ostrich? What time she lifteth up herself on high, she scorneth the horse and the rider." *Purpose and design* mark the whole character of the Lord's creation, and this is strikingly manifest in these allusions.

The first birds and fishes did not pass through the weakness of early life, as all future generations, but came at once into a state of perfect existence.

All was in peace in Eden, for sin had not entered. The eagle and the lark soared on high in happy company, and the vulture and the dove lighted on the same branch; no discord existed then, but all was uninterrupted joy. The sun had opened the flowers of the third day, and perfectly matured the fruit of the varied trees; and now birds of the most dazzling plumage, and sweetest melody, sang in their branches; every bird we now see had its first parent IN EDEN; and the same is also true of the fishes OF THE DEEP, *for the scriptures record no creation either before or since*—the thorn, indeed, excepted.

But now the shades of even drew in, and by an instinctive call (wearied with the ceaseless flight of their first day's existence), the feathered tribe seek repose,—again creation is at rest.

* See the marginal reading, Job xxxix. 13.

But let us now, my beloved children, consider the mercies *of this day*, for they are indeed great and manifold.

Though man has not called into immediate servitude the fowl of the air, and the fish of the deep, *yoking the ostrich to his chariot, and the whale to his ships*, as he has the animals of the sixth day; yet both kingdoms come to him in untold blessings, for, not only do they supply him with food in boundless varieties, but they also minister to his comfort in many other ways. I will just enumerate a few:—

Before the illumining property of gas was applied to light our streets, and great places of resort, OIL, both sperm and common, was in general use; and it was the “great whale” of two different species that supplied both, as I shall show you when we come to *this* part of the subject. Large fleets go out annually to procure this valuable commodity. But the whale also aids us in other ways; that tough, and yet elastic bone, which bears the name of *whalebone*, comes from this fish, singular fringed plates of it hanging down from the upper jaw. The uses of whalebone are various; *light, strong, and elastic*, it answers admirably for umbrellas, &c., and then by a fine process shavings are peeled from it, and made into plat, which is manufactured into hats and bonnets of most durable texture.

And as to the birds, their feathers are useful to us in two different ways.—First, for beds and pillows; and then the larger feathers of the wings for writing; for though steel pens have increased to the enormous consumption of some *thousands of tons* annually, yet still the good old quill cannot be equalled by the most laboured attempt of art, though, in justice to our manufacturers, it must be allowed, that the flexibility and softness of these

steel pens are wonderful; but the quill seems *nature's pen*, and the *steel* that of *art*.

I have remarked above, my dear children, that man has not enlisted the bird or fish into servitude, but there are some few exceptions to this rule; some hundreds of years since, before gunpowder was in common use, the falcon and the hawk were trained in this country and on the continent to take game; and so greatly did this custom prevail, that one of the highest officers of the palace was called the *Grand Falconer*; but it was a cruel sport, though *then* even ladies of rank much enjoyed it. In our day, also, the Carrier pigeons have been employed on any great occasion, when swiftness was needed to carry letters; but the journey is so uncertain, that this plan is rarely used; and now, in this age of wonderful invention, the electro-telegraphic communication seems to leave all other means behind.

There is something very interesting connected with the flight of the raven and the dove, in the history of Noah, after the ark rested on Ararat. The raven, it is said, was first sent out; and went and returned, and went again, going and returning until the waters were dried up. Seven days elapsed, and Noah sent out the dove, but the dove found no rest for the sole of her foot, *and was taken in*: again seven days elapsed, and Noah sent forth the dove, and lo! in the evening it returned with an olive leaf plucked off; so Noah knew that the waters had abated. I do not attempt to unfold these scriptures, but it is a fact of great interest, that a tradition seems to prevail among many nations that the dove is the emblem of mercy, and the olive-branch, a sign of peace. I think it is Mungo Park, who relates in his Travels in Africa, that one day he met an ambassador and his

escort; he was going from the king his master to some neighbouring prince; he had no written communication, but *his message* was strikingly set forth in *two emblems*, always carried before him—*an olive branch and a sword*; and our countryman was told, that the form of delivering the message was this:—on reaching the prince, the ambassador was to stretch out the olive-branch; if he received it, there was PEACE; but if he declined it, the sword was put before him, and there was war.

There is also in the history of Norway a most interesting incident connected with the raven, which Montgomery, with great beauty, interweaves into his admirable poem of “Greenland.” A Norwegian noble, from some political cause, fled his country; and, embarking with a number of his vassals, launched out to sea; they took (as it should seem was then the custom) a raven with them; after beating about some days, discovering no land, *they loosed the raven*; instantly it ascended on high, and on seeing land, darted towards it, and became, as the poet most eloquently describes it—

“A living compass, through a chartless sky.”

The frail bark followed the raven’s flight, and soon after they discovered Iceland, and found a home there. But we will now, my dear children, look at the creation of the fifth day in the *order* in which it is mentioned in the scriptures. First, considering the inhabitants of the deep, and secondly, the fowl of the air.

I. THE INHABITANTS OF THE DEEP.

Under this head there are two great divisions, most plainly established in the first of Genesis, “and God made great whales,” marking the First

order, "and every living creature that moveth which the waters brought forth abundantly," the Second.

The first great division then is—

THE GREAT WHALES.

Under this order I will describe to you the Whale, the Cachalot or Sperm Whale, the Grampus, Porpoise, Narwhal or Sea Unicorn, and the Dolphin; all these, though inhabitants of the deep, are animals and not fishes, they also suckle their young ones and respire through lungs, like quadrupeds.

THE GREAT WHALE.—The word *great* may indeed be applied, with all justice, to this *giant of the deep*, which has been known to reach between ninety and a hundred feet in length. I was but a lad when I saw one for the first time, and the sight is still fresh in my memory. Just imagine a garden or lane a hundred feet in length, and then realize *a whale* stretched out to that enormous extent.

There are many different species of the whale:—but as in their general features they are alike, we will confine ourselves to the *common whale*.

The whale is, to look at, of an unwieldy shape, the head being one-third the size of the whole body; the colour is dark and dingy; the eyes are very small in proportion to its size, not being much larger than those of an ox, but they are placed far back in the head, so that the animal enjoys a very wide range of vision; in the middle of the head there are two orifices or holes, through which it spouts out the water which passes into its mouth as it feeds. That substance called whalebone, the properties of which I have already explained to you, is found hanging from the upper jaw, and is com-

posed of thin parallel layers, some of them twelve feet in length. Its use is to strain the water from the minute animals on which the whale subsists.

The food of the whale is a small molluscous animal about an inch long, called the *Clio Borealis*.

The whale is remarkably faithful to his mate, who returns an attachment that manifests itself even unto death; instances of this have been witnessed in the female* whale, who, when her partner has been struck, has voluntarily sacrificed her own life with his. *Parental love* also is especially marked in this family; the mother suckles her young with great tenderness for twelve months, and if attacked, willingly sacrifices her own life in its defence.† We may go to the whale and learn lessons of conjugal and parental fidelity and attachment.

Though, as we have seen, the whale is itself so peaceable; yet he has enemies,—two of very different characters, the one *the sword fish*, who darts his fearful weapon through and through the skin and blubber, to the very flesh, and reddens the sea with the blood of its victim; the other, *the whale louse*, a little animal that fastens upon the whale's very body, and subsists upon its substance. But these two are insignificant enemies when com-

* "Two whales were sailing together, a male and female, one of which was harpooned by the whalers; it made a long and formidable resistance; its companion attended and assisted it, and when the wounded one expired, stretched itself with great bellowing sounds upon the dead fish, and voluntarily shared its fate."

† Waller, in his poem of the "Summer Islands," mentions the fact of a grampus, (of the same great family as the whale,) which had got on shore with her young, and on being attacked *escaped*; but the young one was not so quick: the mother finding this, and seeing no hope of rescuing it, preferred death with her young, to life without it. See Sharon Turner's "Sacred History of the World," vol. i. p. 310; a work in which more interesting matter is collected together, and facts narrated connected with natural history, than can be found probably in the same compass, in any book in our language; in nine months it went through three editions, and in three years more attained its sixth.

pared with the attacks of man, who, with an avidity and boldness that is startling to contemplate, *pursues*, and *overtakes*, and *conquers* this animal, a thousand times larger than himself. But in this, and many other ways, we find that wonderful promise to Noah fulfilled,—“And God blessed Noah and his sons, and said unto them, be fruitful and multiply, and replenish the earth. And the fear of you and the dread of you shall be upon every beast of the earth, and upon every fowl of the air, upon all that moveth upon the earth, and upon all the fishes of the sea; into your hand are they delivered.” (Gen. ix. 1, 2.)

The method of taking the whale is so extraordinary, that a few remarks concerning it will, I am sure, interest you.

The vessels which are occupied in the whale fishery, are called emphatically “*WHALERS*;” they are always chosen vessels, of several hundred tons burthen, with a captain and crew well appointed, and everything fitted for this one express purpose. Their boats, six in number, are called *whale boats*; they are of a peculiar form,—the head and stern both sharp. Six men are appointed to each boat, besides the steersman and the man with the *harpoon*; and thus equipped, they leave their native land, some going to the Arctic seas, and some to the Southern Ocean, *for fish*: for though Naturalists will not allow whales to be fish, yet the sailor thinks that everything that swims is fish; and he enumerates his success—by having “taken so many *FISH*.”

But imagine the vessel arrived at her destination, where the whales are supposed to be numerous.—Just at noon, when the sun is bright, the man from the crow’s nest calls aloud, “a fish!” Instantly all is activity, the boats are manned, and one of them pulls directly to the whale, others

following; all this while, the animal seems quite unconscious of the terrible scene that awaits it—it darts not into its deep and unfathomable home, but lets the enemy come right to its side. Instantly that the boat is close to its prey, its approach being as quiet as possible, the harpooner lifts up his hand, and then, with all his power, plunges “the barbed arrow” into this quiet monarch of the sea. The whale feels the deadly blow, and plunges, now too late, with tremendous velocity, sometimes, it is said, even to eight hundred fathoms, in the deep. Fastened to the barb is a line, consisting of six lengths, each of a hundred and twenty fathoms, which, spliced together, make in all a rope four thousand three hundred and twenty yards; this coiled-up rope is drawn out of the boat by the whale with such violence, that if ought impeded it for a moment, all would be destruction. But now, the line slackens, and the prisoner rises from the bottom of the deep, panting for breath,—those two orifices through which he had spouted in his pastime, and darted the sparkling fountain in the sunbeam, now (if the barb has deepened in the flesh) shoot out with blood. The boats, only intent on one thing, again approach their victim—another *barb* follows the first, and again he seeks to escape: but now, *twice captive* and weakened through the loss of blood, he rises in faintness and weakness, and becomes (each man darting his lance into him) the easy prey of his adventurous enemies.

Quickly the fins and tail are cut off, and the whale tugged to the ship, where the blubber,* a thick substance from which the oil is run, is sliced

* A large whale will yield seventy barrels of oil, and even the tongue itself has been known to melt down to five or six barrels. The value of a large fish is estimated at a thousand pounds.

from the trunk. The whalebone is cut from the upper jaw, and then the carcase is cut adrift, and becomes the food of a variety of animals that inhabit the ocean; while the ship passes on her way in quest of other prey.

But the whale fishery is attended with great danger. Sometimes the whale strikes the boat with its tail, and destruction and loss of life almost always follow; at other times the whale has been known resolutely to choose, as if by instinct, *the ship itself* for its opponent; and swimming to some distance a-head, has returned with terrible speed, and struck the vessel in the bow, and she has foundered.

One turns with delight, my beloved children, from these scenes of death, to contemplate those days so blessedly called *the times of restitution*; and though the scriptures have not fully expressed what the extent of the blessings of those times will be, yet restitution always implies three things (itself the third); first, possession; second, loss; third, restitution. This truth all will allow,—that the redeemed creation will not be less glorious than the first. I will enlarge on this in my next; yet I could not help dropping a word on it now.

The Sperm Whale.—Sometimes called the Cachalot, is not so large as the Greenland whale, rarely exceeding sixty feet in length. It is found in the southern ocean; and as the sperm oil is so much more valuable than the common, it is sought with increased avidity.

If the head of the great whale is large, that of the sperm whale is still larger, constituting nearly one-half of the whole body. In the stomach of the Greenland whale, scarcely anything is ever found: not so the

Cachalot ; for vast quantities of fish give the full proof that he is as voracious as the whale of the north is gentle and, so to speak, abstemious.

There are instances of this whale being taken off the island of Bermuda ; and I remember, before I was thirteen years of age, rowing into the romantic harbour of St. George's, the capital of that island, and to my great astonishment, seeing a large sperm whale, that had been caught and towed in the previous day. Several Negroes were standing on it, with hatchets, and cutting out its flesh in large lumps of some pounds weight, which they hang up and dry ; and it is by no means either an unsightly or unpalatable food, if the whale is young ; indeed, disguised with sauces, it was, even at the Admiral's table, mistaken for veal. Some writers have commended the flesh of the porpoise ; but whale is a delicacy compared to it.

The oil of this whale is called sperm oil ; and the cavities of its head are filled with what is called *spermaceti*. A single whale will yield sixteen barrels of that substance. Oftentimes also *ambergris* is found in the belly of the Cachalot, sometimes in lumps of upwards of a hundred pounds in weight.

The Grampus.—This animal rarely exceeds twenty-six feet in length. It is in its habits like the sperm whale ; and is often met with in the Atlantic.

The Porpoise, of which there are a great variety, is about eight feet long. This animal is well known in our own seas, and oftentimes is seen in the Severn, and even far up above the ships in the Tamar, and at Portsmouth. It seems very happy and playful, as perhaps the whole of the inhabitants of the sea are, more than any other part of creation.

The Narwhal, or Sea Unicorn.—The Narwhal is seldom more than sixty feet in length; and though armed with a most formidable nasal horn, projecting to the length of twelve feet from his upper jaw, is, when not exasperated, a quiet, gentle, inoffensive animal—fond of society; it is seen in the northern seas in large herds. They are much handsomer, and more in what we call proportion, than the whale. The *Horn* of the Narwhal is perfectly straight, about four inches in diameter near the jaw, and wreathed in a curious manner as it tapers to a point. It is whiter, harder, and heavier than common ivory. The Narwhal is hunted for its blubber and its horn.

The Dolphin.—This beautiful inhabitant of the deep was, of old, a great favourite with historians, philosophers, and poets; and many and wonderful are the traditions about it. Leaving England for the East or West Indies, when the weather begins to get warm, and you are drawing towards the trade winds, and sometimes before, when perhaps for many days nothing has been seen but “the dark blue sea,” it is a cheering sound to hear “a number of dolphins are round our vessel;” the passengers, one and all, are up, and many for the first time gaze on this beautiful creature; meanwhile some of the sailors, with an imitative flying fish, get to that part of the vessel just under the bowsprit, called “the dolphin striker,” and with a bottle midway to their bait, they suddenly jerk it out of the water, to imitate the flying fish. The unwary dolphin, caught by the sight of his prey, springs like a shot from the water, and learns, too late, a lesson, which all are prone to forget,—“*that the fairest appearances have oftentimes a hidden barb beneath.*” When the dolphin is brought on deck, every body

is around to watch it change its colours ; and though poets may have rather heightened the description, yet the scene must be witnessed to appreciate it.

Once I remember, off the southern coast of North America, seeing a dolphin in pursuit of a shoal of flying fish ; he darted like lightning at his prey, and they seeing their danger, shot into the air, and spreading their silvery fins, skimmed the air, and passed beyond their pursuer ; but in a little while the effort with which they shot their flight was spent, and they dropped for a moment in the ocean ; this brought them again within the reach of their enemy, but again they shot into the air ; and again returned for strength, till at last, the dolphin, wearied with the chase, left them. At other times, as Capt. Basil Hall, in his "Fragments," describes, —the shoal becomes successively the prey of the spoiler ; for the flight of this beautiful fish varies ; if small, it is short and low ; but if large it is higher and longer. We will now consider the second great scriptural division of the inhabitants of the sea.

THE FISH OF THE DEEP.

Almost all fish present the same external form,—sharp at the extremities, and swelling in the middle, the very form adapted to the element they are called to move in ; and, as to their general structure,—*wisdom marks the whole*. Their *fins* balance them ;* their *tail* propels them ; and the

* If you watch a boat skilfully impelled with the stern oar, (which evolution is called sculling,) you at once see the principle by which the fish glides on its way ; and as the hulls of vessels took their pattern from the bodies of fish ; so, doubtless, *the new*

air bladder, (which most of them possess), distended or contracted at pleasure, gives them the power of rising or sinking in the water *without effort*.

The *eye* of the fish is also of most marked contrivance; a projecting eye, to an animal living in so dense an element as water, and called to glide with such rapidity, would have been continually liable to danger. To meet this difficulty, *the eye is flat*; but to make amends for this want of convexity, the *crystalline lens* is spherical.

The peculiarity of the *arrangement of the scales* must not be omitted,—for here the most minute care is visible; and whilst the smooth surface presented by the scales (which are covered moreover with a slimy substance) enables the fish to move forward with exceeding ease, these are so closely fitted together, that their *coat of mail* is quite waterproof: and thus though water is all around them, *they are never wet*.

Most fish are of exquisite beauty, and some glisten with dazzling brightness, as they glide through the deep. One family especially is called “the angel fish,” a name most appropriate. I have seen these near “the Summer Islands,” and hardly knew how to take my eyes off them, green—blue—purple—and all the tints you can imagine. The king fish, called Luna, frequenting the coast of Normandy, is also of great beauty; and the mackerel of our own seas, both in its symmetry and colours, is much to be

propelling power, now coming into such common use in steam ships, *i.e.*, the *Archimedean Screw*, perhaps, owes its invention to a careful observation of *the tail of a fish*; and just in proportion as art copies from God’s perfect models in his creation,—IN THAT PROPORTION IT EXCELS.

admired. And then, I suppose, few little boys have not watched with pleasure the pretty gold and silver fish, in large globes of water.

Fish seem to live a happy, inoffensive life; and, it is supposed, attain to great age. This fact has been occasionally ascertained by *marking them* in private ponds; and besides which, as the horse tells us his age by his teeth, and the rattle-snake by his rattles, so some naturalists think that fish do, by the concentric circles on their scales, which are said to increase *one every year*. Buffon says, by this means he imagined a carp to have lived a hundred years; Gessner had one as old; and Alberti affirms, of another, that it attained the age of two hundred.

The multiplication of fish also is beyond all calculation; for, whilst the whale family bring forth their young singly, or in pairs, and suckle them for the whole year; the lobster, prawn, and shrimp, bring forth their *thousands*; the carp, sole, and mackerel, their *hundreds of thousands*; and the cod and flounder, their *millions*. These all, with a wonderful instinct, choose the places most suited to deposit their spawn; some in mud, some beneath rocks, some on the surface of the water; which at the appointed time springs into life*—a new generation. The Crab lays its spawn at the bottom of the sea or river, and when the sun comes out warm, and the weather is hot, the

* The plan of the Chinese, who are a curious people for contrivance and imitation, is to hatch the spawn of particularly choice fish under a hen; at the proper season, people, whose business it is, procure the spawn, and sell it to gentlemen who have ponds: by them the spawn is deposited in an empty egg, provided for the purpose, which, when filled, is hermetically sealed. The hen sits on this for some days; the egg is then opened, and placed in a vessel of water heated by the sun, and when the little brood are sufficiently strong, the egg is broken, and they are loosed from their strange imprisonment, and put into ponds to roam at large.

spawn is *drawn up* to the surface, and *vivifies* in the heat; and when cold comes, the little family sink down among the rocks, and contrive for themselves in a thousand different ways; contrivance and wisdom, after a most wonderful order, marking every movement of God's providence.

But I will briefly notice the various sorts of fish of most value to man in order; and explain to you some of their peculiarities and modes of life.

The PERCH FAMILY contains the *Perch*; a fish well known in our own rivers and ponds, easily caught, and esteemed as a dish. It is said to be readily tamed, and will take food from the hand. Its food is insects, worms, and fishes. Perch will continue alive out of water a long while if packed in wet moss. It is stated, that they are sometimes taken to market alive, and if unsold returned to the water in the evening. About the head of these fish are many glands for secreting oil for the defence of their skins from the water, and it is beautiful to notice that by placing these where they are, God has provided by the simplest arrangement for the distribution of the preserving fluid over the body: for as the fish swims the oil is spread backwards by its motion through the water.

Also the *Sea-dace*, or *Basse*, a fish plentiful in the Mediterranean and round England, much esteemed for the table. It is caught by hook and net. Although a salt-water fish it thrives in fresh water.

The GURNARD FAMILY.—The *Gurnards* are the square-headed fish, not uncommon in the fishmongers' shops, with the breast-fins so widely spread out. They are excellent food. When drawn out of the water they croak oddly.

The *Flying-fish* is of this family. I dare say you are aware that no fishes really *fly*, as we see birds and bats fly. That is to say, they cannot

support themselves in the air any length of time. The flying of this beautiful fish is in fact a powerful spring from the water into the air, where the fish are supported for a few moments by their broad pectoral fins. Large strong fish will make immense leaps in this way, while the smaller fry are obliged to content themselves with little more than hops.

The common flying-fish is about a foot long : it abounds in the Mediterranean. They sometimes leap on to the decks of low vessels in their flight. This power of skimming the air enables them to escape many attacks of their marine enemies ; but alas, as soon as they quit the water there are birds of various sorts ready to pounce on them.

The *River Bullhead*, or *Miller's-thumb*, is also a Gurnard. You have all seen this odd-looking little fellow, I dare say. Perhaps, however, you never thought before that we have members of the same family as the famed flying-fish in our ponds and ditches.

The *Stickle-backs*, too, belong here. These exceedingly common fish will enable you to remember this family without difficulty. They are called Stickle-backs, or Pricklebacks, from having three or more sharp spines on their backs, which they depress or raise up at pleasure. They are fierce and voracious little fellows, and attack almost anything with which they may be kept in a glass vessel.

THE CHÆTODON FAMILY is one of the most curious and interesting, shewing, as it does, the inexhaustible resources of God in providing His creatures with means of obtaining their food. Who would have thought of furnishing a little fish with a little gun, and enabling him to shoot his prey with it. Yet it is thus this fish is provided. Some of the species have a

long snout, or beak, and through this they shoot a drop of water at any insects they may see near them on the margins of the river or pond. So correctly do they aim that they rarely miss their object. The Chaetodons are short solid-looking fish from eight inches to a foot long. They abound in China and Java.

We come now to the MACKEREL FAMILY. I am sure I need not describe to you the common mackerel, nor tell you how valuable it is as food, nor enlarge upon its exceeding beauty. Mackerel approach our coast in immense shoals. The numbers taken every year exceed all calculation. The busy time is May and June, although many are taken earlier, and some later. During the season about 100,000 mackerel are brought to Billingsgate.

The *Horse Mackerel*, so called because of the comparative coarseness of its flesh, is a visitant of our shores, and is sometimes taken in countless myriads on the southern coasts.

The *Dolphin* of poetry belongs to this family,—the fish so celebrated for its changing hues and rapid motion. It abounds in the Mediterranean. After death its colour is a dull grey. The dolphin, which I have described at page 154, must not be confounded with this fish.

The formidable *Sword-fish* is of the mackerel family too. This is a vigorous active fish, found in the Mediterranean, about twelve or fifteen feet long, which is armed with a long bony snout exceedingly sharp and strong, with which it transfixes its prey and strikes whatever offends it. They are caught much in the same way as whales, with a harpoon and line. There are many true stories of ships having been pierced by the

sword of this fish, and there is in the British Museum a piece of wood sawed out of the bottom of a ship with the sword of one remaining in it.

The GREY MULLET FAMILY.—The *Grey Mullet* is a well-known fish, common about our shores, and much esteemed for the table. It is a wary fish and difficult to take with a net, but it will readily snap at a fly like the trout.

The CARP FAMILY includes the carp, the gudgeon, the dace, &c.

The *Carp* is a brilliant golden-tinted fish, found plentifully in our ponds and rivers—it prefers ponds with a muddy bottom to clear rivers. Carps are exceedingly tenacious of life, and may be kept in well-wetted moss for weeks. In this sort of confinement, too, they may be fed with bread soaked in milk. The beautiful gold-fish of our vases are of the same family.

Most little boys know a *Gudgeon* when they see it swimming in clear shallow rivers. This is one of the most abundant of English fishes. Its flesh is delicate, and it is easily caught.

The *Bream* is another choice English fish found plentifully in the rivers and lakes. Its form is broad, and its length about ten or twelve inches. In Ireland the peasantry catch large quantities and split and dry them for future use.

The *Roach*, and *Dace*, are of similar form and habits. Both are excellent food, and are plentiful in England and on the continent.

The *Chub* is common enough in the British isles, and, in some rivers, very abundant. As food, the chub is not much esteemed.

The PIKE FAMILY differs materially from the last described. It includes

the *Pike*, or *Jack*, a most voracious eater-up of the smaller fry of our rivers and ponds. Eight pike of moderate size required about eight hundred gudgeons in three weeks. But not only fish, but frogs, water-rats, young ducks, all disappear into its hungry stomach. There are numberless instances on record of its audacity. The lips of a mule when drinking, the feet of women when washing clothes, the hands of a man immersed in the water, the head of a swan (by which both swan and pike were killed), are all authentic anecdotes of its bold feeding. The pike grows to a great size occasionally. Its mouth is furnished with a formidable array of teeth.

In the pike family there is a species of *flying-fish* which may be considered as the *common flying-fish*. I have already described the habits of these leaping skimming inhabitants of the deep.

The SALMON FAMILY is, perhaps, the most remarkable of the numerous gifts of God to man from the waters. Who can think for a moment on the mass of rich and almost boneless flesh of this admirable fish, and not see the provision made for our wants. The importance of the salmon as an article of commerce, for food both fresh and dried, is very great. It abounds round our shores and in our principal rivers, up which it travels at certain seasons, to deposit its spawn. In their progress up the river the salmon make prodigious and persevering efforts to surmount any obstacle that may impede them. They leap all smaller waterfalls and dams, and never desist from attempting the higher ones until exhausted with the effort. A finer example of perseverance to accomplish a duty, than a "salmon leap," as these places are called, cannot be shewn. At an

obstruction of sufficient height to almost baffle the fish, numbers are caught in baskets placed at the sides, into which they fall in their efforts to mount the stream. Salmon are caught with the net, the hook, and the spear. The first two modes I need not describe, but the latter is worth a few words. By various devices, the fish are brought into view, (that is to say, sometimes torches are held over the water at night, to attract the fish; sometimes a hole is cut in the ice, and by other means,) and as soon as one is seen near the surface, the long spear is darted into it. Large numbers are taken in this manner.

The *Trout*.—This is a well-known and delicate fish, plentiful in England, but requiring much skill to take them with a fishing-rod.

The *Char* is a most delicious fish of this family. It is chiefly used potted and spiced for spreading on bread. Chars are not abundant.

The *Smelt*, so called from its possessing a flavour somewhat resembling the smell of cucumbers, is a delicate little fish much prized for eating. This peculiar flavour diminishes rapidly from the time of their being taken out of the water.

We now come to the PILCHARD and HERRING FAMILY, which embraces certainly the most numerous supplies of the fish diet of the human species. The Pilchard and Herring are so similar in many respects, that I will tell you about them together.

I need not stay to describe either fish, because they are so common; but their habits and the modes of catching them may not be familiar to you. Both the Herring and Pilchard are found plentifully about our own coast; but the latter is almost confined to the shores of Devon and Cornwall.

The modes of capture differ with the situation of the fish. If they are in deep water, nets of immense length and depth loaded with lead on one edge, and buoyed up with cork at the other, are employed. If the fish are near the shore, smaller boats and nets are made use of and considerably less difficulty is experienced in securing the fish. The fish are salted in two ways:—as “red herrings,” which are salted on shore and dried, and as “white herrings,” which are usually salted on board the fishing-boats engaged in the deep-sea fishery.

Herrings are first seen about the Shetland Islands about April or May, and the shoals proceed downwards on both sides of England, filling the bays and creeks with their countless armies. The principal shoals arrive about June.

The Herring spawns in October and November; and, for about two months before this they are in their highest perfection. As many as two thousand hogsheads of pilchards have been taken at one draught, and it has required a week or ten days to secure the whole. This will give you some idea of the abundance of these valuable fishes.

The *Sprat*.—Who does not know the sprat? This fish, like the last mentioned, moves in vast shoals, and is taken in great quantities during the winter months. As an article of diet it is much esteemed. When sprats are taken in abundance, they are sometimes employed as manure for the land, and are found to produce a powerful effect under certain circumstances.

The *Anchovy* is a delicacy rather than an article of diet. As a sauce for various kinds of fish and in a potted state it is well known. This fish

is abundant in the Mediterranean and about Spain. It is also occasionally taken on our south coast.

The COD-FISH FAMILY.

To how many thousands of families does this important fish give employment! The Banks of Newfoundland are the resort of numerous large vessels, and the numbers of fish taken by the fishermen there is almost incredible. These are salted and packed in casks. Large supplies of cod are taken about our own shores also, and from around Ireland. They are brought alive in well-boats up the Thames as far as the water is salt enough to keep them living, and forwarded daily to Billingsgate. The cod spawns about February, and lays a very remarkable number of eggs, amounting, according to the calculations of Naturalists, to about eight or nine millions. It has been said that the Banks of Newfoundland are of more value to England than its silver mines to Spain. And this is perhaps true; because, in securing their finny prey, a hardy race of able seamen is trained for our merchant navy.

The *Whiting* is of this family. It is a delicate fish, much esteemed for the table. It is tolerably plentiful, and is in season a considerable part of the year.

The *Coal fish*, also, is of the cod family. Its flesh is coarser than that of the cod; but it is plentiful about our coasts, and is easily caught, and so it becomes an article of diet of some importance to the poor, who consume the smaller ones, and salt those that are large. They weigh, when full grown, about twenty pounds. The colour of this fish is, as you may suppose, very dark.

The FLAT-FISH FAMILY includes the plaice, turbot, soles, &c.

The *Flounder* and *Dab* are two of the smaller species of this family, which occur in great abundance around England on our sandy coasts. They are delicate eating, but are small.

The *Turbot* is a fish highly celebrated as a delicious article of food from very early times. Immense quantities are brought to the London market, partly from the fisheries on our own coasts, but principally by the Dutch. It is supposed that about 80,000*l.* are paid to the Dutch for the turbot consumed in London. The appearance of the turbot is well known. Its little star-like bones imbedded in the skin are a curious peculiarity. The fish vary in size from five to fifteen pounds; but sometimes greatly exceed this. Turbot are caught both by the line and net, depending on the depth of the water and nature of the bottom.

The *Brill* is another well-known fish, found plentifully about our own shores. In flavour and quality of flesh the brill is inferior to the turbot, but large quantities of it are consumed in the metropolis and other places. There is a great similarity in all the flat-fish, both as to appearance and habits. They are all dark on the upper side and white beneath, and frequent the bottom of the sea in their several haunts.

The *Sole* is an oblong-shaped well-known flat fish, with which our markets are supplied for the greatest part of the year. They are caught in nets and sent up from our south coasts in baskets. Soles, although sea-fish, will thrive in fresh water.

We come now to a very different description of fish :

The EEL FAMILY, which includes a number of snake-like forms of interesting habits, and valuable as food.

The *Common Eel*, of which there are several varieties in England, is widely distributed, and well known as an article of diet. The appearance of all the eel family is very similar, they all have the distinctive slimy skin and apparent absence of scales. Eels are found in rivers and ponds; and about October they proceed down to the sea to deposit their spawn. Those curious frames with hanging baskets, to be seen in the Thames and other rivers, are for the purpose of catching these fish as they pass. In the spring the young, in countless multitudes, come up from the mouths of the rivers and spread themselves in every direction. Eels are in the habit of leaving the water during dewy nights, and wander about the fields in search of worms, or to find a new place of residence.

The STURGEON FAMILY.—The *Sturgeon* is remarkable for several peculiarities. The skeleton is formed of cartilage instead of bone; it is of great size; its flesh is accounted a delicacy; its swimming bladder when cut into shreds is isinglass; its roe is the well-known Caviar of the Russians; and its appearance, covered as it is with large tubercles like limpets, may be almost called formidable. Its habits, however, are peaceable enough, for its mouth is a mere sucking apparatus without teeth. It is taken by hooks in the Caspian Sea, and occasionally off the coasts of England. The sturgeon sometimes reaches the length of fifteen or twenty feet, and individuals have been known to weigh as much as 1,000 pounds. This fish may be accounted, in the varied application of its parts to man's use, a very important gift from God.

As my object is not so much to bring before you a complete view of the animal creation as to call your attention to those individual creatures which are obviously beneficial to man, either as an article of diet, or as connected with manufacture or trade, in some direct way, I will pass over the innumerable SHELL-FISH, beautiful and curious as they are, after I have just selected a few of the more remarkable.

As food for man, perhaps the *Oyster* is the most important. Its appearance you all know. In the language of science, it is called a bivalve, from its having two shells. The oyster is found round the shores of England in very great abundance, and the British oyster is accounted better than that of any other country. About September the oyster comes into season and continues good for the table until April. Oysters are captured by a dredge-net, edged with an iron scraper, which is drawn along the bottom by a rope attached to a boat. The places where oysters abound are guarded with jealous care, and every precaution is taken to prevent them from being disturbed in the breeding season, and care taken to destroy star-fishes and other enemies to their well-being.

The *Pearl Oyster* carries in its name a brief description of its use to man. I am not aware whether the animal itself is valued as food; it is the shell which is sought after with so much eagerness. The internal lining of the shells is a beautiful substance well known under the name of "mother-of-pearl," and in some individuals are found the pearls which are so extensively used as ornaments. Pearls are roundish bodies, found either attached to the inside of the shells of this species, or loose between the shells. They are formed of thin delicate layers of the same substance which lines the shells.

Large pearls, that is to say, of the size of a large pea, are worth about a guinea, and when of the size of a pepper-corn about two shillings each. Small pearls are called "seed pearls," and are of much less value. The famous pear-shaped pearl, belonging to the Shah of Persia, cost 10,000*l*. The principal pearl fisheries are at Ceylon, the Gulf of Persia, off Algiers, and in the Bay of Panama.

The *Mussel* must not be passed over, for although it is little used at the tables of the rich, large quantities are consumed as food by the poorer classes. This also is a bivalve. Its beautiful purple colour is well known. By some mussels are accounted poisonous; but if we remember that they are not at all digestible food, we shall easily understand how occasionally they seriously affect persons of weak stomachs, and cause the painful symptoms sometimes produced in those who partake of them freely.

The CRAB FAMILY, including the crab, lobster, prawn, shrimp, and some others, may be said to be of considerable importance, both on account of the quantity consumed as food, and from the number of men employed in obtaining the supply.

The *Crab* is an animal covered with a hard shell, having eight legs for progression, and two armed with nippers for purposes connected with the capture or breaking of its food. The variety of the crab genus is truly surprising.

They are all animals of active habits, keen vision, and powers of smelling and taste. Their habits are generally alike, although some are almost confined to the sea and immediate shore, and others, which are called land-crabs, find their home on dry land in burrows, and only visit the sea at

certain seasons. The eatable sea-crabs are taken in a sort of mouse-trap basket, baited with small pieces of fish. These are sunk in the sea, and provided with floats which have the peculiar marks of the fishermen on them. When caught they are kept, until sold, in well-boxes. Crabs cast their shells when they become too tight for their growing bodies. It is a most curious fact, that if a limb be by any accident severed from one of this family, it is in the course of a short time reproduced. The new limb does not, however, grow to the full size of the former one. May, June, and July, are the months in which the crabs are least esteemed. A good crab is known when unboiled by the roughness of its shell, particularly the claws; and when boiled by the absence of any looseness of the body in the shell when shaken.

The *Lobster* with its red jacket is exceedingly well known. I dare say you are all aware that when alive the lobster is of a dull blue, and that it is the action of the hot water which changes the colour. The number of these animals consumed in England is incalculable. They are supplied from various parts of our own coast and from Norway. The number of eggs laid by the females is, however, so great as to counterbalance completely the demand. Upwards of twelve thousand were counted under the tail of a single individual. The lobster also casts its shell when it becomes too small. The limbs of the lobster must of course shrink to a very small size, to permit being drawn through the narrow joints. Lobsters are nimble enough in the water, for besides a rapid paddling movement, they are able to spring with great velocity backwards, by means of a stroke of their tail, as much as twenty or thirty feet.

The *Prawn* and *Shrimp* are much like miniature lobsters, and have similar habits. They are sought after as delicacies for the table.

Besides these that I have mentioned, both of the soft animals in shells, such as the oyster, snail, &c. and of crabs, with jointed legs, &c., there are countless multitudes of different families and species, each distinguished by varied peculiarities, according to the duties they have to perform in the great Creation, and all formed with such exquisite skill as to make these duties a continuous source of pleasure. Who can utter all Thy mighty works, O Lord!

Archdeacon Paley, on observing what he mistook for a mist resting just above the margin of the shallow water of the ebbing tide, as far as his eye could reach, but afterwards on close examination found it was caused by myriads of young shrimps leaping into the air, says, "If each individual of this number be in a state of positive enjoyment, what a sum, collectively, of gratification and pleasure, have we before our view!"

But I have not, as yet, said any thing to you about a still more numerous class of animal life than all I have enumerated—I refer to the minute animals which inhabit the waters, and pass under the general appellation of *Animalcules*.

I know no expressions more suitable than those of our poet Thomson to convey to you an idea of this countless family—

" Whence the pool
Stands mantled o'er with green, invisible
Amid the floating verdure millions stray."

It is impossible for you to form any adequate conception of the minuteness of these little creatures. A celebrated naturalist, Professor Ehrenberg, calculated that a few drops of water could contain, of some of the species, as many individuals as there are people in the whole earth.

I could not do justice to this branch of the Creation, were I endowed with knowledge such as Solomon's, and afforded such a life as Methuselah's. Truly God is as infinitely great in the minuteness of these His works, as He is in the mechanism of the starry heavens. I know not which most excites my wondering admiration. I see, if I look up, countless mighty systems of suns and planets whirling their courses in harmony and peace; and if I look downwards, I am met by the opposite glories of microscopic existence. On one hand, I am compelled to confess my reason baffled by the display of the majestic hosts of heaven; and, on the other hand, I am no less confounded by the apparently illimitable range of happy animation beyond my utmost powers of discernment.

These minute creatures are various, indeed, in their shapes, structure, and habits. Some inhabit fresh water, some the sea. Some frequent the surface, some revel in the lowest depths of ocean. Many are protected by delicate shells, others are otherwise cared for. Some inhabit the fluids of animals, some are found in the cells of plants. Some are provided with organs of motion, others remain attached to fixed or floating objects. The propagation of some is by eggs; in others, by division of the parent; and in some, by sprouting buds.

Microscopical investigation is continually adding fresh wonders to our

knowledge of these interesting atoms, and furnishing fresh proofs of the amazing power and wisdom of Him who made them all.

The general name for these minute animals is *Infusory Animalcules*, because they appear, as it were, in vegetable infusions after they have been exposed a few days to the sun. There can but be little doubt, that the air is always carrying about numbers of the germs of animalcules; and that, when they fall into water in a state suitable for their development, they vivify and reproduce.

Leaving these miniature existences, I might here lead you through fields of knowledge, rich with interesting particulars of tens of thousands of varied forms of life, for the teeming earth is crowded with living proofs of the great Creator's wisdom and power. These furnish abundant evidence of His eternal power and Godhead, so that man is without excuse, under any circumstances, in failing to glorify God as God. We are not left, however, to learn the character of God from such lessons, wonderful and expressive as they are. God hath spoken unto us by His SON, telling us of pardon and peace, through the shedding of His precious blood, and of a hope full of immortality. Therefore, we ought to give the more earnest heed to the things that we have heard. How shall we escape if we neglect so great salvation?

But, I was going to tell you, that the space I have allowed myself will not permit my entering upon the enumeration of tribes of animals living *within* and *upon* other animals, so curious generally, and so interesting to us personally, as some of them are; neither can I do more than just glance at the existence of innumerable beautiful polypes inhabiting the seas, all

radiant with lovely hues, and wonderful in structure and habit as they are. I must pass over, too, the star-fishes, with their tails like arms, so common on our coasts, and the prickly sea-urchins, like hedge-hogs rolled up. The *Leech* claims a notice as we pass, because of its peculiar connexion with our own health under certain circumstances. It belongs to a more highly developed class than the star-fishes last mentioned, owing to the greater development of its system of nerves. It is, as you know, an animal much like a worm, with a sucker at its head and tail, by which it attaches itself to surrounding substances, and draws the blood from its prey, when its three saw-like jaws have cut through the skin. Almost the whole body of the leech consists of a series of eleven sacs for the reception of the blood drawn from its prey. In eight of these the blood is stored up, and only used by the animal when its hunger requires that a small quantity should be allowed to pass into the stomach for digestion. It is this ability of taking in a large quantity of blood that constitutes its value to man. Leeches are employed to draw blood from any part of the body that may require relief; and they do this with singular effect. Some of the great quantity used are brought from Ireland, but the principal supply comes from France, Sweden, Russia, Turkey, &c. At least eight or nine millions are annually imported into London. There are several varieties. One called the *Horse-leech* is common in this country.

The *Earth-worms* are of singular value in the Creation, although we are apt to overlook these humble labourers for our good. Their principal function is the boring and loosening of the soil, and the drawing into it decayed leaves and straws, and the constant manuring of the whole surface

of the earth where vegetation exists, with their rich little "worm-casts," as they are called. Added to this, their bodies constitute the food of innumerable birds, and not a few quadrupeds.

Barnacles are small soft animals, with six pairs of feathery feet enclosed within a white shell of several pieces, and attached to a long elastic stalk. They are chiefly remarkable on account of the strange error formerly believed, that they changed into geese when fully mature.

Although, perhaps, it might not be improper to mention here the animals which are amphibious, as part of the "living creatures" connected with the waters, yet I think it best to defer the account of them until I speak of the animals of the sixth day's creation; for although the habits of the seal, the hippopotamus, and others, lead them to the water for food, they are really land animals, and I think were not included in the fifth day's creation.

I will therefore pass on to a description of the "Fowl that fly in the open firmament of heaven."

"THE BIRDS THAT FLY IN THE OPEN FIRMAMENT."

Having considered, rather at large, the two great orders of life that animate the deep, another class of beings now calls for our contemplation, — *The Fowl of Heaven*. "Formed chiefly," says Dr. Mavor, "to move or float in the element of air, all their parts are wonderfully adapted to their destination. Light and sharp before, they cleave the expanse of ether with the greatest facility; and swelling gradually in the middle, they again

terminate in expansive tails, which preserve the buoyancy, and give direction to the body, while the fore part is cutting the air: hence they have been compared to a vessel in the ocean;—*the trunk* of the animal's body answering to *the hold* or lower part of the vessel; *the head* to the *proW*; *the tail* to the *rudder*; and the *wings* to the *oars*."

"The external apparatus of birds is not less an object of just admiration than their shape and figure. The position of their feathers tending backwards, and regularly laying over each other, produces warmth, velocity of motion, and security. Next to their bodies is a beautiful soft down, to protect them from the cold; and, further, to secure them from the injury of violent attrition (which their swift flight might induce) or wet, birds are furnished with glands, near their tail, which distil a kind of very fine oil, which they press out with their bills, and spread over their ruffled plumage." This fluid varies in quantity, as the several branches of this great family need it. The aquatic birds abound with it; and thus, though living in the sea, the water runs off their backs as quicksilver does from a table, and does not penetrate beneath, where all is warmth and comfort.

As in the fish, so in the birds, purpose and design are manifest through the whole of this diversified family. In some this is shown in the form of the beak; in others, in the length of the neck; in others, again, in the length of the legs.

Birds are faithful to their mates. Early in the spring, most of them pair; and often both labour to build their little mansion, the architecture of which is *most beautiful*, and man in vain attempts to imitate it. Sometimes you see these beautiful little builders with a straw, sometimes with

feathers, any thing they can weave into their work;—when the house is finished, then the eggs are deposited; for all birds are *oviparous*; that is, they bring forth their young encased in a shell. At the appointed season, the shell is broken, and the little helpless strangers appear. At first they seem very disproportioned, being almost all *mouth*: but this is wisely ordered; for so the fond mother and father easily feed them; for both alike foster and nurse their little family with the tenderest care. But a rapid increase soon takes place; feathers grow apace; and in a few weeks the family circle is broken up, and the young birds, fully fledged, provide for themselves; and, as if the sweetest compact of life was gone, the woods are no longer vocal with song,—the nightingale ceases to sing to its mate, and all is hushed again until the spring. It is this that makes the solitary song of the sweet little robin-red-breast so valued. Like a true friend, that keeps to us in summer and winter alike, he often pours forth his sweetest strains while all is stormy and cheerless around.

The migration of birds is a subject full of interest. In a former part of my letter, I noticed that the herrings also travel from the polar to the tropical ocean; and now we are called to follow the bird in its flight. Various are the opinions of naturalists on this subject; but the most likely is, that the birds whose food fails in our winter, migrate in the autumn, as the cold increases, to climes more congenial to them; and so other birds, leaving a still colder country than our own, return to us again, when the snow covers our mountains and valleys. Thus the swallow forsakes us in October, and the wild-fowl visits us: and again, in the spring, the swallow returns, and the wild-fowl hastens away to its colder regions.

If one may make a comparison, the feathered tribes seem the most beautiful part of all animated nature; and this comparison is heightened when, as in the case of the cardinal grosbeak and red birds, song and plumage are combined in one. The song of this kind is so full and melodious, that in America it is called "*the Virginian Nightingale.*"

But I will speak of the birds in order. They are arranged generally according to the following simple table:—

- I. The HAWK FAMILY, which consists of birds of prey.
- II. The WOODPECKER FAMILY, including the rook, magpie, &c.
- III. The GOOSE FAMILY, of web-footed birds.
- IV. The BIRDS ON STILTS, consisting of cranes, herons, &c.
- V. The POULTRY FAMILY, including almost all game.
- VI. The OSTRICH FAMILY, of the emu, cassowary, &c.
- VII. The SPARROW FAMILY, including almost all our song birds.
- VIII. The DOVE FAMILY, of pigeons, &c.

THE FIRST ORDER. *The Condor.* This is the largest of all the birds of the heaven, and the most formidable. Some naturalists say, that its wings are eighteen feet in width. The condor carries off a small deer in its talons. It is a native of South America. The colour of the condor is brown. The wing feathers are enormous—some two feet in length, and the quill half an inch in circumference.

The King of the Vultures. Vultures in general are found in the four quarters of the globe; but are entire strangers in our part of Europe. They are distinguished from the eagles by their heads and necks being naked of feathers, only covered with a fine down. The king vulture is

found in America, and is as large as a turkey-cock. The whole of this family are most voracious; they follow the armies of battle, and feed upon the slain, (See Rev. xix. 17; Isaiah xxxiv. 15.)

The Eagle. What the lion is among the beasts of the forest, such is the eagle with the birds of the air. He is emphatically the *king of the birds*, and we will just consider a few of the species separately.

The Golden Eagle. This is the noblest of this noble family, the expansion of its wings being seven feet, and its length three feet from its beak to its tail. The body is a dark brown, beautifully shaded. This species is found in Ireland and Scotland. The eagle is frequently referred to in the word of God; and some of the illustrations drawn from it I will mention in my next letter.

The Common Eagle. This species is found in the northern parts of England and Scotland. They seldom come into the low countries, for they love the mountain. The flight of the eagle is supposed to be higher than that of any other bird, and its vision more acute. The sense of smell, in the whole of this order, is very delicate.

The Sea Eagle. This bird lives near the sea, and is the deadly enemy of fish that swim near the surface, on which it darts (like the gannet) with the swiftness of lightning.

The Falcon. Next in importance to the eagle, is the falcon, of which there are several species; as the ger-falcon, the peregrine falcon, &c. Falconry, some centuries ago, was in general use among the nobility, as I have before mentioned; and the tameness and obedience of these birds were wonderful; for though they were FREE—absolutely free when *loosed*—yet

having captured the prize for which they were sent, they returned with it to their owners.

The Sparrow Hawk. This, though small, is indeed a bird of prey; and its screech in our woods fills one with very different emotions from the plaintive cooing of the dove, or song of the nightingale. This bird was in high estimation among the Egyptians; and their god Osiris was worshipped under this emblem.

The Eagle Owl belongs to the varied family which gives it its name; they are all *birds of night*. The farmer loves to see their white wings skim his fields in the twilight: therefore the owl is not to be despised, but looked upon as the farmer's friend. This bird almost equals the eagle in size. The head and whole body are beautifully varied with lines and spots, black and brown. This principal species is found only in mountainous districts. He scorns mice, or such little prey, and feeds on hares and other game.

The Horned Owl is a very odd and singular branch of the family. Its horns, which distinguish it from all others, it raises or depresses at pleasure. They consist of six feathers in each horn, about an inch in height, yellow and black. The horned owl is sometimes found in the north of England.

The Barn Owl is the best known of any of this family. It feeds on mice and other small animals, and is of much value to the farmer. At times, it snores and hisses, and often screams dreadfully. They are common in England.

The Butcher Bird is about the size of a blackbird; its bill is about an inch long, and is hooked; its toes are differently formed from those of

other birds of prey, so that naturalists have looked on the butcher-bird as the link between the carnivorous and granivorous; that is, between the birds that feed on flesh and those that feed on grain; and thus its habits and food, AS IS ALWAYS THE CASE IN GOD'S CREATION, are in conformity to its structure. The butcher-bird derives its name from the curious habit of sticking its prey on long thorns in the hedges while it devours it.

THE SECOND ORDER.—Birds of the woodpecker kind are distinguished by a bill that seems formed for CLEAVING. They live on all sorts of food, and generally breed in trees. The order comprises the *Toucan*, the *Motmot*, the *Parrot* family, in great variety, the *Hornbill*, the *Crow*, *Rook*, *Raven*, &c., the *Bird of Paradise*, *Cuckoo*, *King-fisher*, also all the beautiful *Humming-bird* family, and a variety of others. I will name some of the principal.

The Toucans are known by their bill, which is enormous, sometimes much longer than their head; it is jagged like a saw, at the edges. The beak is very thin, or its weight would destroy the equipoise of the bird. The colours of the toucan are beautiful,—black, red, and yellow. In shape and size the toucan and the jackdaw are something alike; it is an in-offensive bird and easily tamed. It is a native of South America, and is much esteemed by the natives, both for its plumage and as food.

The Parrot family comprises the *Maccau*, the largest of the genus, approaching the raven in size; and the *Cockatoo*, distinguished by its beautiful *crest*.

The distinguishing character of these birds is that the bill is hooked; the upper mandible of which is movable. The tongue is fleshy, and the *feet*

are fitted for climbing, with two toes before and two behind, and these they use in walking and eating with singular adroitness.

Though this beautiful bird is a native of other climes, yet it may be said to be almost naturalized in England; not that it is so, for it is always a prisoner.

The beauty of the plumage of this family, and their peculiar power of imitating the human voice, have ranked the parrot as the greatest favourite of all foreign birds ever brought to this country. When in flocks, as I have seen them in South America, they are very noisy and seem quarrelsome; but this may not be the case. It is said by naturalists, that when they descend upon a field for grain, they have always a *watchman*, who sits on a neighbouring tree, and if he see an enemy coming, *he sounds an alarm*,—and the flock is soon gone.

The Raven is the largest bird of the crow kind. The expansion of its wings is four feet. The raven is found in all climes; and its age is said at times to reach one hundred years, some say more. It sustains equally the warmth of the sun at the equator and the cold at *Spitzbergen*, only in the latter clime its plumage is a snowy white. It is easily tamed. It feeds on every thing. The Scripture speaks of the raven, not only in connexion with the ark, but also as the instrument employed by the Lord to support the prophet; “I have commanded the ravens to feed thee.” (1 Kings xvii. 4—6.) This may account for the veneration paid to this bird in some countries: in *Sweden* no one dares to harm it.

The Crow must not be confounded with the rook; for though very similar in appearance, they are altogether different in habits: the crow

feeding on carrion and all putrid offal, the rook on worms, grubs, caterpillars, &c. The crow is an enemy to the farmer, and visits his farm-yard to destroy; and if the hen be absent, will steal away the chickens. The rook is the farmer's friend, and clears his fields of enemies. In King Henry the Eighth's time there was an Act of Parliament against crows, and each village, for ten years, was to do what it could to extirpate them.

The Rook is something of the size of the crow, but there is a marked distinction, not only in its habits, but in its bill, which is bare of feathers to its eye; and this because it has to grub deep for its food in the earth. It is very pleasant in the evening, to see them tranquilly sailing home with their sonorous note, in sympathy with all around. They seem to live in happy fraternity; but strangers may not intrude into their community, or they will be soon expelled. Our poet Cowper, who always writes in the simplicity of nature, thus speaks of this well-known family:—

“ Nature inanimate employs sweet sounds,
 But animated nature sweeter still,
 To soothe and satisfy the human ear :
 Ten thousand warblers cheer the day, and one
 The live-long night; nor those alone, whose notes
 Nice fingered art must emulate in vain,
But cawing Rooks, and Kites, that swim sublime
 In still repeated circles, screaming loud,
 The Jay, the Pie, and e'en the boding Owl,
 That hails the rising moon, have charms for me.”

The Jackdaw is of this family. He feeds on insects, and also on grain, and is rather dreaded than welcomed by the farmer.

The Jay. The plumage of this bird is more beautiful than that of

most of the British birds: the forehead white, striped with black; the head covered with long feathers, which it can raise or depress at pleasure; the neck, breast, back, and belly, are of a faint purple tinged with grey; and the wings are brilliant, with bars of blue, black, and white. The jay is a great enemy to fruit gardens, and it will sometimes kill small birds.

The Magpie. The plumage of this bird is beautiful, and its tail graceful; but it seems vain, ambitious, and quarrelsome. This bird refuses nothing, —insects,—little birds, nothing goes amiss; and oftentimes one sees it on the sheep's back, *apparently* teasing it, though really freeing it from troublesome insects. Thus, even the magpie has its use in creation; and let us at least learn a lesson from it,—“that no outward attraction can compensate for a quarrelsome, unkind, teasing temper:” far better to be plain and amiable than beautiful and cross.

Woodpeckers are particularly distinguished by the powerful splitting bill of this order. Their habits are exceedingly curious. Finding their food on the bark of trees they are provided with feet adapted for clinging to the perpendicular sides of the trunks, and their legs are so placed as to enable them to walk up and down, and round and round, such slippery places with ease and safety. Their tail is composed of stout, stiff feathers, and is used to steady their motions when engaged in hammering holes in the trees. The power with which they disengage the bark is wonderful. They live entirely on insects. The variety is very great.

The Bird of Paradise. Though many of the feathered tribes are beautiful, yet this race surpasses all the rest. The most remarkable of this

family has his whole body covered with plumage of a rich carmine; in size it is like the blackbird. The birds of paradise abound in the Molucca Islands, and rove amid the spicy groves in inconceivable beauty. Its plumage is much esteemed by the natives, who find ready purchasers in the Europeans who visit those islands. There used to be strange fables about this bird, "that it lived on the air, and never rested, and thus, always on the wing, it had no need of legs." To encourage this belief, the natives had a method of so removing the legs that the deception might continue; but as travellers became acquainted with the islands, seeing them seated on the branches of trees gave convincing proof, that like other birds, they *rested* when necessity required. Most of this family have two beautiful feathery filaments, extending far beyond the other feathers of their tail, bearded at the end. The golden-throated bird of paradise, though he is destitute of this appendage, has it amply compensated by several beautiful feathers extending from the head nearly to the tail. The flight of the bird of Paradise is very swift; they are birds of passage, and visit the Spice Islands in August. In storms and tempests, accompanied with lightning, they are seldom seen.

The Cuckoo is a well-known bird of passage, and comes to us in the spring. Its note is most welcome:—

" The school-boy wandering through the wood
To pull the primrose gay,
Starts the new voice of spring to hear,
And imitates thy lay."

In size the cuckoo is larger than the blackbird. Its plumage is dark-brown, with stripes on the back, and a few light spots on the head. The feathers of the thighs almost cover the feet. Though the note of the cuckoo is most welcome, yet the bird itself is no great favourite. It lays its eggs in the nests of other birds; and this foster-child, it is said, as soon as it can, turns the rightful offspring from the house; and so disturbs the domestic peace of what would otherwise have been "a happy family." A lesson of no mean import may be gathered from this, "never to intrude to injure."

The King-fisher. This bird is well known on the banks of some of our rivers, where it excavates a home for its young, which it flies into in time of danger. It unites in itself the rapacious qualities of the birds of prey—the love of water of the aquatic fowl—the beautiful plumage of the peacock, and delicacy of tints of the humming-bird—short legs of the swallow, and the bill of the crow. The ancients called this "*the halcyon bird*;" and supposed that it built its nest on the waters, which were always still until the brood was hatched. This gave rise to the time of tranquillity being called "halcyon days;" and thus the word is used in our language to this day.

In size, the king-fisher is between the lark and blackbird. It is very swift on the wing. The parent birds, in the season of incubation, are most affectionate; and the male bird supplies the mother with food most assiduously.

The Bee-eater. This bird is shaped like the king-fisher, and is of the same size as the blackbird: indeed in many things it is like the halcyon bird.

It has, however, nothing to do with fishing; but, as its name implies, feeds on bees and other insects. It is rarely seen in England, but in Italy and Crete; and the last place is its home.

The most diminutive of all the feathered tribes is the *Humming Bird*. These birds vary in size, from that of a small wren to something larger than a humble-bee. I have seen them in South America most beautiful. They were unknown until America was discovered; and seem almost confined to the southern part of the western hemisphere.

The distinguishing character of this beautiful family is, that the beak constitutes a fine delicate tube. The tongue is filiform, and rendered tubular by two threads. I remember once having a beautiful little bird of this interesting family left as the most perfect skeleton you can imagine, by a number of ants that had somehow got into my drawers: the delicacy of the little frame was beyond any thing you can conceive.

The plumage of all this family is very beautiful; and their nests the perfection of symmetry; and these rest upon, or are suspended from the branches of trees. In some species the eggs are about the size of a pea, and the infant brood not larger than the blue-bottle fly. But we will pass on to the next Order.

Birds of the GOOSE FAMILY have smooth bills covered with skin, which are highly sensitive at the point, and which are furnished with small processes along their sides to serve as strainers of their food. Their legs are short; their feet, formed for swimming, are connected by membranes. They seem almost to live on the water; but they always breed on the land.

The Swan. This beautiful and majestic bird is wild in high northern

regions. In the summer it visits Lapland. The wild swan is of an ash colour, and is far smaller than the tame. The swan was in great repute with the ancients, both for *song* and food; but of its song we know nothing; some suppose that there must be some mystical meaning intended; and for food it is rarely used. Its appearance is beautiful on streams of water, where it swims as if conscious of its bearing. Its down and quills are very valuable. The longevity of the swan is great, reaching often to a hundred years.

The Goose. We are so familiar with the sight of this bird, that it need not be further noticed than to remark—its flesh is good for food—its feathers for beds—and its wing-quills for writing.

The wild goose is an annual visitant to our island, coming to us in the winter, and going northward again in the spring.

The Duck. This bird is familiar to us in every part of England; there are many species of it. The wild duck, the tame, the velvet, the black, the golden-eye, and many others,—besides teal and wigeon. In the duck the beak is shorter in proportion than that of the goose, and so are the legs. The eggs of ducks are at times hatched under fowls, and the foster-mother, being herself afraid of the water, trembles as she sees her little family spring by instinct to the pond.

The wild duck abounds in the fens of Lincolnshire, and many thousands are sent up annually to the London markets.

The Goosander. This bird is somewhat like the wild goose; and frequents, in very cold winters, our rivers and lakes. It feeds entirely on fish.

The Petrel. The bill of this bird is straight, and hooked at the ex-

tremity; the legs are naked up to the feathers of the belly. The petrel feeds on blubber, fish, and sea-offal; and singular to say, it will reject what it has eaten, at its enemy, when attacked. The stormy petrel, as it is called, appears in general before high winds. Once, I remember, off St. Domingo, a hurricane passed within a few miles of us, and many of the sea-birds flew around our vessel, crying and wailing most piteously, and some dropped on the decks. The sky and sea were dreadful to look upon; but the hurricane passed us, and we only HEARD of its ravages. (Psalm cvii. 23, 31.)

The Albatross. This may be called the eagle of the waters, for it has no equal among the aquatic or sea fowls. It abounds in the Southern Ocean, and about Cape Horn, and the Cape of Good Hope. The body is large; and the expansion of the wing from six to eight, and at times even ten feet; the bill, which is yellow, is nearly six inches long, and terminates in a hooked point. It preys on the wing; and, unlike the eagle, it seizes on every thing, fish and fowl, alike. The albatross lives, however, in friendly relations with the penguin; and they frequently build near each other in some remote and desolate spot.

The Pelican. In shape the pelican is like the swan, but larger. Its neck is long; and its toes all connected by webs. Its chief peculiarity, however, is its enormous bill, and what may be called THE FISH-WELL; this is a large pouch, which, when distended, will hold about fifteen quarts of water. The bill is generally one foot and a quarter long, and the pouch extends its whole length. An ancient writer says this bag will hold enough fish to dine six hungry men. This singular bird, when he goes

fishing, does not eat his prey, but fills its pouch first; and then, when he has enough, retires and gets his meal at leisure. Some naturalists say that the Pelican can be tamed to labour for man.

The Cormorant. This bird is so voracious that its name has become a proverb for gluttony. The expansion of its wings is four feet. The plumage of this strange bird is beautiful: the wings are of a deep green, edged with black, and glossed with blue. In China it is tamed, and used as a fisher; but a ring is fastened round its neck, for it may not be trusted to give up what it catches.

The Gannet. This bird is rather less than our tame goose; but its wings are longer. The bill is jagged at its edges. It has a little pouch, like the pelican's. The colour is white. They are found principally in the north; but I have seen them off the coast of Spain. They dart from a great height on fish, with the greatest velocity.

The Penguin. This bird is more truly a water-fowl than almost any other; and its wings are not adapted for flight: indeed, the water seems to be its element, and it dives and swims with great ease and admirable swiftness. These birds walk with their head erect; and their little wings, and white breasts, have led some to compare them to children with white aprons. They are gregarious; that is, they associate in numbers.

The Diver. This bird, which takes its name from its perpetual habit of diving beneath the water, is well known along our coasts. The Northern Diver is the largest of this family. Its wings expand to four feet; the head and neck are of a deep black; the lower part of the neck a rich green, with a rich purple gloss. The tail is short.

The Gull. This is a very large and varied community. The bill is straight and long, and curved at the extremity; wings large; legs short. The British Islands abound with this family.

Linnaeus was very happy in the naming of the FOURTH ORDER. The word *Grallæ*, which he applied to it, means stilts; and if all this family were placed before you in a drawing, you would see the aptitude of the name. The legs of this order are all very long; and so are their necks and bills also: but this exactly meets their wants; for their appointed food lying at the bottom of pools, if they had not this provision they could not reach it. The bodies of this order are slender; their tails short. They live on animal food; and generally build their nests on the ground.

The Flamingo. This is a tall and most beautiful bird. In size it may be compared to the swan; but its legs and neck are so long that, when upright, it is as tall as a grenadier. The plumage of the flamingo is a vivid red. It was once known in Europe, but man had so many inducements to pursue it, that it left that quarter altogether, and is now known only in some parts of Africa and America. It is said that numbers live together in great harmony. They sometimes, according to Dampier, are found three hundred in a flock. When feeding they have a sentinel, who screams as the enemy approaches, when the whole army are in an instant on the wing, leaving the pursuer far behind.

The Spoon-bill. The shape of the bill of this bird gives it its appropriate name. This member is jet-black, and light as whalebone; but the plumage is pure white, and on the head is a crest of the same colour. The spoon-

bill is of the crane family, and is known in Europe; also in America; but in the latter country it is of a beautiful rose colour.

The Crane. The home of the crane is in the Arctic regions. Its plumage is ash-coloured; and two large tufts of feathers terminate each wing: these used to be set in gold, and worn as a costly ornament. Cranes are gregarious; and they are represented as living together in all faithful attachment, affording a pattern to mankind, both of conjugal and filial love; indeed, many of the feathered race teach man important lessons.

The Stork is a bird of passage. This is especially noticed in the prophet Jeremiah, where the Lord is remonstrating with Israel, chap. viii. 7. The crane and stork are much alike; but their habits are dissimilar. The stork is larger than the crane; but its neck is shorter. The head, neck, breast, and belly, are all white; and the rump, with the exterior feathers of the back, dark. The stork is a silent bird: the crane has a loud piercing voice. The stork loves the haunts of men: the crane flees from them. As the stork destroys a great number of noxious reptiles, it is considered a great friend to man; and from time immemorial has been venerated. In Holland, the stork is even protected by the laws, and builds its nest on the tops of houses, without molestation. There is also a black species of stork, the modern ibis of Egypt; and another species in America.

The Heron. Often is this bird seen in this country sailing high in the air. He is a great robber of ponds; and pitches his tent always near ponds that are well stocked. One species of this family is called the night heron, from its flying in the night, and its hoarse voice.

The Bittern is of the heron family; and chiefly remarkable for its most

dismal hollow note. It is not so large as the heron. Its plumage is a pale dull yellow, spotted and barred with black. This bird is not so voracious as the heron; its flesh is much esteemed; and though its voice is so inharmionious to man, naturalists have supposed it to be the language of affectionate intercourse.

The Woodcock. This is a bird of passage. In breeding time, it inhabits the Alps and the northern parts of Europe. It subsists on worms and insects. When the cold sets in very severe, they come southward, and visit our country till March, when they again migrate to the north. The beak of the woodcock is about three inches long, and is admirably adapted to penetrate into mud, where it finds its appointed food. The plumage is varied—black, grey, and reddish brown.

The Snipe. This also is a bird of passage, though some *remain* with us, in the north of Scotland, and breed there. The bill of this bird is about two inches and a half in length, also adapted to procure its food. The back is covered with large plumage, variegated with black and reddish brown.

The Curlew.—This bird visits our sea-coast from winter to spring; but returns at the latter season to the mountains to breed. There is a variety of species of this family, but they all agree in general character. The bill of the curlew is longer than its head, and curved, and the feet are furnished with four toes.

The Lapwing, or Peewit, is a well-known bird in England; and is remarkable for attachment to its young, watching the nest with the most jealous fidelity. They are generally birds of passage; and as the cold increases,

they meet together in consultation, and finally disappear towards the south.

The Golden Plover. This is a migratory bird. Its length is eleven inches; and the expansion of its wings from twenty to twenty-four. The head, back, and circles of its wings are black, and beautifully spotted with yellowish green. The belly is white. It is very common in the Hebrides or Western Islands of Scotland.

The Lesser Plover. This little welcome stranger comes to us in April, and leaves us about the longest day, June 21st. It is also seen in September, on the Wiltshire Downs, whence it migrates to places unknown. The migration of birds from us in autumn is much greater than of the winter ones. The greater number leave our shores in September, October, and November.

The birds of the ORDER of FOWLS are more familiar to us than any others. Among them are some of the most beautiful of the whole class of birds.

The Peacock. Even in the time of Solomon this beautiful bird was noticed. When it appears with its tail spread out, and the sun shines on it, no bird can equal it: but then its harsh and discordant voice, and its voracious habits, make it less a favourite than it would otherwise be. So it always is, that after a little acquaintance, it is the conduct of man that is looked to, and not so much his appearance. The peacock is a native of Asia; but since its importation to Europe, it has become quite naturalized, and is found in most of our parks and grounds. Its flesh was much esteemed by the ancients. The female bird has none of the beauty of the male, except its symmetry.

The Turkey. This bird is a native of the New World, as America used to be called. It was brought to this country in the time of Henry VIII. The turkey is found in great numbers in the wilds of America.

The Pheasant. The plumage of this bird is hardly surpassed by the peacock,—the colours are so delicately blended. There are a great many varieties of the pheasant,—white, spotted, and crested, but all are beautiful.

The Barn-fowl. The shape, size, and plumage of this most welcome of all the feathered tribes to man, is too well known to need any description. Persia is supposed to be the home of this valuable domestic bird: when it was imported into Britain is not known, but evidently before the Roman conquest, as it was forbidden by the Druids to our forefathers. In the cruel and barbarous customs of almost every country, because this animal is so courageous, it has been trained to single combat; but whether it be bull-fighting or cock-fighting, or any of these degrading sports, *there is a day of reckoning—a day of account coming.* A Christian cannot engage in these things,—a man forfeits all right to that most blessed name that has delight in them. How sweet are those words of Cowper:—

“ I would not enter on my list of friends
 (Though graced with polished manners and fine sense,
 Yet wanting sensibility,) the man
 Who needlessly sets foot upon a worm.”

The Christian is a partaker of the divine nature, and God is love; and he that bears that name should delight to imitate Him who feedeth the

young ravens when they cry, and openeth his hand and satisfieth every living thing.

This bird supplies man with the most delicate food; and even the very look of a farm-yard, with this family about, gives sprightliness and cheerfulness to all around.

When the breed is good, it is calculated that a hen will lay between two and three hundred eggs in the year; though she rarely hatches more than one or two broods. The egg-shell, being formed of the finest preparation of lime, is used in medicine.

The Guinea Hen. The name of this fowl is taken from its native country, Guinea, in Africa; though now it is in a domestic state all over Europe. It is also found in America; but it is supposed to have been imported there early in the sixteenth century. It is a beautiful bird, with spotted plumage, rather larger than the common hen.

The Curassow is nearly as large as a hen turkey; the bill is black at the point. The head is adorned with a beautiful feathery crest. The whole body is jet-black—quite glossy. It frequents the settlements of Berbice and Demarara.

The Cock-of-the-wood is a very large bird, weighing at times fourteen pounds. It is common in the Alps, France, Germany, and the Highlands of Scotland. It feeds principally on corn; and, as you may imagine from its size, makes no small havoc amongst it. The female bird is much smaller than the cock. They feed also on ants' eggs and on the cones of the fir.

The Black Cock, like the cock-of-the-wood, is fond of woody or moun-

tainous districts. It weighs, when full grown, four pounds. It is called the Black Grouse.

The Moor Fowl is a valuable bird, peculiar to the British Isles, and weighs from fourteen ounces to a pound.

The Ptarmigan. In these kingdoms, this bird is only found on the summits of the mountains of Scotland and Cumberland.

The Bustard is now almost extinct in England. When full grown the wings expand nine feet; the female is not more than half the size of the male.

The male has a tuft of feathers about five inches long on the lower mandible; the head and neck are of the peculiar colour of ashes, the back is transversely barred with black and rust colour.

These birds *used* to frequent Salisbury Plain, and other of our large commons, but now they are rarely seen.

The Partridge is found in every climate, from the arctic regions to the tropics; and its plumage is adapted to this country. In Greenland it is brown in summer, and white in winter. The flesh of the partridge is delicate and nutritious.

The Quail is the smallest bird of this family; but that it is a bird of passage is singular. It was with this bird that the Lord miraculously fed the Israelites when they wandered in the wilderness. (Exod. xvi. 13, Numb. xi. 13—32.)

I have now to speak of an order of birds of stately growth, and imposing appearance.

The Ostrich. This is the largest of birds; and seems, from its habits,

to be a link between the quadruped and feathered tribes. When the ostrich stands erect it is not unlike the camel, appearing nearly as high as a man on horseback. When the head is extended, from the top of it to the tail is nearly six feet, and the tail one foot more. The large "ostrich feathers" are at the extremities of the tail and wings; for its covering generally is more like hair. It inhabits the regions of Africa and Asia within the torrid zone. It is adapted in a most admirable degree to the country it inhabits, as it seldom drinks. The following passage in Job gives the natural history of the ostrich. "Whose house I have made the wilderness, and the barren land his dwellings. . . . Gavest thou the goodly wings unto the peacocks? or wings and feathers unto the ostrich? Which leaveth her eggs in the earth, and warmeth them in the dust, and forgetteth that the foot may crush them, or that the wild beast may break them. She is hardened against her young ones, as though they were not hers: her labour is in vain without fear; because God hath deprived her of wisdom, neither hath he imparted to her understanding. What time she lifteth up herself on high, she scorneth the horse and his rider." (Job xxxix. 6, 13—18.)

The Cassowary is second only to the ostrich in stature; being about five or six feet, at its largest size, from the bill to the claws. The wings are in a great measure concealed under the feathers of the back. The cassowary is provided with a kind of natural helmet of horn, which will resist a heavy blow. Its eye is also very piercing.

The Emu. This bird is like the cassowary; but is deficient of the helmet-like knob on its head just spoken of. New Holland, and all those vast

clusters of islands comprehending the Moluccas, Australia, &c., are the home of the emu. It is a gentle bird, and capable of being tamed.

The Dodo. This bird has not been seen by any person now living; indeed, some naturalists have doubted if it ever existed. If you look in the "Penny Cyclopædia," at the article bearing its name, you will find the subject examined into at great length; and, weighing all the evidence, it seems conclusive that a very large bird, bearing this name, was known to the natives of the Mauritius in the early part of the last century, and also in the one preceding. In the British Museum there is a foot of a large bird said to be the dodo; and also a drawing of the bird itself. And in the Ashmolean Museum at Oxford there is the head of one of the same species; which is the only remains of a once perfect bird, presented to the Museum in the reign of Queen Elizabeth. Some of the most learned naturalists of the present day have thought, comparing all the evidence together, that the bird to which these remains belonged was greater than the ostrich.

The traditional accounts of the natives of the Mauritius, and the journals of voyagers, concur in stating, that the dodo was a bird of great size and excellent for food; though, in this last particular, some of them differ.

We come now to an order of birds exceedingly different from the last. The little songsters which sport all around us in our country walks, and fill the air with their songs and chirpings.

Though this is the least family of the birds of the air, yet is it by far the most interesting. It is to it that we are indebted for "the melody of

the groves ;”—for the blackbird, the thrush, and thousands of other birds of this family, wake up the morning with the sprightliness of their song ; and as the evening shades set in, the pensive, solitary whistle here or there is in keeping with the quiet calmness of the time ; and when all is hushed and still, how beautiful is the song of the nightingale to her mate, cheering “ the live-long night ;” and though our gardens and orchards may suffer from some of this family, yet, as has been found, *we should suffer far more from their absence* ; for fly-catchers and insect and worm-destroyers are of more value to us than we generally are aware of. This family we will consider in their great divisions. First, those that feed on insects ; as the thrush, blackbird, fly-catcher, &c. Second, those that feed on grain and fruit ; as the lark, finches, bunting, starling, &c. Third, those that take their prey flying ; as the swallow, swift, goat-sucker, &c.

The Thrush. This most delightful songster of our groves is well known ; and one never regrets seeing it, except when perched up in a large basket-cage, *with its note dull* compared to that sung in freedom. If birds can be so tamed as to PREFER CAPTIVITY, all is well ; but then the cage door *should be opened* to give a reality to the thought. Our own country affords several species of this family ; the two principal are the *Song Thrush* and the *Mistletoe-bird*. The latter is by far the larger of the two ; and has the inner feathers of its wings yellow. In France the thrush is a bird of passage. The food of this bird is principally insects and berries. It sings generally on the loftiest spray of some high tree.

The Blackbird. The plumage of the male bird is a jet black, and that of the female a dark russet. The note of the blackbird is the loudest of the

wood; and in the distance is beautiful. In the Alps there is a species that from its colour should be called the white-bird, its plumage being purely white.

The Redwing. This is a species of thrush; but the plumage under the wings is of an orange or dusky red. The redwing, moreover, is migratory, and comes to us about Michaelmas and leaves in March.

The Fieldfare. This bird is larger than the common thrush, and generally goes in flocks. The redwing and fieldfare migrate in company.

The Fly-catcher. This is a sportive little bird, about five inches long. The head is large, and spotted with black; wings and tail are dusky; the belly is white. It is a bird of passage, and comes to us in the spring, and leaves in September. As its name implies, it feeds on flies; and this accounts for its migration.

The Lark. This bird belongs to the second division of our family; and may hardly give place even to the nightingale for the melody of its song. How often have we watched it together, ascending higher and higher until it was scarcely visible, and then marked its delight as it descended to its loved partner and offspring. *How cruel the sport* to invade such domestic happiness! I believe some parents are little aware how birds'-nesting, as it is called, hardens and debases the minds of their children. *Cruelty to animals* is almost invariably either the forerunner or companion of *cruelty to man*.

The Cardinal Grosbeak. This American bird is also called the "red bird," and the "Virginian nightingale." With the most brilliant plumage, as its name implies, it unites the sweetest song, emulating, it is said, the

nightingale. This bird frequents the cedar groves of Bermuda, and looks exceedingly rich, darting among the trees. It is many years since I heard their note, but I never thought it, however melodious, to reach the song of our native nightingale.

The Black Cap. The crown of the head of this little bird is quite black. This circumstance gave it its appropriate name. It is a bird of sweet song; so much so that in Norfolk they call it "the mock nightingale."

The Robin Red Breast. This little winter friend gives us song when almost all the choir of the woods is silent; and though he is not protected, as the stork in Holland, by Act of Parliament, yet a sort of common law seems to pervade all ranks, so that it is high treason against the feelings of humanity to hurt him. I remember this even at school: if any boy hurt a red-breast, there was always a host *to take poor Robin's part*. He comes to our windows, and never wants a friend to provide crumbs for him. The robin seems fond of the haunts of man, and he in return gives him his protection, without imprisonment.

The Golden-crested Wren. This is the smallest of our English birds, weighing not more than twenty-six grains. It has a scarlet mark on its head, surrounded by a yellow rim. It frequents our woods, and may be called, from its size and beauty, the English humming-bird.

The Wheat-ear is only a visitor to our shores, but it stays the early spring, summer, and part of autumn. Its plumage is of a bluish grey, and the belly part a yellowish white, tinged with red; the legs, black. It abounds in Sussex.

The Sparrow. This little friendly bird gives the name to this order:—

“*Passeres*, the sparrows.” It has very little fear of man; and has neither song nor beauty of plumage, and yet its cheerful chirp on the spray is not without its charm; and though it is a robber of our gardens, yet it also takes away many of our enemies. Therefore, whilst we may not bestow the same regard on the sparrow as on the red-breast, yet we will not despise him, but give him a few crumbs, when he comes to our doors in the winter’s morning. It is, my beloved children, such a joyful thing to love to give happiness, even to the least of the irrational creation; and never should God’s children forget (and oh that you may be numbered among them) the double import of our Lord’s words, “Are not two sparrows sold for one farthing? and not one of them shall fall on the ground without your Father. But the very hairs of your head are all numbered. Fear ye not, therefore, ye are of more value than many sparrows.” (Matt. x. 29—31.) Often, when looking on this cheerful little bird, does this most beautiful scripture come to my mind.

The Swallow. This is the third division of this order. Four species are natives of England, though all of them leave us in September and October. 1. The house swallow; 2. the martin; 3. the sand martin; 4. the swift: to these may be added the esculent swallow; the nests of which bird are imported into China to the number of four millions annually; the current price of which is *the weight of the nest in silver*.

The House Swallow. This species is distinguished by the extreme forkedness of its tail, and a reddish spot on its forehead. It builds its nest within the tops of chimneys, and sometimes breeds twice a-year. The

common swallow is the harbinger or forerunner of the whole family; arriving about twenty days before them.

The Martin. This bird is not so large as the swallow, and its tail is less forked. It builds under the eaves of houses, where the family dwell as in a fortress: a *small* aperture just admits the parent birds to feed their young, and when fledged, they supply them on the wing, until they can provide for themselves.

The Sand Martin. This species builds its nest, as its name implies, by the sides of banks, perforating the sand. It is the last of the swallow tribe that comes to us, always waiting until the season has fully set in.

The Swift. This beautiful bird derives its name from its velocity on the wing. The horse has been known once, for a few seconds, to go at the rate of a mile in the minute; but the swift travels more than four times this rate, reaching, with its swiftest wing, 250 miles an hour. This bird hardly ever rests, excepting during the night, and while on its nest. Directly the cold sets in, the swift migrates, even weeks before its companions.

The Esculent or Java Swallow. This interesting little bird is principally known in the Indian Archipelago—that amazing cluster of islands on the Eastern shores of Asia; but it abounds in the island of Java, and from thence it takes its name. In shape it resembles our swallow, though less in size. Its plumage is a dark grey, with the belly white. It is very swift on the wing; but what gives it the greatest interest is *the singular character of its nest*. Sir George Staunton, in his voyage to China, where he was going as English ambassador, touched at Sumatra, and gives the

following most interesting account of his visit: "In the *Cass*—a small island near Sumatra—we found the caverns running horizontally into the side of the rock. In these were a number of those birds' nests so much prized by the Chinese epicures. They seemed to be composed of fine filaments, connected together by a transparent viscous matter, not unlike what is left by the foam of the sea upon stones, alternately covered by the tide; or those gelatinous animal substances found floating on every coast. The nests adhere to each other, and to the sides of the caverns, mostly in horizontal rows, without any break or interruption, and at different depths, from 50 to 500 feet." Various are the opinions how these wonderful little architects carry on their work; but the most satisfactory is, that the bird first partakes of the sea scum above mentioned; and from it, by a chemical process, which goes on in its inside, it produces a fine mucilage, which it can draw up at pleasure; and thus by a wonderful instinct it prepares its house from its own body, even as the spider does his beautiful web, and the silk-worm its costly covering; and should this little builder have his house in the interior of the island, this presents no difficulty; for he flies with so swift a wing, that a short hour would take him from any part of Java to the sea-side, when he might lay in a good store, and at his home prepare his strange material for building. It seems almost incredible, that some thousands of tons of shipping are employed to carry these nests to the Chinese markets, to the enormous annual value of 290,000*l*. The fine filaments which compose these nests are something the consistency of isinglass; the Chinese are passionately fond of them, and dissolve them in their soups, &c.

The Goat-Sucker. This bird is of the swallow family, though larger. It does not stay long in England, coming late and leaving early. The ancients had an idea that it sucked the goat, and thus gave it its ungainly name; but the accusation was quite unjust.

The next order is confined to the Doves and Pigeons. There is something pleasant in the very name of dove, it is so associated with harmony and peace.

The Stock-Dove. From this source have sprung all the varieties of the pigeon, which are now so numerous. It builds either in the holes of rocks or in the hollows of trees.

*The Pigeon.** This family has branched out into almost endless variety, the species of which are so well known as hardly to need description.

The domestic pigeon is wonderfully prolific, for though it lays only two eggs, yet it breeds every month; and so rapid is the growth of the young, that it is calculated in four years a single pair might produce upwards of one hundred thousand. It is not a very uncommon thing to see two families in the same nest; one just born, the other ready for flight.

The Ring-Dove. A beautiful ring round the neck of this lovely bird gives it its name. It is the largest of this family known in our country. They generally fly in flocks, and subsist on berries. You sometimes see them in cages, but they look miserable.

The Turtle-Dove. This bird is called the pattern of fidelity, love, and simplicity; and naturalists say, that its attachment to its mate is such, that

* See Appendix.

if the hawk or kite seizes on one, the other pines away and dies. You remember how sweetly Cowper alludes to this in his stanzas on the dove. I quote a few verses of it:—

“ When lightnings flash among the trees,
Or kites are hovering near;
I fear lest thee alone they seize,
And know no other fear.

“ ’Tis then I feel myself a wife,
And press thy wedded side,
Resolved an union formed for life,
Death only shall divide.

“ But oh, if fickle and unchaste,
(Forgive a transient thought,)
Thou couldst become unkind at last,
And scorn thy present lot;

“ No need of lightnings from on high,
Or kites with cruel beak,
Denied th’ endearments of thine eye,
This widowed heart would break.”

Yes, my beloved children, we may go daily to one part of creation or another, and get lessons of wisdom. Industry from the ant (Prov. xxx. 25); watchfulness of times from the stork, and crane, and swallow (Jer. viii. 7); and faithfulness from the dove (Canticles ii. 12—14).

And now I must conclude this long letter. We have seen the great sea, wherein are things innumerable. We have watched the birds of heaven,

with their habitations, by the springs and fountains of waters, and their song among the branches (Psalm civ. 17—25). We have witnessed both elements—the air and the water—subservient to man; and surely the song of the child of God must be, “Bless the Lord, O my soul: and all that is within me, bless his holy name. Bless the Lord, O my soul, and forget not all his benefits: who forgiveth all thine iniquities; who healeth all thy diseases: who crowneth thee with loving-kindness and tender mercies.” (Psalm ciii. 1—4.) That each of you, my beloved children, may be found, with Daniel, standing in your lot in the end of your days, is the sincere prayer of

Your ever affectionate Father.

THE CREATION.

LETTER X.

AS AN EAGLE STIRRETH UP HER NEST, FLUTTERETH OVER HER YOUNG, SPREADETH ABROAD HER WINGS, TAKETH THEM, BEARETH THEM ON HER WINGS: SO THE LORD ALONE DID LEAD HIM, AND THERE WAS NO STRANGE GOD WITH HIM.—
Deuteronomy xxxii. 11, 12.

MY DEAR CHILDREN,

I HAVE often remarked to you, when reading the New Testament, that our blessed Lord almost invariably instructed his disciples, and the multitude at large, from the circumstances of every-day life. It was not in difficult words, and abstract reasoning; but in the very plainest language, that he spoke to them; the *heart* and the *conscience*, as well as the understanding, was what he ever appealed to. He never answered curious inquiries, though he *replied* to the inquirers; but this was to direct their eye to one thing alone—THEIR OWN SALVATION. All bore on this, for both by word, as well as by the sacrifice of the cross, he continually set forth the all-important truth, that he came to seek and to save that which was lost. Thus, when the disciples came to him with the inquiry, “Who is the greatest in the kingdom of heaven?” he took a little child unto him, and

set him in the midst of them, and whilst their eyes, doubtless, were fixed upon it, he said, "Verily I say unto you, except ye be converted, and become as little children, *ye* shall not enter into the kingdom of heaven." (Matt. xviii. 3.) And again, when one came to him with the word, "Lord, are there few that be saved?" how full of mercy the reply, "Strive to enter in at the strait gate; for many, I say unto you, will seek to enter in, and shall not be able. When once the master of the house is risen up, and hath shut to the door, and ye begin to stand without, and to knock at the door, saying, Lord, Lord, open to us; and he shall answer and say unto you, I know not whence ye are." (Luke xiii. 24, 25.) So, in like manner, when some one told the Lord of a cruel act that had just taken place; and that Pilate, while the Galileans had been sacrificing, had slain some of them, and mingled their blood with the blood of the sacrifice; how striking was his reply: "Think ye that these Galileans were sinners above all the Galileans? I tell you nay; *but except ye repent ye shall all likewise perish.*" (Luke xiii. 3.) And so when the Pharisees came to him and said, "When shall the kingdom of God come?" his reply was not at all intended to meet the question, *but taking advantage of the subject* he said, "The kingdom of God cometh not with observation; neither shall men say, Lo here, or, Lo there; for behold the kingdom of God *is within you,*" (Luke xvii. 20,) even that kingdom which is righteousness, peace, and joy in the Holy Ghost. (Rom. xiv. 17.) What was it for them even to know *the time of the kingdom*, if they had no part in it? and assuredly the soul that has not the kingdom of God within him now, will never be a subject of that glorious kingdom of Christ THEN; he that has not the first-

fruits of the Spirit *in this world*, will never have the *fruition* in the resurrection unto life in the *world to come*.

But now, my beloved children, we will, before we pass on to the subject immediately before us, contemplate another class of inquirers that came to the Lord. And oh, how direct and explicit was his answer to them! *I beseech you to mark the difference*. “What shall we do, that we may work the works of God?” said some Jews to the Lord. Our Lord instantly replied, “THIS IS THE WORK of God, that ye believe on him whom he hath sent.” (John vi. 28, 29.) So, again, the leper, “Lord, if thou wilt, thou canst make me clean!” “I will,” said the Lord, “be thou clean.” (Matt. viii. 1—3.) “Lord,” said St. Peter, “save me;” and *immediately* Jesus stretched forth his hand, and caught him, and said unto him, “O thou of little faith, wherefore didst thou doubt?” (Matt. xiv. 30, 31.) And how gracious the reply to Mary, who addressed him supposing him to be the gardener, “Sir, if thou have borne him hence, tell me where thou hast laid him, and I will take him away. Jesus saith unto her, Mary!” (John xx. 15, 16.) Thus, you observe by these gracious examples, that though the curious inquiry met in each case a *merciful* reply, yet the honest inquiry *met at once* the ready and immediate answer.

I have been led into these introductory remarks, by considering the opening of the fifth chapter of St. Luke; for there our blessed Lord did, in the most striking manner, apply the passing events to the illustration of divine truth. The scene is the Lake of Gennesaret, otherwise called the Sea of Tiberias, which is the Sea of Galilee, where our Lord manifested himself to his disciples after his resurrection. The multitude had so

pressed on the Lord, that he was constrained to enter into a ship (a fishing vessel) near at hand, and to request the owner of it to thrust out a little from the land; and he sat down and taught the people from the ship: and when he had left speaking, he said unto Simon, the owner of the vessel, "Launch out into the deep, and let down your nets for a draught. And Simon answering, said unto the Lord, We have toiled all the night, and taken nothing; nevertheless, at thy word, I will let down the net: and when they had done this, they enclosed a great multitude of fishes, and the net brake. And they beckoned unto their partners, which were in the other ship that they should come and help them. And they came and filled both the ships, so that they began to sink. When Simon Peter saw it, he fell down at Jesus's knees, saying, Depart from me; for I am a sinful man, O Lord. For he was astonished, and all that were with him, at the draught of the fishes which they had taken: and so also were James and John, the sons of Zebedee, who were partners with Simon. And Jesus saith unto Simon, Fear not; from henceforth thou shalt CATCH MEN. And when they had brought their ships to land, they forsook all, and followed him." (Luke v. 4—11.) Something similar is the account in St. Matthew (chap. iv. ver. 19); "Henceforth," saith the Lord, "I will make you FISHERS OF MEN." And truly this is a faithful picture of the gospel ministry: night after night does the fisherman toil and labour, and sometimes with but little success: he does not, however, give up his calling, but perseveres through many a storm and tempest; and come when you will, he is either mending his nets, or casting them; and times there are when he returns home richly laden with spoil. So in the Christian

ministry—the net is cast by all waters; and in due season the labour is not in vain in the Lord. (1 Cor. xv. 58.) Here or there an effectual door is opened. (1 Cor. xvi. 9.) “Launch out into the deep,” is the word. The net is cast in faith, and encloses a great multitude of fishes. But while on this subject, suppose you turn to the prophecy of Ezekiel, chap. xlvi., and read from the first verse to the eleventh. That these healing waters, flowing out from the temple of God—the great multitude of fishes—and the fishermen sitting on *Engedi* and *Eneglaim*—all had a spiritual application, none will deny; and in all probability our blessed Lord alluded to this scripture, when he called the Apostles “fishers of men;” for though the prophecy, doubtless, refers to Israel in the last days, who shall, indeed, be sent forth in the power of the Holy Ghost, and be the Lord’s instruments in carrying out the good tidings to those who have not heard his name, nor seen his glory (Isa. lxvi. 19), and thus, in the fullest sense, be “fishers of men,” whose spoil shall be “as the fish of the great sea, exceeding many;” yet, also, it no doubt, in spirit, refers to the gospel ministry, which, from the Apostles’ times to the present, has been the means of abundant blessings to nations far and wide.

Having thus briefly looked at this passage in Ezekiel, we will turn now to the 13th of Matthew. The subject is there quite of a different character, although the illustration is drawn from the same source. “Again, the kingdom of heaven is like unto a net, that was cast into the sea, and gathered of every kind: which, when it was full, they drew to shore, and sat down, and gathered the good into vessels, but cast the bad away. So shall it be at the end of the world: the angels shall come forth, and sever

the wicked from among the just; and shall cast them into the furnace of fire: there shall be wailing and gnashing of teeth." (Matt. xiii. 47—50.)

We watched the fishermen some evenings since. It was with great quietness they encircled their prey; and when all things were ready, they began silently to draw in their nets; *at last* the fish felt some strange movement in the waters, and the *dread reality* burst upon them: but it was too late to escape—they were all dragged to the land. And so this scripture tells us it will be at the end,—multitudes will go on sporting in the stream of life—at last the time of casting the net will come, and then the dread reality will also burst on them. The net will encircle all; *not one will escape.**

The allusions to this part of creation are not very frequent in the Scriptures; but, when introduced, it is with great force. There are *five* incidents, or facts, which are of great interest:—1st. It was a GREAT FISH that the Lord had prepared to swallow up Jonah, which thus became, for three days and three nights, the prophet's miraculous resting place; affording thereby that most wonderful illustration of our blessed Lord's lying three days and three nights in the heart of the earth. (Jonah, i. 17; Matt. xii. 40.) 2d. It was *a fish* that was caught by Peter, that supplied the Lord with the exact sum of the tribute-money, for himself and his servant. (Matt. xvii. 27.) 3d. It was *fish* and bread that he provided for his disciples at the sea of Galilee. (John xxi. 9.) 4th. It was five barley loaves and two *fishes* that he multiplied into a repast sufficient for the five

* The parables generally convey some *one* great truth,—in this one, the certainty of all appearing before God seems to be pointed out.

thousand; and there was left of the fragments twelve baskets full. (Matt. xiv. 15—21.) 5th. It was of the *broiled fish* and honeycomb that the Lord ate after his resurrection. (Luke xxiv. 42, 43.)

The passage which I have selected from Deuteronomy xxxii. 11, as the motto of this letter, is replete with beauty. The eagle is, as it were, the king of birds, and manifests great tenderness and solicitude for its young. When the *time of their flight* has arrived, the parent bird stirs up her nest, and flutters over them; and the eaglets, encouraged by her call, leave their eyrie, or nest, and essay to fly; she watches, with intense fondness, their every movement; and if they for a moment falter, darts beneath them, and spreading her broad expansive wings, bears them on high, *free from every danger*. “I have borne thee, saith the Lord, as on eagles wings,” (Exod. xix. 4;) for thus the Lord, the King of his people, led Israel, and kept them all the wilderness through. And so, in like manner, he sustains his people now; for whatever happened to Israel then was for our example upon whom the ends of the world are come. (1 Cor. x. 11.)

There is also a peculiarly beautiful passage in Isaiah, where the eagle's flight is used in the way of illustration, to show the blessedness of waiting upon God. “Hast thou not known? hast thou not heard, that the everlasting God, the Lord, the Creator of the ends of the earth, fainteth not, neither is weary? There is no searching of his understanding. He giveth power to the faint; and to them that have no might he increaseth strength. Even the youths shall faint and be weary, and the young men shall utterly fall: but they that wait upon the Lord shall renew their strength; they shall mount up with wings as eagles; they shall

run, and not be weary; and they shall walk, and not faint." (Isa. xl. 28—31.)

Here the contrast is evidently drawn between human and Divine strength—Saul's armour and David's sling. (1 Sam. xvii. 38—40.) Have you, my dear children, ever had the opportunity of watching the eagle in its flight? have you seen it soar on high, gazing as it were on the sun? This is the figure of the child of the Lord THAT WAITS ON HIM—he shall soar on high, with a hope full of immortality—he shall *run* in the Divine life, and not be weary; and *walk* amid the trials of the wilderness, and not faint.

There is also another most striking use of this bird as a similitude in the 17th of Luke 20—37. The Lord had been conversing with his disciples, relative to "the days of the Son of man;" and when he had reached that part, "*then shall two be in the field, one shall be taken and the other left,*"—unable any longer to restrain their anxious desires, they burst forth with the cry, "WHERE, LORD?" and he replied, "Wheresoever the body is, there will the eagles be gathered together." This answer was evidently *a direct appeal to their consciences*. See* that you are ready to meet the Lord; so that when he appears, you may *mount up as on eagles' wings*, to his presence.

There is a passage, my dear children, in Isaiah xxxi. 5, that has often

* This figure seems evidently to denote the concentrating, or gathering together at a given point. An Eastern traveller, Dr. Clarke, says, that the eagle and vulture will scent or see a carcass in the wilderness at an incredible distance, and hasten their flight to it.

struck me with great force,—“*As birds flying*, so will the Lord of hosts defend Jerusalem; defending, also he will deliver it; and passing over, he will preserve it.” This must allude to the exceeding rapidity of the flight of birds. And thus the Lord will hasten for his people’s deliverance; Sennacherib, with his forces, may cover the valleys, and come up like the lion from the swelling of Jordan; and Rabshakeh, his general, may insult the Lord’s children on the very walls of Zion; but the Lord will dart down as the lightning for their deliverance; he will come riding on the wings of the cherub; yea, he will fly on the wings of the wind (Ps. xviii. 10); passing over, he will protect them, not a spear shall fall on his Israel, nor an arrow light on his favoured Jerusalem. (Isaiah xxxvii. 21, 37.)

But, my beloved children, if the eagle sets forth the *watchful* care of the Lord over his people, and the *swiftness* of his mercy to help, other emblems bring out other parts of his gracious character. The lamentation of our blessed Lord over Jerusalem *can never be forgotten*, “O Jerusalem, Jerusalem, thou that killest the prophets, and stonest them that are sent unto thee, how often would I have gathered thy children together, even as a hen gathereth her chickens under her wings; and ye would not.” (Matt. xxiii. 37.) Perhaps amid the rural scenes of life, nothing is more full of interest than the mother bird gathering her brood beneath the covert of her wings whilst the hawk is hovering nigh. Safety and warmth are combined in that protection; and when the enemy is gone, the little family again sally forth; but safety is in keeping close to those wings *that alone can shelter*. The emblem needs no application. The Lord is all this,

and infinitely more to his people. It was a beautiful saying of the old Jews, when a Gentile was converted, and brought to eat of the Paschal Lamb, "This Gentile is now come to dwell beneath the wings of the shadow of the Majesty of God." The allusion was in all probability to the wings of the cherubim, in the Most Holy Place; and I have no doubt, that *all* the references in the Psalms to the shadowing wings of the Almighty, had a direct allusion to those cherubim of glory shadowing the mercy-seat. (Heb. ix. 1, 5.)

In Jer. viii. 7, the Lord introduces *the birds of passage*, and thus remonstrates with his people: "Yea, the *Stork* in the heaven knoweth *her appointed times*, and the *Turtle* and the *Swallow* observe the time of their coming; but my people know not the judgment of the Lord."

Thus, ever, the gathering of the swallows on our autumnal morning comes to God's children with instruction; and is a call to them for watchfulness of the times and seasons *to fulfil his will*.

The Psalmist, in the 84th Psalm, which I referred to in the fourth day, has a beautiful allusion to the swallow and the sparrow. The Psalm thus opens:—"How amiable are thy tabernacles, O Lord of hosts! my soul longeth, yea, even fainteth for the courts of the Lord: my heart and my flesh cry out for the living God; (Yea, the sparrow hath found a house, and the swallow a nest for herself, where she may lay her young,) thine altars, O Lord of hosts, my King, and my God." The Jews, in their version of this Psalm, and in which they are followed by some eminent Christians, put the clause concerning the sparrow and swallow in a parenthesis, as above, and the sense then would be, that whilst these birds

have both been careful to provide a nest to lay their young, the Psalmist had also his rest—his place of assured confidence and strength, even the altars of his God. And so the child of God now has his rest; for gazing continually on the offering that rose up before God as a sweet savour, *he has rest with Jesus*. Thus, my dear children, so trifling a thing as the nest of a swallow or sparrow, if the heart is right with God, will bring to the remembrance of the child of God, that he also has a rest; for his dwelling is in the secret place of the Most High, and his abiding place under the shadow of the Almighty. (Ps. xci. 1.)

Many a heart in trial has found an expression for its grief in that mournful passage of the Psalmist, “I watch, and am *as a sparrow alone upon the house-top*.” (Ps. cii. 7.) The mate and brood all gone, and the lone bird solitary and in grief. But oh, how sweet to turn from that scene, and in hope to realize the time when God’s purposes shall be fulfilled, and he will again “set the solitary in families.” Yes, brighter days await the child of light—spring shall assuredly come; and God will compass the lone one about with songs of deliverance. (Ps. xxxii. 7; cxlii. 7.)

No bird is so familiar to us as the sparrow, and this makes the constant allusion to it *so very precious*. “Are not,” said our gracious Lord, “two sparrows sold for a farthing; and ONE of them shall not fall on the ground without your Father; but the very hairs of your head are all numbered. Fear ye not, therefore, ye are of more value than many sparrows.” (Matt. x. 29, 32.) How full of consolation is this passage! I remember, in a long illness, when the sight of the sparrow, and the application of this

passage, in the power of the Spirit, to my heart, gave me a comfort I cannot describe. Truly we may say, in the midst of every trial, "I will not let go my confidence; for I am of more value than many sparrows."

But perhaps the bird the most frequently alluded to in Scripture is the dove. The first mention of it is full of interest. It bore the olive-branch to Noah; and was God's messenger to the Patriarch, to tell him that the waters were abated. (Gen. viii. 11.) And when the Spirit of God descended on Him who came with the olive-branch from the throne of God, proclaiming peace and good-will to man, (Luke ii. 14,) it was in a bodily shape like a dove. (Luke iii. 22.) And again, when our blessed Lord would choose the emblem, by which he might call his children to harmlessness, the dove was the figure:—"Be ye therefore wise as serpents, and harmless as doves." (Matt. x. 16.)

The rapid flight of the dove, and its love for home, is also beautifully used in Isaiah, where the Prophet in the glory of the latter days, sees the rapid return of Israel, to their long desolate, but not forgotten Jerusalem; and exclaims, "Who are these that fly as a cloud, and as doves to their windows?"* (Chap. lx. ver. 8.)

The dove is also continually used as the emblem of mourning. The following are some of the passages with this allusion:—Isa. lix. 11; Ezek. vii. 16; Nah. ii. 7.

But there is one passage more, that must in no wise be omitted. It occurs in Ps. lxxviii. 13:—"Though ye have lain among the pots, yet

* The word means "an aperture;" and here, evidently, the allusion is to the dove-cot.—*Lee's Hebrew Lexicon.*

shall ye be as the wings of a dove covered with silver, and her feathers with yellow gold." The scene of the Psalm is Israel marching through the wilderness. The first verse was always uttered by Moses when the camp moved. (Numb. x. 35.) The first six verses are introductory; and then the song takes a sublime and rapid retrospect of the Lord's dealings with his people. It *looks back* on the sorrows of Egypt, and *forward* to the glories of Canaan. But scenes of brighter glory burst upon the vision of the Prophet;—he sees *the ascension of Israel's great Deliverer*, leading captivity captive. It is no longer the many thousands of Israel; but the chariots of God, even thousands of angels; and all is triumph. This being the order of the Psalm, the deliverance of Egypt is but the type of the greater deliverance: and in the verse above quoted, we see, under one of the most beautiful figures that can be conceived, the glory of the resurrection of the Lord, the first-fruits; and of his church, the harvest. What more descriptive of the grave, than the potsherd cast aside?—what more sublime emblem of the resurrection, than the "wings of a dove, covered with silver, and her feathers with yellow gold?" Like the chrysalis,—to-day all silent in death—to-morrow, *ascending* in the sunbeam with wings of inconceivable beauty.

The pathetic cry of the Psalmist, in the fifty-fifth Psalm, which seems indeed to be the utterance of our Lord in the garden, gets its emblem in this bird of peace:—"O that I had wings like a dove! for then would I fly away, and be at rest! Lo, then would I wander far off, and remain in the wilderness. Selah. I would hasten my escape from the windy storm and tempest." (Ver. 6—8.)

In the Song of Solomon, (sometimes called the Canticles,) love and truth, both in the Lord and his people, are beautifully set forth under this figure. See, especially, chap. i. 15; ii. 14; iv. 1; v. 2; vi. 9.

But sometimes, beloved children, the birds of heaven are used as the emblem of judgment: and though there is not the same pleasure in referring to these passages, yet we must remember that both are equally the word of God, and each most useful in its place.

No one thing is more strongly insisted on in the Scriptures, next to the fear and love of God, than the obedience of children to their parents. It was embodied in the Ten Commandments, and written by God himself on the tables of stone. "Honour thy father and thy mother, that thy days may be long in the land which the Lord thy God giveth thee." (Exod. xx. 12.) This is called, when reiterated by the apostle Paul, the first commandment with promise. (Eph. vi. 2.) Therefore, with this solemn declaration of the Lord's will, one is not surprised that the stubborn and rebellious son, the glutton and the drunkard, should, at God's command, have been stoned to death without the camp. (Deut. xxi. 18, 21.) And the figure taken from birds is equally strong. It occurs in Prov. xxx. 17,—"The eye that mocketh at his father, and despiseth to obey his mother, the ravens of the valley shall pluck it out, and the young eagles shall eat it." See, also, chap. xx. ver. 20. If these pages should meet the eye of a disobedient child, may God in his infinite mercy, ere it be too late, bring such a one back—the prodigal to his father's house. (Luke xv. 21.)

Some children are very fond of money, and love to get little boxes, and hoard it up; and many grown-up children have the same propensity: but

the love of money is the root of all evil (1 Tim. vi. 10); and covetousness is called idolatry (Eph. v. 5). How striking is the word of Solomon, "Labour not to be rich; cease from thine own wisdom. Wilt thou set thine eyes upon that which is not? for riches certainly make to themselves wings, they fly away, as an eagle towards heaven."—This moment in possession, the next gone. The rich man is a steward; and if faithful to his trust, he feeds the hungry, clothes the naked, and sends portions to them for whom nothing is prepared. His riches are a blessing to himself and to others. Learn, then, my beloved children, to compassionate the poor,—help them with the little you have; and show mercy with cheerfulness: and never speak unkindly to the poorest person. A penny given with cheerfulness and compassion is more welcome to the heart than a much larger sum given with chilling coldness.

In the terrible judgments on Edom, in the last days, all the most forbidding of the birds of prey are introduced as building their nests in its ruins:—"But the cormorant and the bittern shall possess it; the owl also and the raven shall dwell in it: and he shall stretch out upon it the line of confusion, and the stones of emptiness. They shall call the nobles thereof to the kingdom, but none shall be there, and all her princes shall be nothing. And thorns shall come up in her palaces, nettles and brambles in the fortresses thereof: and it shall be a habitation of dragons, and a court for owls. The wild beasts of the desert shall also meet with the wild beasts of the island, and the satyr shall cry to his fellow; the screech owl also shall rest there, and find for herself a place of rest. There shall the great owl make her nest, and lay, and hatch, and gather under her shadow;

there shall the vultures also be gathered, every one with her mate. Seek ye out of the book of the Lord, and read: no one of these shall fail, none shall want her mate: for my mouth it hath commanded, and his spirit it hath gathered them." (Isa. xxxiv. 11—16.)

How awful is this description! and one turns from it with delight to the next chapter: for the same hour that brings judgment on Edom is full of blessing to Israel. "The wilderness and the solitary place shall be glad for them; and the desert shall rejoice and blossom as the rose. It shall blossom abundantly, and rejoice even with joy and singing." But read the chapter throughout: it is full of triumph, full of blessing.

I might, my beloved children, enlarge yet more; but you can search out yourselves other passages, where the creatures of this day's creation are used in illustration. Indeed, to the mind seeking for instruction, every thing around ministers to it. May you be found among the Israel of God; and then, when the Lord shall come in his glory, you shall be caught up to meet him in the air, and so be ever with the Lord. (1 Thess. iv. 17.) This is the earnest prayer of

Your affectionate Father.

THE CREATION.

LETTER XI.

AND GOD SAID, LET THE EARTH BRING FORTH THE LIVING CREATURE AFTER HIS KIND, CATTLE, AND CREEPING THING, AND BEAST OF THE EARTH AFTER HIS KIND: AND IT WAS SO. AND GOD MADE THE BEAST OF THE EARTH AFTER HIS KIND, AND CATTLE AFTER THEIR KIND, AND EVERY THING THAT CREEPETH UPON THE EARTH AFTER HIS KIND: AND GOD SAW THAT IT WAS GOOD. AND GOD SAID, LET US MAKE MAN IN OUR IMAGE, AFTER OUR LIKENESS: AND LET THEM HAVE DOMINION OVER THE FISH OF THE SEA, AND OVER THE FOWL OF THE AIR, AND OVER THE CATTLE, AND OVER ALL THE EARTH, AND OVER EVERY CREEPING THING THAT CREEPETH UPON THE EARTH.—*Gen. i. 24—26.*

MY DEAR CHILDREN,

WE have now arrived at the last day of Creation. The Lord had called the world into being, and had shed his light upon it,—he had also surrounded it with an atmosphere graciously adapted for the beings he had destined to live upon it.—He had caused the dry land to appear, and covered it with fertility and beauty.—He had made the heavens to glow with the brightness of the sun by day, and to be illumined with the gentle rays of the moon, and with innumerable stars by night.—He had filled the air and sea with animated life.—And now, on this sixth day, he calls into

S I X T H D A Y



Drawn & Engraved by W. Hughes

London: S. Bagster & Sons, Paternoster Row.

existence a race of beings of a superior order to the birds and fishes; but yet merely animal; and all this being accomplished, there seems a pause in Creation.—It is no longer the simple FIAT, or word of God, “Let it be;” but there is counsel between the Holy Ones that bear record in heaven;* and the all-important word is, “Let *us* make man in *our* image, after our likeness: and let them have dominion over the fish of the sea, and over the fowl of the air, and over the cattle, and over all the earth, and over every creeping thing that creepeth upon the earth. So God created man in his own image, in the image of God created he him; male and female created he them. And God blessed them, and God said unto them, Be fruitful, and multiply, and replenish the earth, and subdue it: and have dominion over the fish of the sea, and over the fowl of the air, and over every living thing that moveth upon the earth. And God said, Behold, I have given you every herb bearing seed, which is upon the face of all the earth, and every tree, in the which is the fruit of a tree yielding seed; to you it shall be for meat. And to every beast of the earth, and to every fowl of the air, and to every thing that creepeth upon the earth, wherein there is life, I have given every green herb for meat: and it was so. And God saw every thing that he had made, and, behold, it was very good. And the evening and the morning were the sixth day. Thus the heavens and the earth were finished, and all the host of them. And on the seventh day God ended his work which he had made; and he rested on the seventh day from all his work which he had made. And God blessed the seventh day,

* Compare Gen. iii. 22, xi. 7, Isa. vi. 8, with Matt. xxviii. 19, 2 Cor. xiii. 14, 1 John v. 7.

and sanctified it: because that in it he had rested from all his work which God created and made." (Gen. i. 26—31; ii. 1—3.)

I have quoted at large the order of the Creation of the sixth day; and the institution of the primeval or first sabbath—*the rest of God* (Heb. iv.); and as I attentively perused the verses in copying them, one thing forcibly struck me—*the absence of death*. Now, indeed, death reigns on every side, as we have abundantly seen in the fish of the deep and fowl of the air; but THEN all animated being subsisted *on the herb of the field*. *All was sinless—all was deathless*: for had there been no sin, there could have been no death; because death is the effect of sin. There was no beast or bird of prey in Eden—the leopard and the lamb lay down together, and the lion ate straw like the ox; and nothing did hurt or destroy in all God's vast Creation. And in "the times of restitution of all things which God hath spoken of by the mouth of all his holy prophets since the world began," (Acts iii. 21,) this shall again be the case, as is beautifully brought before us in the 11th of Isaiah. But of this I will write more at large in my next letter: but we will now consider the threefold character of this day's Creation,—1st, the Quadrupeds; 2d, the Serpents; 3d, the Insect family;—and having looked at these three separately in their various species, then we will meditate on a subject altogether distinct from what has gone before,—on *Man made in the image of God*; His appointed Vicegerent, or Governor, to rule over all the earth, and to have dominion over all that liveth. (Gen. i. 26.)

The benefits of the sixth day's Creation to man, no language can describe. On the third and fifth day, we saw, indeed, much of God's goodness in

providing us food and raiment; but now, combined also with these two, we see *the strongest, the fleetest, and the most patient animals*—all called by man into obedient servitude:—the elephant comes to us, with his giant strength; the horse lends to us his swiftness; the ox his patient endurance; the camel and the dromedary their ceaseless service; the rein-deer, as the Laplander would tell you, brings every thing to him,—it draws his sledge, and supplies him with food and raiment, and other things beside; and even the ass, though so ill treated and abused, aids man in no ordinary degree. Other orders of animals have become so *domesticated* with us, that their wild character is entirely gone: thus the cow, though she mourns for a time over the loss of her offspring, yet soon forgets it, and comes to be milked by man, as if it were her very nature; and then the innumerable flocks of sheep yield to us in the summer their fleecy wool,—the gift twice blest, both in the giver and receiver: for, as the summer advances, the coat, so warm to them in the winter, would keep them in perpetual misery; therefore the shearing-time to them is positive blessing; and the simple article of wool thus obtained, is of untold benefit to us. Indeed, so valuable did our forefathers think this gift, that they made the seat of the Lord Chancellor, who always, by office, presides in the House of Lords, (the highest legislative body of the state) THE WOOLSACK. When we consider the sheep, in its separate family, I will enumerate some of the many articles we derive from it.

Among other benefits derived from quadrupeds, the services of the dog must not be forgotten.*—He guards our houses for us, and is a pattern of

* Whilst on the subject of the benefit of the animal creation to man, I would most affectionately warn ALL PARENTS against a most cruel custom called "*Vivisection*," which

faithful attachment, from the great St. Bernard breed, which seem to have an instinctive pity for man in his sorrow, to the pretty little faithful spaniel, which Cowper so sweetly tells of. When we come to this family apart, I will copy his verses for you. And even that most useful and valuable animal, the cat, must not be forgotten: for though not esteemed either as being so faithful or grateful as the dog, yet instances are not wanting of their attachment to man, proving that they have feelings which all do not give them credit for.

The second class of animals of this day's Creation, *i. e.* the Serpent family, are doubtless of use to man, though we know but little of them.

prevails in the French Schools of Anatomy, and now, alas! is creeping into England. The meaning of the word "*Vivisection*," is literally "*to divide or cut up the living*." Yes; *living animals*, made by God, and capable, as we have seen, of affection that oftentimes might put man to shame, are forcibly held or fastened down, and ARE CUT UP ALIVE! No language can sufficiently expose or reprobate so wicked a practice. Man is accountable to God for the life he takes. True, indeed, the Lord has for the present given it to him for food; but not for torture: and at the day of account, *their cry* will not be forgotten in HIS ears, who in his tender mercies over Nineveh, could remember the lives of the cattle, as well as of those who could not discern between their right hand and left. (Jonah iv. 2, 11.) Some of the highest and most learned of the medical profession of this country, and among them the late Sir Charles Bell, have written most pungently against this barbarous vice: and let every one that pities the poor dumb animal, who can only tell his tale in shrieks of anguish, "let him open his mouth for the dumb;" and the cruel custom of "*Vivisection*," without legal enactment, shall be driven from our land. Let not any Christian parent or guardian, even for a day, suffer his children to attend schools where *God the Creator* is so dishonoured in the torture of the animal He has created. If a more enlarged knowledge of Physiology cannot be obtained without this price being paid, *the sum is too much*,—we may not do evil that good may come. *See Appendix.*

But the third class, or Insect tribes, though apparently so insignificant, yet have families among them of the utmost benefit to us, for raiment, food, and medicine; and I suppose, if you could at this moment gather all the yards of silk together that are in the whole world, it would be millions on millions; and yet it was a little worm, not larger than our common caterpillar, that, from its own bowels, *spun it all*. So also the quantity of honey, perhaps, could not be calculated: and yet it was the industrious Bee, that from numberless flowers, sipped the nectar, and then concocted that delicious amalgam, called honey; and having prepared beautiful little houses, built after a most geometrical order, of the wax they had also produced in their bodies, they deposited their treasure

“Till the rich hive was laden with the spoil
Of all the flowers that deck sweet nature’s soil.”

And, last of all, though not the least, how many valuable lives have been spared, simply by the application of the cantharis, or Spanish fly, that sports in the sun-beam in Italy by millions, and medically forms the blister so valuable in the hands of skilful men: and even the little cochineal insect may not be forgotten, supplying us at the same time with a valuable medicine* and beautiful dye.

Thus the sixth day’s Creation comes to man in boundless variety, laden with blessing: and what the Christian is called to is this, to receive all with gratitude and thankfulness—to use the world and not abuse it: and

* See an interesting article in *the Medical Gazette*, January, 1844, showing the value of cochineal as a specific for hooping-cough.

whether he has little or much, as a faithful steward, to dispense it with kindness; and to be merciful, even as his Father in heaven is merciful. (Luke vi. 35, 36.)

Having thus, however briefly, looked at the animal Creation of this day, as adapted to the wants of man, we will now consider each of the three before-mentioned classes separately; and, first,

THE QUADRUPEDS.

This diversified family take their name from the number of their feet: and though one species alone goes erect, like man; yet, with this exception, it is descriptive of the whole order, who, with their body parallel with the earth, thus run or walk. Quadrupeds rank above the other parts of the animal Creation in three particulars:—They are viviparous; respire by means of lungs; and have red blood: and, in addition to this, almost in all cases, they are covered with hair. As in Fishes and Birds, so in the Quadrupeds, their form, covering, &c., are all most minutely adapted to the country they live in, and the food they subsist on: the mouth is so situated, that with a slight inclination of the neck, they reach their food. The beasts of prey devour their food at once; but the ruminating animals, as the cow, &c., take in a good stock, and put it in keeping, like the pelican; and then lie down, and bring out at leisure their supply—and chew the cud.

I will describe this important division of the animal Creation in the following order:—

MAMMALIA.

- I. Animals with hands and feet adapted for taking hold, such as Apes.
- II. Animals with rough or horny skins, such as Elephants, the Rhinoceros, the Armadillo.
- III. Beasts of Prey, as the Lion, Tiger, Cat.
- IV. Animals of the Mouse kind.
- V. Cattle, including Deer.
- VI. Animals of the Horse kind, including some others.

The first Order, according to Linnæus's arrangement, has four genera; Man the first: but as the book of Genesis is our guide, Man will be spoken of as altogether distinct from the irrational part of the animal Creation.

This Order comprises, the Apes, the Lemurs, and the Bats.

The Ourang is a native of the Molucca Islands, Borneo, Madagascar, Africa, and India. Hunting them is the cruel but favourite amusement in some of these countries. In stature this animal reaches at times six feet; but, perhaps, comparing the accounts of travellers, his stature varies as ours does. The visage of the Ourang is very like the human face, only the eyes are sunk very deep in the head, and the whole body is covered lightly with hair. He is fond of society, and possesses so little fear, that when the natives have a fire in the woods, if the weather is wet or cold, he will, during their absence, come and warm himself at it.

Various are the tales related of him; some of which are well authenticated. Buffon, the great naturalist, says he was acquainted with one of this family, who would sit at table; and whatever he saw others do, he would imitate,—he would pour out his tea, put sugar and milk in it, then let it cool, and drink it afterwards, as we do. His deportment was grave, tinged with melancholy. Still, all he did was imitative; and thus he soon reached his bounds of knowledge.

The Long-armed Ape is most expressively named; for its arms, when it stands *erect*, or rather *stooping*, literally touch the ground. It is much smaller than the Ourang, though, with the exception of its long arms, it is much like it.

The Pigmy Ape is a curious little animal, not larger than a cat: it is found in numbers in Ethiopia. They are fond of eggs; and hence the legendary tales of “the Pigmies,” who were represented as a nation residing near the fountains of the Nile, annually levying war against the cranes, to steal their eggs.

The Barbary Ape seems to link the Ape with the Baboon. It has something like a tail, and a face more like the quadruped family at large. It is more vicious and mischievous than any of the Ape family. They generally go in numbers; and will come and rob the traveller of his eatables, if they meet him alone. They are about three feet in stature; and are found in Arabia, India, and Africa.

The Large Baboon is a mischievous-looking animal, very strong, and can go erect, though it usually goes on all-fours. It lives on fruits and herbs, and rejects all kinds of flesh; but when caught, and detained a prisoner, it

will drink immoderately of wine and brandy; but this, alas! is of man's teaching; and it is a species of *refined cruelty*, to make the animals partakers, if not of the sin, yet of *the sufferings of drunkenness*. This animal sometimes grows to the height of five feet; and is *very savage* and ill-looking. Its face approaches that of the hog, it is so truncated; and some parts of it very red.

The Pig-tail Baboon. As the Barbary ape links the ape family with the baboon, so does this animal link the baboon family with the monkey. It has a curled tail, six inches long. It is found in Sumatra and Japan; and is about the size of a cat.

The Monkey family is very extensive and varied; and there are few people of England unacquainted with them. They abound in the warm latitudes; and are full of all kinds of mischief. They are hunted for *amusement*; but, my beloved children, I have before mentioned, that a Christian cannot find *pleasure* in any thing that gives even a worm pain,—he delights in mercy; and it is his happiness to make all around him happy.

It is a curious fact, that almost all the monkey family, and this species among them, *employ watchmen*. “At the time of the gathering of the sugar-cane, a whole herd enters the ground, leaving a guard at the entrance; who, when he sees an enemy approach, screams aloud; on which his companions instantly gather up all the booty they can, and run off on their three legs.”—*Bingley*, vol. i. p. 71.

The Chinese Monkey is one of the greatest robbers of this family; and so fearless, that he will often watch till the person who may have driven him

away has gone home, when he will return again. This animal has a long nose of a whitish colour; the body is a pale brown.

The genus of *Lemurs* unites the previous branches with the great family of the quadruped; having its fore feet very much like the monkey's.

The Ring-tail Lemur is a little creature, about the size of a cat, with beautifully-formed limbs. The tail is twice the length of the body, and is elegantly marked. The body is covered with a beautiful soft glossy hair, of reddish colour. This animal is very easily tamed; and has none of the mischievous propensities of the monkey. It is a native of Madagascar.

The Ruffled Lemur is much larger than the ring-tailed, and altogether of different habits. Its voice is like that of a little lion; and its ruff, which is of considerable size, round its neck, makes it look very formidable. However, it is easily domesticated; and then becomes gentle.

The Tailless Lemur is unlike any of this whole order; being more like the sloth in its habits. It is found in the woods of Bengal and Ceylon. It creeps along the ground, and utters a plaintive noise. Its food is principally fruit and eggs, and small birds, if it can surprise them.

The Bat family seems to be the link in the great chain between birds and quadrupeds; but though bats fly, their general characteristics come nearer to those of the latter.

The Common Bat is familiar to all, and on a fine summer's evening it flits by us in our walks. It dozes away a great part of its existence, never coming abroad in the day; and when winter arrives, it finds a snug, sequestered cavern, hooks its claws to some substance of a firm character, and sleeps on for months and months, unmindful of storms or tempests.

The bat is about the size of a mouse; the four exterior toes of the fore feet are enormously long, and connected by a thin membrane, which also reaches the hind legs, and from thence to the tail,—this forms its wings for flight.

In England they are amusing to see, but not so in Guinea and Madagascar. They are there of a larger family, and great enemies to the farmer.

The Great Bat of Madagascar. The expansion of the wings of this monster is near four feet. They assemble in such numbers as to *darken the air*, and come forth by day as well as night, and devour any thing and every thing they can find. The ancients, it is said, borrowed their ideas of harpies from these animals. At night they make a dreadful noise in the forests.

It is said that this species has a great fondness for human blood.

The Vampire Bat is less in size than the Madagascar species. It is an inhabitant of South America, and lodges in the palm-trees; and if the testimony of some travellers be correct, it comes forth at evening, and sucks the blood of whatever it finds asleep. It is said that it lights softly on its victim, makes a minute orifice with its teeth and sucks the blood till it is satiated. At the same time, it gently agitates the air with its wings, which lulls its prey into a more profound sleep.

How little, my dear children, do we value our numberless privileges. Here we have no lions, nor tigers, nor wolves, openly to prey on us; and no vampire at night to injure us.

Some of the animals of the SECOND ORDER are armed with *strong hoofs*,

and masticate their food; others have claws, and a few are toothless. The principal are, the Elephant, the Rhinoceros, the Sloth, the Ant-eater, the Manis, and Armadillo. Most of this family feed on vegetables.

The Elephant. This is the largest, the noblest, and the most sagacious of all the quadruped family. Many of the most learned men think that it is the "Behemoth" of Job xl. 15. The word "Behemoth," as a generic term, means CATTLE, and occurs in Gen. i. 25, with singular force, distinguishing, as it is supposed, those animals which feed on vegetables from those fierce BEASTS which live on prey. If this passage, then, describes the Elephant, we have its natural history *unerringly* brought before us, under these six particulars:—1st, his means of support; 2d, his strength; 3d, his excellency; 4th, his gentleness; 5th, his place of rest; 6th, his enormous draught of water. Just read over attentively those passages; and if Cru- den's Concordance is by you, read also his remarks on each verse, as they are very descriptive.

The stature of this noble animal is sometimes nearly twelve feet, though ordinarily about eight or nine. Its *food* is entirely the herb of the field. *The strength* of the Elephant is great; he will carry a light wooden castle full of armed men upon his expansive back. There is a striking description in the first Book of Maccabees, vi. 34—39, of those in the army of *the wicked Antiochus, king of Syria*, which carried in a tower thirty-two armed men. The tower was strongly built of solid wood, and fastened by devices round the belly. It is also said, that a thousand armed men in mail, and five hundred horsemen, always followed each elephant. *Its gentleness* is not only exhibited in its tame state, but also when wild; for it is seen at times

in the midst of other beasts, that lay about it without fear. "*Its place of rest,*" says an ancient historian, "is by the waters, and moist places;" so that it may be said to lie among the marshes; and *its great draughts* are known to us all; for by means of his trunk he will take up an enormous quantity of water. Still, with all its strength, according to Gen. ix. 2, it is subdued by man; and becomes even more docile than the horse. When these animals are only taken for the sake of their tusks, which are ivory, then the method of procuring them is by *the gun*; but when to bring them into servitude, *the snare* is used; but the former is very dangerous. I have listened to our valued friend, Capt. G.'s escape from one, until strongly excited at the mere recital. In the days of his youth he had gone out with a friend, Elephant shooting. They soon discovered a mother with her calf, feeding at a distance; and getting near, they mortally wounded the young one. Instantly, the mother, turning round, pursued them. His friend escaped in a tree; but in an instant the enraged animal had seized *him* with her trunk, and, raising it up, was about to dash him to the earth, and trample him to pieces, when the cry of the wounded calf came to the mother's ear. *In the twinkling of an eye*, passion and revenge all gave place to maternal love,—*the trunk fell*—the prey dropped from it—and the mother hastened to the poor wounded one. Thus our friend escaped. Years after he was brought to know and love the Lord, and to bless his hand, who had rescued him when there seemed not a moment between him and eternity.

The longevity and gentleness of the Elephant are beautifully set forth, by that great poet of nature, Thomson:—

“ With gentle might endued,
 Though powerful, yet not destructive ; here he sees
 Revolving ages sweep the changeful earth,
 And empires rise and fall ;—regardless he
 Of what the never-resting race of man
 Project : thrice happy ! could he 'scape their guile,
 Who mine, from cruel avarice, his steps,
 Or with his towering grandeur swell their state—
 The pride of kings—or else his strength pervert,
 And bid him rage amid *the mortal fray*,
 Astonished at the madness of mankind.”

The Rhinoceros. This animal also seems among *the cattle* of the book of Genesis. It feeds entirely on vegetables. It neither attacks others, nor suffers himself to be attacked ; but then, unlike the elephant, he is perfectly untractable. The form of the rhinoceros is very bulky ; its usual length is about twelve feet, and height seven. One species of this family has two horns, one behind the other, on the snout ; but those generally known have only one. This protects the whole face, and is a most formidable weapon ; the tiger dreads it more even than the tusks of the elephant. Sometimes this horn is four feet in length, and six inches in diameter at the base. The skin of the rhinoceros is so impenetrable, that the fiercest and strongest animals cannot hurt it ; but to relieve the animal from the insurmountable barrier that this would be to active movement, the skin is looser, and thinner in some parts, and is *folded up* into plaits, round the neck, shoulders, and rump, and thus the motion is easy and pliable. The feet, which, with all the limbs, are most massive, are furnished with three toes.

The Ant-Eater. The several species of this singular animal all agree in

one great peculiarity,—a long cylindrical tongue, which supplies its want of teeth. The snout of the ant-eater is one-fourth the length of the whole body. There exists a stuffed specimen of one of this family seven feet long, two feet high, the tongue of which is thirty inches long. The ant is the common food of this animal, which it procures by laying its curious tongue over a whole host of this industrious family, and thus feeds to satiety. They are found in Guiana and the Brazils.

The Sloth. The name of this animal is descriptive of the inactivity of its character. The size of the sloth is about that of the badger. It is a harmless, inoffensive animal; and feeds entirely on vegetables. It inhabits the eastern coasts of South America; and is also found in Ceylon and in India. It lives entirely in trees, about which it travels with great ease, hanging by its claws with its *back downwards*.

The Armadillo. This singular creature is entirely confined to the New World; though it can bear the cold of England. It subsists, like most of this Order, on vegetable substances. The armadillo is a very peaceable animal. It is between one and three feet in length; it resembles the tortoise in shape, and is covered with a series of shells, something like those of a lobster. It has a long head and tail. It burrows in the earth.

The THIRD ORDER comprises principally, the Lion, Tiger, Leopard, Cat, &c.; the Hyæna, Wolf, Fox, and Dog; the Bear, Badger, &c.; the Opossum, Kangaroo, &c.; the Weasel, Otter, Pole-cat, Mole, &c.

The *Lion* is at the head of the Cat family, and is styled the king of the beasts, and as such is continually alluded to in the Scriptures. The lion is

found chiefly in Africa, and in the hottest parts of Asia. The form of this noble animal is truly majestic, and his voice is as the voice of thunder; his head is very large, and is covered with a long shaggy mane; and when enraged, his eyes flash terribly. The general length of the lion, when full-grown, is from six to eight feet, and its tail is about four feet more: this is terminated by a tuft of dark hair. The muscular power of the paw is tremendous; with one stroke it will knock the strongest man to the ground.

The lioness is smaller than the lion, and has no mane. Her young, when first born, are about the size of a small dog. They are suckled about twelve months. She is not ferocious except when her young are attacked, but then her fury is unbounded;—she will even die in their defence.

“*Roaring*, she frights the herd, and shakes the plain,
 Mocks the sling-stone, and snaps the spear in twain;
 Still guards her young; the hunter's motions thwarts,
 And wrenches from her side the reeking darts.”

The strength of the lion is such, that one stroke of his paw will break the back of a horse; and he seldom bites till he has struck his prey dead. At the Cape he has been known to take off a heifer as a cat does a mouse. Some writers, who have seen a good deal of this animal, do not speak very highly of his courage, excepting when impelled by hunger; for instance, if he springs upon an enemy, and misses his leap, he will give up his prey. In this, my dear children, we see mercy from Him who gave even this formidable animal this *trait*, so beneficial to man and beast.

The lion in general springs on his prey; but sometimes *follows it*. Dr. Sparrman gives a most interesting account of the deliverance of a native of

the Cape Country. “A Hottentot perceiving that he was followed by a lion, and concluding that the animal only waited the approach of night to make him his prey, began to consider of the best mode of providing for his safety, and at length adopted the following :—Seeing a piece of ground with a precipitate descent on one side, he sat down by the edge of it, and observed to his great joy that the lion also halted at a distance from him. As soon as it was dark, the man sliding gently forward, let himself below the steep, and held up his cloak and hat a few feet, gently moving them backward and forward. The lion, after a while, came creeping forward, and mistaking the cloak and hat for the man, he sprang headlong and precipitated himself over the descent.”

When this king of the forest has become acquainted with man’s power, his courage has been so lost that a shout of the human voice has been known to drive him away ; and the fear of man and the dread of him has been upon him. (Gen. ix. 2.)

The lion, with almost all this family, is carnivorous, that is, feeds on flesh : but this was not his primeval or first state, nor will it be his last ; for the unerring word of prophecy tells of a time when “the lion shall eat straw like the ox ;” and as this time is a “time of *restitution*,” it of course implies that at first it did so. Cowper thus beautifully describes those *days of peace* :—

“ The Lion, the Leopard, and the Bear,
Graze with the fearless flock ; all bask at noon
Together ; or all gambol in the shade
Of the same grove, and drink one common stream.

Antipathies are none. No foe to man
Lurks in the Serpent now ; the mother sees
And smiles to see her infant's playful hand
Stretched forth to dally with the crested worm,
To stroke his azure neck, or to receive
The lambent homage of his arrowy tongue."

The Tiger. The tiger is a native of Asia, and is met with as far north as Chinese Tartary ; but India and the Indian Islands are his principal home. He is somewhat less than the lion, and decidedly more ferocious ; but of all quadrupeds, he has the most beautiful skin.—On the face, belly, and throat, it is white ; on the back, orange, marked with long glossy transverse stripes of black.

The disposition of the tiger is most ferocious. It even fears not the lion ; but will engage with it in single combat, and at times both die in the struggle.

The strength of this animal will be best illustrated by the following anecdote :—" A peasant in the East Indies," says Mr. Hamilton, " had a buffalo fallen into a quagmire ; and while he went to call for assistance, an immense tiger came and immediately drew out the animal, which the peasant, with others to help, at first had failed to do. When the people returned, the first thing they beheld was the tiger dragging the buffalo away to his den. When he saw the men he let fall his prey, and fled to the woods ; but he had previously killed the buffalo, and sucked its blood."

Among the escapes from this animal, none, perhaps, is more worthy of record than that which happened now more than a hundred years since in Bengal. —A party had gone out, and seated themselves by a river under

the shade of some trees. Imagine their terror and dismay on seeing, couching for his spring, a ferocious tiger. Instantly a lady of the party, with amazing presence of mind (which is doubtless a direct gift from God), unfurled a large umbrella. The animal, confounded by this strange appearance, shrunk away into the forest; and the party, by this gracious interposition of God, escaped.

The Leopard. The Leopard in form is like the tiger, but much smaller. The colour of its skin is also similar to that animal; only instead of having its back marked with transverse lines of glossy black, it is dotted with annular, that is, round spots of that colour. It inhabits most parts of Africa; and generally watches by the river for its prey.

Like the tiger the leopard is fierce and cruel. The eye is restless. They attack almost every thing they meet. Similar to most of this family, their memory is wonderful, recognising old friends after a long absence.

The Hunting Leopard. This is a native of India, and about the size of a greyhound. It derives its name from being employed by man to hunt the deer. It is trained like the falcon and pelican; and returns with its prey to its keeper.

The Wild Cat. From this animal have sprung all our varieties of the domestic cat. It is still to be found in some parts of England; and, at times, even the domestic cat has escaped to the woods and become wild. In this state, it is a deadly enemy to all kinds of game and poultry, and even young kids.

The Domestic Cat, as a watch and guard against rats and mice, is invaluable. A curious part of Welsh history records the value of the cat,

in that age. It occurs in the statutes of Howell Dda (that is, the Good), A.D. 948, in which statutes were made to preserve the lives of animals, among which the cat was specially included, on account of its scarcity and utility. The statute I allude to runs thus:—

“If any should kill or steal the cat that guards the prince’s granary, the offender is to forfeit a milch ewe, her fleece, and young; or sufficient grain to cover the cat suspended by the tail.”

From these circumstances, it has been justly inferred that the cat is not a native of these islands. The current prices then were—a kitten, 1*d.*; a young cat, 2*d.*; a full-grown one, 4*d.*; which in those days was a considerable sum.

The cat is very tender over its young; and in some instances, when her own kittens have been taken away, has nursed even young hares and squirrels with equal fondness.

THE DOG. This valuable animal stands at the head of a large genus of animals. None of this family can climb.

To no animal are we more variously indebted than to the dog. His faithfulness, diligence, and obedience, are unwearied. Both in the Old and New Worlds, if man were deprived of its services, his loss would be very great. “Unlike most other animals,” says Mr. Bingley, “he seems only to remember our caresses; and often in a few minutes licks the hands that smote him.” The dog is found wild in Congo, Lower Ethiopia, and several other parts of the world. Among those domesticated with us, we have about twenty or thirty varieties, from the mastiff and Newfoundland to the little terrier. The instances related in different countries of the dog’s

sagacity, and love to his owner, would fill volumes: but the following, I think, is among the most interesting:—

“In the year 1760, a singular incident occurred near Harrowsmith: A waterman of that place, named Richardson, was sleeping in his boat. By some means his boat slipped her moorings; and the tide carried her down the river across a barge. The boat began to fill with water; but the dog, instead of seeking his own escape, went to his master, pawed his face, and pulled him by the coat, until he awoke, to see his imminent danger: he had but a moment to escape.”

The extract from Cowper, concerning his little water-spaniel, I must not forget: it is so touching and beautiful:—

“It was the time when *Ouse* displayed
His lilies newly blown;
Their beauties I intent surveyed,
And one I wished my own.

“With cane extended far, I sought
To steer it close to land;
But still the prize, though nearly caught,
Escaped my eager hand.

“*Beau* marked my unsuccessful pains,
With fixed considerate face;
And puzzling set his puppy brains
To comprehend the case.

“But with a cherup clear and strong,
Dispersing all his dream,
I thence withdrew, and followed long
The windings of the stream.

“ My ramble ended, I returned ;
Beau, trotting far before,
 The floating wreath again discerned,
And, plunging, left the shore.

“ I saw him, with that lily cropp'd,
 Impatient swim to meet
 My quick approach, and soon he dropp'd
 The treasure at my feet.

“ Charmed with the sight,—the world, I cried,
 Shall hear of this thy deed ;
 My dog shall mortify the pride
 Of man's superior breed.

“ But chief myself I will employ—
 Awake at duty's call,
 To show a love as prompt as thine
To Him who gives me all.”

The Wolf. One leaves the character of the dog to trace out that of the wolf with no small reluctance. The wolf is one of the most ferocious of the quadruped family, and insatiate in its appetite. But though destructive to man in one way, yet it is beneficial in another by carrying off all kinds of offal that may be left about. England was, many centuries since, the abode of the wolf; so also was Wales. Edgar, A. D. 959, when Wales was tributary to this country, converted a heavy tax, which he had required of its prince, into 300 wolves' heads. In Scotland, so late as the sixteenth century, they were very destructive; but in the next century were quite extirpated. They are found in all cold regions. The following extract from the public

papers of 1825 will show you more than any general description the terrible enemy we are delivered from in this country:—"In the government of Livonia (a Russian province on the Baltic), in 1823, the wolves destroyed 1,841 horses, 1,243 foals, 1,807 horned cattle, 723 calves, 15,812 sheep, 726 lambs, 2,545 goats, 183 kids, 4,190 swine, 312 sucking-pigs, 703 dogs, 673 geese."

Now when you look on your map, and see the size of Livonia, this destruction appears almost incredible; and yet, being in the government returns, it is of course true.

The wolf, however, if taken young, is capable of being tamed. It is also said, that his courage fails if resisted.

The Hyæna does not differ materially from the wild animals of the Dog family; it exceeds most of them, however, in wildness. It inhabits Asiatic Turkey, Syria, Persia, and many parts of Africa. In size it equals one of our large dogs; its skin is a pale greyish brown, marked with several blackish bands; the hair of its neck is erect, and this is continued in bristles along the back; the head is broad and flat; the eyes, ferocious and wild; the tail, short and bushy. It was for a time thought that this animal could not be tamed, but experience has proved the contrary. They abound at the Cape of Good Hope, and will eat any thing; but even their gluttonous and disgusting habits are overruled for the benefit of man, as they often, in troops, carry off such animal remains, &c. as might produce fever;—*nothing is made in vain*; even this ferocious animal, which is like the shark among fish, has its appointed sphere.

The Spotted Hyæna is larger than the former, and marked with numerous

black spots. Their habits are much the same as those of the common hyæna. Their howl at night is terrific. Like most of the predatory animals, or beasts of prey, night is their time to go abroad, *and then man is at rest*. How beautiful is the allusion to this in Psalm civ. 20—24: “Thou makest darkness, and it is night: wherein all the beasts of the forest do creep forth. The young lions roar after their prey, and seek their meat from God. The sun ariseth, and they gather themselves together, and lay them down in their dens. Man goeth forth unto his work, and to his labour until the evening. O Lord, how manifold are thy works! in wisdom hast thou made them all: the earth is full of thy riches.”

The Jackal is much like the fox, but is more amiable. It is easily tamed, and very fond of being caressed; and seems in his gratitude more to resemble the dog than the fox. It is found in all the hot parts of Asia and Africa.

In its wild state, however, the jackal is a beast of prey in its fullest sense; from this family Mr. Pennant thinks the whole canine race have sprung.

The great peculiarity of the jackal is its *howl*, which is always at night; and as they go in herds, from fifty to two hundred at a time, the noise is dreadful. The timid animals hear it with terror, and the predatory ones rejoice in it, and seize on the weaker as they are fleeing from it. It is from this circumstance that it is called “*the lion’s provider*.”

The Fox. This well-known animal is a native of almost all quarters of the globe, and has been permitted to remain in England for the pleasure of the huntsman; but pleasure, as I have before remarked, cannot consist,

in the Christian's mind, in giving any creature pain. In countries such as Livonia, where the wolves committed the depredations they did, the public welfare demands their extirpation; but this is very different from catching foxes in snares, keeping them alive, and then letting them out of a bag to be hunted.

The fox is an animal of exceeding cunning and craft, and is a robber of every thing he can get, and in this character he is frequently alluded to in Scripture.

But this animal, like most of the ferocious tribes, is exceedingly tender to its offspring. Dr. Goldsmith relates a most interesting account illustrative of this:—"A she-fox, that had been discovered with her cub, instantly, as the dogs pursued, fled before them; but rather than leave her young behind, she took it up in her mouth. The chase continued some miles; at last, taking her way through a farm-yard, she was attacked by a mastiff, and was obliged to drop her cub; but, we are happy to add, the affectionate creature escaped."

The Civet. This is a light, active creature, and, in a state of nature, very fierce. It is peculiar for the perfume which is deposited in a kind of little pouch near the tail. The civet, though a native of Africa and India, yet bears the cold of our climate: and great numbers are kept at Amsterdam, as the Dutch delight in this perfume, which is more odoriferous than musk. As it emits it stronger when angry, it was doubtless given to it as a protection, it being overpowering in large quantities.

The Marten. This animal is about eighteen inches long, and abounds in the northern regions of America, and is sometimes seen in England. Its

skin is very valuable, being of a dark chestnut colour; and it forms an extensive article of commerce from Hudson's Bay and Canada.

The Sable. This valuable animal inhabits the countries of North America, Silesia, Kamtschatka, and Asiatic Russia. In size it resembles the marten. The peculiarity of the sable fur is, that the hair will turn either way. The sable hair is used by the artist for his best brushes.

In the dark days of the Russian Empire, the captives of Siberia were obliged to send a return of sable-skins to the government.

The Common Weasel is well known in our own country. It is about seven inches long, exclusive of the tail; but though so small, *is as much a beast of prey as the lion.* Some naturalists have related an anecdote of an eagle who seized one of this tribe, and mounted with it in the air, but was soon perceived to be *fluttering in pain*, and at last fell to the ground:—the weasel had reached its neck, and so bit it that the vital blood escaped and so the weasel got free, while the eagle lay dead on the ground.

The Striated Weasel, a native of America, is peculiar for the fetid smell which it has the power of emitting when irritated.

The Honey Weasel. This creature is, by its fondness for honey, a continual enemy to bees. At sunset he watches the return of the bee, and if he finds a bee's nest any where within his reach, the prize is sure; for his skin is so tough, that the little weapon of the bee cannot perforate it: *but when the bee builds high* in a tree, the nest is safe, and the weasel gnaws the tree in anger. This Dr. Sparrman had from many experienced Hottentot farmers.

The Ichneumon. This singular animal is a native of Egypt, Barbary,

and the Cape of Good Hope. Its length, from the nose to the extremity of the tail, is from two to three feet: its colour is a pale reddish grey, mottled with brown; its *eyes* are red; *ears*, naked; *nose*, long and slender; *tail*, tufted at the end; *hair*, coarse; *legs*, short. In Egypt, the ichneumon is justly esteemed as *an especial blessing*, being an inveterate enemy to the crocodile, serpents, and all noxious reptiles. It even attacks that most dreaded enemy to man, *the hooded snake*, and if wounded, retires, it is said, to some medicinal herbs in *Nature's great dispensary*, and returns to the attack; and is almost always victorious. It glides about on the ground like a serpent, and springs always at the throat; and as *Lucan* eloquently describes it,—

“ The gasping snake expires beneath the wound ;
His gushing jaws with pois'nous floods abound,
And shed *the fruitless mischief* on the ground.”

The ichneumon is easily domesticated; and in Egypt is like the cat in a house.

The Ferret is a destructive little animal, which came originally from Africa, but is now naturalized in England. Like others of the weasel family, it emits a fetid smell if angry. It is generally from ten inches to a foot in length; the white individuals have red eyes.

The Stoat, or Ermine, is the beautiful little creature whose fur is used by royalty for its richest robes. It is found in the North. Its coat, in the summer, is brown; but when winter comes, then it changes its colour; and this is the season in which it is sought for, *being then pure white*.

The Otters, as a family, have all webbed feet, and live near the water: they prey almost entirely on fish—thus their homes are generally by the banks of rivers. The otter is a native of almost all parts of Europe, and is still found, though rarely, in England. The body of the otter is long and round; the legs are so placed as to be capable of being brought into a line with the body; and thus, in swimming, they act as fins. The otter seems the link between the seal and the quadruped.

The otter is capable of being tamed, and then is employed to fish for his master. “I have seen,” says Dr. Goldsmith, “an otter go at the word of command—drive the fish to the extremity of the pond; and bring out the largest, and lay it at its master’s feet.”

The Sea Otter is an animal found near the Straits of Behring, which divide Asia from America. In length it is about four feet. Of all the great family of this day’s creation, none are so attached to their young. It is even said, that when deprived of them they will starve to death, and try to breathe their last where their young have been destroyed. As I have before remarked, my dear children, the contemplation of the animal creation abounds with instruction to us.

The Common Bear. This animal is found in the northern kingdoms of Europe; and also in some of the Indian islands. They vary in colour; some being black, some brown, and others grey. The black live principally on animal food: and the brown on vegetable: but all of them are passionately fond of honey; and as they can climb well, they frequently plunder the wild hives. The affection between the mother and cub is proverbial in this family. No sooner is the latter wounded, than, like the

lioness, the she-bear becomes infuriate; and seizes the enemy, if within reach, and squeezes him to death. Should the mother be wounded, the young do not flee from her; but stay around, moaning piteously, and share her fate.

The modes of catching bears are very varied, and some of them very barbarous, especially in Russia and Siberia. In Lapland, they generally take them with the gun or arrow.

The Kamtschatka Bear. This is an animal similar to the common bear; but with habits much milder. It is so fond of fish, that if it sees a net down, and the owner gone, it will drag it to the land, and eat its contents. When a Kamtschadale sees a bear at a distance, he seeks to conciliate him; and they are so tame, that the women and girls will gather herbs in their sight. They have never been known to attack a man except when he is asleep. What the sheep is to the civilized world, the rein-deer to the Laplander, the buffalo to the North American Indian, and the camel to the Arabian, such is the bear to the Kamtschadale. Of the skin, they make dresses, beds, coverlids, caps, gloves, harness for their sledges, and ice-shoes to catch marine animals:—the fat supplies them with savoury food and oil to burn:—the flesh is venison to them:—and the skin of the intestines makes window-panes as clear as the glass commonly used in Moscow.

The Polar Bear, whose skin is white, has its home in the highest northern latitudes, where the cold is intense. In length, it sometimes reaches twelve feet. The tip of the nose and the claws are perfectly black.

These animals abound in the polar regions, and it sometimes happens

that a Greenlander, by coming too near an iceberg, finds an unwelcome visitor spring into his boat. If the bear does not upset it, he generally sits quietly as a passenger, and the Greenlander gladly puts him to the shore, and they part. But, at times, these bears are most ferocious. In summer, they live in the ice islands, and they will swim several leagues from one to another. They lodge in dens formed in vast masses of ice; and grow exceedingly fat. The skin is valued for coverings of various kinds.

The Glutton. This singular animal is found in all the countries on the Northern ocean. In length, it is about three feet, exclusive of the tail, which is about a foot. The name of this animal is taken from its insatiate appetite, which nothing seems to satisfy; and even when it seems full, it will go on eating still until its body is distended. The name of "glutton" is applied in our language to such of the human family as follow the example of this animal. The glutton, though so much inferior in size to the rein-deer, yet takes it by stratagem.—He first climbs a tree, taking some moss with him. When he sees a deer coming, he drops the moss; and if the unwary animal approaches it, he falls on its back, and generally succeeds in destroying its life.

The Raccoon is an inhabitant of North America and the West India Islands. It is not often imported into this country. In length, it is about two feet, from the nose to the tail. The back is arched; the head like a fox; colour, brownish grey; the fore legs are shorter than the hind.

The raccoon is a sprightly, sharp-looking animal, feeding principally on sugar-cane, and, if near the water, on shell-fish. He catches crabs by letting his tail act the part of a fishing-line; and when he feels a crab

seize it, he jerks it out of the water. It is said, that rats will hardly stay in a neighbourhood where a raccoon is kept. This one of our own friends found the benefit of. The latter values the raccoon next to the beaver for his skin. They are easily tamed.

The Badger is an animal well known in England. It is about two feet and a half long. It is grey above and black beneath. In itself, it is a harmless, inoffensive animal, living principally on roots, &c.; but if attacked, it is very courageous; and this has given rise to its being baited: but this *cruel, inhuman sport*, with its horrid accompaniments, I am happy to say, is losing ground fast. The flesh of the badger, when smoked, is like bacon; and the bristles of the skin have various uses.

The Opossum. This race is peculiar for one thing, which, perhaps, has caused them to be looked upon, both by old and young, with great admiration. I remember, when a child, of all the plates in our Natural History, this one was most gazed at. The females of most of the species are furnished with a large sack or bag, for the protection and preservation of their young: when born, the young at once retreat into this fastness, and instantly commence sucking; and this continues for some days, in which time they get sight, and their hair begins to grow. When sufficiently strong to help themselves they are born a second time, as it were, and go and come to this their strange home, until they go out into the world, their own masters.

The Great Kangaroo. Captain Cook first discovered this animal in New Holland in 1770. It is five or six times as large as the opossum; sometimes measuring from eight to nine feet from the nose to the end of the

tail; and some will weigh 150 pounds. The fore legs are about nineteen inches; the hinder three and a half feet. The length of the leap of the Kangaroo is at times twenty feet; and although it cannot run fast, yet its springs are so rapid in succession, that at times it will distance the fleetest greyhound. This valuable animal feeds on roots, &c.

The Mole is a short, thick, and somewhat cylindrical animal. Their snout is formed for digging. They have no external ears; and their eyes are covered in with soft fur.

This laborious little animal is about five inches long. For some time it was thought that they had no organs of vision; but this is incorrect: its hearing is very acute. "These animals," says Dr. Darwin, "have cities under ground, which consist of houses or nests where they nurse their young. Communicating with these houses, are broad streets, and also alleys and by-roads, with diverging branches." The whole family is very prolific. M. de Buffon says he planted sixteen acres of land with acorns in 1740; but that the moles or mice carried them nearly all away; and on his setting traps for them, he took in three weeks 1,300.

The Hedgehog is an animal somewhat like a very large rat covered over with sharp short prickles. They are generally about ten inches long, and of a greyish brown colour. When attacked, they roll themselves in a ball; and if a dog takes them up, he quickly drops his prey, and will not always resume the attack.

The hedgehog is occasionally an article of food, and is said to be delicate. The skins, in olden days, were used as clothes-brushes. The hedgehog sleeps through the winter.

IV. The animals in the MOUSE ORDER have two remarkably long front teeth, above and below, but have no canine teeth. Their feet have claws, and are formed both for jumping and running.

The Porcupine, some have thought, should have been classed with the hedgehog; but they have no other similarity than the covering of the body. The porcupine has two front teeth, that cut obliquely, both on the upper and lower jaw, while the hedgehog is furnished with teeth like a bear.

The general length of this singular animal is about two feet and a half. The upper part of the body is covered with sharp spines, some of which are a foot long, and some even reach eighteen inches. They are beautifully variegated with black and white rings. The quills can be elevated or depressed at pleasure; and in walking make a singular noise. The porcupine is found in Africa and India, and, it is said, sometimes in Italy. They live in subterranean abodes, and feed on roots. The ancients had a strange idea concerning this animal,—that it could shoot its arrows if attacked. Claudian has a beautiful allusion to this:—

“ Arm'd at all points in Nature's guardian mail,
See the stout Porcupine his foes assail;
And, urg'd to fight, the ready weapons throw;—
Himself, at once, the Quiver, Dart, and Bow.”

The natural history of this animal, however, does not support this poet's opinion, though, in moulting time, the spines are thrown off with some force, and in this, doubtless, the idea originated.

The Guinea Pig. This well-known little animal is a native of the Brazils. It is a very gentle, quiet creature; but not capable of much affection.

Their habits are remarkably cleanly; and much of their time is spent in smoothing each other's hair. The young are able to run about in twelve hours, and arrive at maturity in two months.

The Beaver. There are but two species in this family—the *common* and the *Chili*; and this latter approximates so closely to the otter, that some have thought it ought to be arranged with that tribe.

These clever masons and carpenters are natives of the most northern parts of Europe and Asia; but they abound in North America; and there is little doubt but that, centuries since, they were found in Britain; for Giraldus Cambrensis says, that these “broad-tailed animals” frequented the river Tivy, in Cardiganshire: and in the reign of Howel Dda, their skins were valued at the enormous sum of 120 pence each. This was in the tenth century.

In length, the beaver is about three feet; and the tail, which is oval, about a foot more. The elephant among the larger quadrupeds, and the beaver among the lesser, are unequalled for sagacity.

The beavers live together in large families, between two and three hundred in number, inhabiting dwellings which they build to the height of eight feet above the water. There is a most valuable article (too long to quote,) in Mr. Bingley's interesting work on the animal kingdom, which you can refer to (vol. i. p. 423). The place they select for their city is generally a pond: and if they cannot find one to their liking, they choose a flat piece of ground, with a stream running through it. Capt. Cartwright says, that the dams they form to stop the streams are sometimes a hundred feet long, composed of stakes driven firmly into the ground, from five to

six feet high, which they ram so firmly down, and keep so perfectly level, that he has frequently walked on the top as a bridge. The houses of their towns are constructed with the utmost ingenuity, of earth, stones, and sticks, cemented together; and plastered on the inside with surprising neatness. The number in each house is from two to twenty. They have beds made of leaves. In the summer they leave their abodes, and have their country-houses, sometimes here, sometimes there; but generally under trees near the water.

The skin of this animal is very valuable, and is used by hatters; and a good "beaver hat" cannot be equalled. The medicinal substance called *castor*, which is produced by this animal, is considered very valuable in some diseases. The beaver is an animal of great affection; and the utmost order seems to prevail in their little communities. Two of this family were preserved in the Hudson's Bay factory; they thrived very fast, and seemed happy; but one day one of them was killed by accident. The survivor was inconsolable, and after a little pined away, and died of starvation. O my beloved children, what lessons we have before us in this little incident! How few *families* live in the friendship of *whole communities* of the beaver tribe; and the man that would take and sell his fellow, after the manner of the inhabitants of the southern of the United States of America, might well go to this animal of their sister States in the North, and learn lessons of fraternal love; for, let the white man remember that immutable word, "God hath made of ONE BLOOD all nations of men for to dwell on ALL the face of the earth." (Acts xvii. 26.) My dear children, the Man-stealer and the Man-seller are surely abhorrent of God.

Beavers are sometimes found living in loneliness: these have always a black mark on their back. Captain Cartwright supposes that these *recluses* or *hermits*, as they are called, are not a separate breed; but that having lost their mate they are gone into solitude. If this be the case, what an example of deep affection!

The various contrivances for building that the form of the beaver enables it to use, are well calculated to fill us with admiration. If you passed by their houses and dams, and were unacquainted with their natural history, though you might not conjecture for what purpose these singular cities were built, yet you would say, "*carpenters* have been here with their hatchets and saws, and *masons* with their mortar and trowels;"—and so they have; for this ingenious little architect has used most diligently his teeth as an axe and saw, and with his paws he has made up the mortar,—his tail has been both his hod to carry it and his trowel to spread and smooth it.

The Musk Rat. This animal is about the size of a small rabbit, and is found in America, from the high north of Hudson's Bay to the south of Carolina. In the general form of their body, as well as in their habits, they bear a strong resemblance to the beaver. They also build houses; they do not lay up for the winter, but have subterranean lanes to go in quest of food. This animal is remarkable for a strong musky smell, from whence it derives its name. The flesh is sometimes eaten, and the fur is used for hats.

The Brown Rat is a well-known animal in England, and came to us from Norway; and though it has in many places destroyed the native race of black rats, yet he is no acceptable substitute for it, being more fierce and

voracious. When unmolested, this family so rapidly increases, that in two years a pair might be multiplied to two millions. But this increase is prevented both by foreign enemies and continual domestic broils. A large rat is as much dreaded by small ones as any beast of prey: thus is this prolific race kept within bounds.

The Common Mouse is too well known, both as to appearance and habits, to need any remark.

The Harvest Mouse. This is the least of British quadrupeds; one of them not weighing more than a halfpenny. One of our domestic mice would outweigh six of them.

The Hamster Rat. This singular voracious creature is found in overwhelming numbers in some parts of Germany. It is about the size of the large Norway rat. On each side it has three large oval white spots. It has, like the pelican, pouches to put by food for a time. This animal is as quarrelsome as our common rat; and its time is chiefly spent in eating and fighting. It seems to have little natural affection: if its burrow is attacked, it will make off; and, deaf to the cries of its young, it leaves them to the spoiler, and shuts up the way of escape. If this should meet the eye of a cruel parent, who has forsaken his own offspring, it may be the Lord will give such an one to mark the wretchedness of imitating a being so low in creation as the hamster.

The Alpine Marmot, as its name implies, is found in the Alps. It is also found in the Pyrenees. It delights in the summit of the mountains. In size, it is about eighteen inches long; and in some things it is considered to resemble the bear as well as the rat. Its flesh is very good for food; and

its skin is valued for its fur. The marmot never attacks others; but will defend himself most vigorously if attacked.

The Squirrel. This family is familiar to all. Light, nimble, and sprightly, one is delighted to meet them in the woods. They eat erect, holding their food in their front paws. The common squirrel is an elegant little animal, and caressed by every one; it is easily tamed. In spring, it is frequently to be seen, full of life, and seems hardly to know how to contain its joy; but when summer comes, it rarely shows itself. The nest of the squirrel, which is constructed in a fork or hollow of a tree, manifests great ingenuity. Like most other animals of this family, they in the winter become torpid.

The Grey Squirrel is larger than our own pretty species; and the fur is valuable. They are very fickle about their residence—one year there may be tens and hundreds of thousands, and even more than that, in the woods of a particular district, and the next year, not one. In their annual migrations they frequently cross wide streams, and vast numbers being drowned, the Laplander, on whose shore they are washed, has a rich prize in their skins. These animals also abound in the New World; and where maize grows, of which they are immoderately fond, colonies of them will destroy whole plantations. A price is therefore often put on their heads; and in some years nearly a million have been taken.

The American Flying Squirrel is a native of most parts of North America. It has a broad membrane extending nearly round the whole body. On the fore-legs it adheres as far as the toes; and on the hind leg it extends to the ankles.

This beautiful species seldom visit the ground; but live chiefly in the

trees; and by means of their wings they are enabled to leap ten or twelve yards. Like the flying-fish, they do not flap their wings; but extend them to the utmost, and the air underneath keeps them up. They cannot skim upwards, but generally light on a tree lower than that from which they spring. They are easily tamed; and love to creep into their owner's dress for warmth.

The Jerboa is a little animal found in the eastern parts of Siberia, in Barbary, Syria, and some parts of Tartary, which resembles the kangaroo on a diminutive scale. They use their long hind-legs in leaping like that animal; and seldom go on all-fours. It is about eight inches long, and the tail ten inches. There is one fact connected with this animal which shows wonderful sagacity. They have subterranean abodes, with one entrance; but then they work up another road nearly to the surface, and when pursued in their retreat, they make for their safety-valve, burst through the thin surface covering, and so escape. The Arabs are very fond of them as food.

The Common Dormouse is a pretty little animal, a little larger than the common mouse, but more plump and rounded; its full black eyes and somewhat bushy tail, as well as its beautiful brown coat, distinguish it.

They are common in some parts of England. Their nests are built in brambles, and such-like places. They are easily tamed, and bear confinement with cheerfulness, feeding without fear on nuts. They do not crack the nuts, but gnaw a neat round hole and scoop out the kernel.

The Common Hare is well known in all the kingdoms of Europe; indeed, in all the northern parts of the world. It has no weapons of defence, and

therefore it has been endowed to a high degree with the sentiment of fear: “Dogs and foxes pursue the animal by instinct; wild cats, weasels, and birds of prey devour it; and man, far more powerful than all its other enemies, makes use of every artifice to seize upon an animal which constitutes one of the chief delicacies of his table; and even the poor defenceless animal is made an object of amusement in the chase. But wretchedly indeed is man’s reason and intellect perverted when exercised in so cruel, so unmanly a pursuit.” In India, the hare is also hunted for sport, not only with dogs, but with hawks; but in India, beloved children, they do not profess to be under the authority of that blessed word which declares that the children of God are to be merciful as their Father in heaven is merciful. (Luke vi. 36.)

The Rabbit. This well-known animal is found in most parts of the world, but abounds in England; and they are so prolific, that if they had no enemies, a single pair, in four years, would produce, it is said, a million.—The mother takes an especial care of her young, and nurses them with great assiduity until they are able to help themselves.

The fur of the rabbit is useful for hats, and the flesh is delicate for food.

The Coney, or Hyrax. This little animal abounds in the Holy Land and Arabia. Its front paws are very weak, so that it is unable to burrow as the rabbit, but makes its home in the rocks. (Ps. civ. 18.) Solomon, when speaking of the coney, says, “They are little upon earth, but exceeding wise: (the margin reads “wise made wise:”) they are a feeble folk, yet make they their houses on the rocks.” (Prov. xxx. 24.) There is great instruction to us in this scripture:—The man that is wise BUILDS HIS HOUSE UPON A ROCK. (Matt. vi. 24—28.)

FIFTH ORDER. The order, which includes the Camel, the Llama, the Musk, the Stag, the Elk, the Camelopard, the Antelope, the Goat, the Sheep, and the Ox, &c., has this characteristic, that the animals have cutting or front teeth in their under jaw, but none in their upper. They also chew the cud, and almost all have horns.

The Camel. There are two varieties of this most useful animal, both of which are invaluable to the Arab in his parched deserts, and to the inhabitants of other tropical countries. The one is called the camel, and has two hunches on his back; the other, the dromedary, which has only one. The latter is by far the most numerous; the former is scarce, except in Turkey and the Levant. The camel has a large head, short ears, and a long bending neck. Its height, to the top of the hunches, is about six feet and a half. It has a long tail, and small hoofs; flat feet, divided above, and not beneath; on the legs are six callosities or horny pads to defend from injury when the animal lies down; and besides the four stomachs, which all ruminating animals have, it has a fifth storehouse, which is its *reservoir* for water.

In every way the camel is beneficial to man; and if you look over the whole family of the animal kingdom, not one could supply its place: it is found too in the very spot where it is needed. By means of this docile creature, the trade of Turkey, Persia, and Arabia, is principally carried on. But every part of it is useful: its milk, flesh, hair, &c., are all turned to advantage.

The Dromedary is seldom as large as the camel, or as strong; but it is much more fleet, and its numbers amply make up the deficiency.

The Llama is the camel of the New World; but, like all the other animals, it is much less in size than that of the Old. It is found, however, only in the mountains extending from New Spain to the Straits of Magellan. In Peru it abounds. This valuable animal is not above four feet high; its colour varies. Its precision of tread, in ascending and descending dangerous precipices, with 100lbs. weight on its back, is marvellous. Its life appears limited to about twelve years.

The Musk. This animal, which inhabits the kingdom of Thibet, Tonquin, and Boutan, delights in mountains. It is a timid animal, and flees from man. The medicinal drug, which gives the name to this animal, is found in a little bag in the belly of the male, about the size of a hen's egg.

The Brazilian, Indian, and Guinea Musks are all of this genus; the latter is not more than ten inches long.

The Camelopard or Giraffe. This beautiful and stately animal has partially the form of the camel and the skin of the leopard; and thus its name. It is occasionally brought to Europe. At the present time there are several beautiful living specimens in the Zoological Gardens. Its height varies; but it has been seen eighteen feet and more. It is found in the sequestered parts of Africa. It feeds entirely on herbs. Besides its long neck, which enables it to reach very high, it has a very long tongue, with which it lays hold of branches above its reach.

The Moose Deer, or Elk. The elk is the largest of the deer family. It inhabits only the most northerly countries: although provided with truly formidable horns, and able to kick with rapidity and violence, the elk is

ordinarily a quiet animal, and so timorous that it is a most difficult matter for the hunters to approach him. In the hot weather, however, the poor animals are so pestered with tormenting swarms of mosquitoes, that its general caution is abated. In the winter, its steps are tracked over the snow, and the Indians hunt it with assiduity. Once a chase was kept up by three hunters for six successive days. On the fourth day one of them strained his ankle, and the others were tired out, but one of them, after a good rest, again set out, and in two more days came up with the elk and killed it.

Its flesh is admirable food, and its skin makes soft durable leather.

The Rein-Deer. In the deserts of Arabia we found the camel just adapted for its place; but how entirely it would fail to fill the place of the rein-deer! The rein-deer cannot be too highly prized: take it from the Laplander, and his loss would indeed be dreadful. It supplies to him the place of the horse, cow, and sheep; for it draws his sledge, affords him milk, gives him clothing, and even the very tendons answer when whole for bow-strings, and when split for threads. A Laplander's riches consist, not in how many thousand pounds he has, but in how many rein-deer he has in his fold.

In the inclement regions of the North—

“The rein-deer form their riches: these their tents,
 Their robes, their beds, and all their homely wealth,
 Supply—their wholesome fare and cheerful cups:
 Obsequious to their call, the docile tribe
 Yield to the sled their necks, and whirl them swift
 O'er hill and dale.”

The Stag, or Red Deer. This animal, as well as the fallow-deer, was once common in this country; and though much alike, the varieties never associate with each other. The stag is common to almost all the Northern parts of Europe.

Like the rest of this family, the deer sheds its horns annually, thus we get that valuable volatile spirit, called hartshorn, which is procured from the shavings of the horn. The flesh of the stag is esteemed above that of the fallow-deer. They are very bold in case of danger. There was an instance once of a tiger cruelly let into the same enclosure with a stag, but the latter made so stout a resistance, that the tiger fled.

The Fallow-Deer is now domesticated with us, and is kept in the parks of the great. Their young are called fawns; and the spots on their skins give them a beautiful appearance. The flesh of the deer is called venison.

The Roebuck is a most beautiful little animal, the smallest of this family known in England. It once roamed through our woods, but is now extinct in these kingdoms, except in the Highlands of Scotland. It is about three feet long, and two feet high. They have this peculiarity: that they never herd together, except in domestic relations. The roebuck is always faithful to its mate; and the family live with them until they are old enough to go out into life, and provide for themselves.

The Common Antelope is a native of Barbary, and is much like our fallow-deer: its peculiarity is, that its horns are spirally twisted, and encircled almost to the top with prominent rings. The females are destitute of horns.

There are very numerous varieties of the antelope, but their habits and appearance are very similar.

The Goat. This family is well known, and is a valuable animal to us, especially on board ship, where it supplies, at least to a few, milk for a long voyage. The goat is found in most parts of the world. In several parts of the world goats are an invaluable boon to the poor. All parts of this animal are of use. The kids are very playful. This was one of the animals used, by God's appointment, in sacrifice. Though goats are now met with in America, there were none found there on its discovery.

The Ibeæ is a bold animal of the goat genus, found on the Alps and Pyrenees: he has large knotted horns, sometimes three feet in length. If the incautious hunter follow him to narrow places, he will turn round, and endeavour to throw him off the precipice; and if he fails he will throw himself down an amazing height, and, falling on his horns, will escape unhurt. How wonderful this provision—how full of mercy!

The Goat of Angora. This animal seems confined to the limited space of a few hundred miles, about Angora and Congar, in Asiatic Turkey. It is famous for its beautiful hair. The goat-herds are extremely careful of them, washing and combing their hair frequently. This production is unrivalled, and of it is made our most beautiful fabrics, &c.

The Moufflon. Some naturalists have supposed that this is the original stock from whence all our present race of sheep have sprung; but there is one great difficulty to this, as the covering of the moufflon is hair, and that of sheep wool. The horns of this animal are of amazing length. It is a native of Greece, Sardinia, Corsica, and some parts of Tartary.

The Common Sheep. This animal, in its present state, is entirely domesticated with us, and is of the utmost benefit, not only to us, but to

all the northern nations of Europe; for though cotton is admirably adapted for the warmer regions of the south, yet, warm as it is compared with linen, it is a poor substitute for the generous heat preserved by wool. A few years since, an estimate was made of all the flocks of sheep in several of the European kingdoms, and the number reached 140,000,000 head.

The sheep is associated with the earliest history of the world; and the first immediate sacrifice we read of was a lamb,—“*Abel offered of the firstlings of his flock.*” Abel, of course, did this by direct revelation from God—HE DID IT IN FAITH: and as Jesus the Lord was the Lamb slain before the foundation of the world, Abel, doubtless, saw his day afar off, as Abraham did, and rejoiced, and was glad. But I will enlarge on this in my next letter.

The sheep is an animal capable of the greatest affection. There is a fact of great interest, mentioned by Hogg, the Etrick Shepherd, in support of this: he says, “The harder the times, the greater the kindness of the *ewe* to her young:” and he adds, “Once I herded for two years in a wild and bare farm, called ‘Willinslee,’ on the border of Mid-Lothian; and of all the sheep I ever saw, these were the kindest and most affectionate to their young. We had one very bad winter, so that our sheep grew lean in the spring, and disease came in among them, and carried off many;—often have I seen these victims, when fallen down to rise no more, and even when unable to lift their heads from the ground, holding up the leg to invite their starving lambs to the miserable pittance that the *udder* could still supply.”

Now suppose, my dear children, you take a pen, and enumerate the

various qualities of the sheep; and begin with the wool;—I mentioned in the introduction of this letter, that so valuable an article was wool considered to this nation, that, by some ancient custom, the Lord Chancellor's seat was made of wool;—after you have enumerated the articles made of wool, think of the thousands and tens of thousands of hands employed in its manufacture, from the costly cashmere of the palace to the coarse worsted of the cottage, or from the *delicate German wool*, softer than silk, to the rough horse cloth, harsh and impervious to wet. I shall never forget the pleasure I had in Ireland, when, after a good deal of perseverance, I saw some of my home-made cloth spun and wove under my own eye. But pleasing as the flocks are, we must pass on, and consider the next animal of such great domestic comfort and blessing to us,

The Ox or Cow. Perhaps of all the quadruped family, or, indeed, of all things living, the cow is the most useful to man: though even this expression must be guarded; for the cow would make a poor substitute for the rein-deer or camel where they are found; indeed, it would not exist in either of the two countries where they abound; but to us in Europe the cow is an immense blessing—*of untold value.* This animal is found in most of the quarters of the globe; and in countries where the pastures abound, its size is proportionately great.

As the sheep seems to have been domesticated from the very earliest times, so do cattle. Jabal, one of the descendants of Cain, was a keeper of cattle: so, after the flood, we find them continually alluded to. With the sheep and goat, they were the alone creatures offered in sacrifice, excepting the turtle-dove and pigeon.

The cow exhibits for a little while the most tender affection to her young; and mourns its loss most bitterly; but after a little seems to forget it, and yields her milk abundantly for man's benefit. I subjoin a little calculation that I know will interest you, showing the enormous quantity of food they take, and which, by that wonderful mutation of nature, goes largely to give us such stores of milk.—“A cow consumes about one hundred pounds of green food in one day. This is eighteen thousand five hundred pounds for the whole summer. In winter, she consumes forty-five pounds of roots per day: or, for the remaining days of the year, eight thousand one hundred pounds: and in return for this, if well fed, she yields two thousand quarts of milk.”—*Allen*.

Have you not frequently seen the ox ploughing? how patiently he goes about it. Sometimes you see cruel men strike them over the horns; but this is as unwise as it is barbarous. One well versed in rural life strongly recommends that all violence and rough language should be avoided.—“If the ox be ever so stubborn,” he says, “there should be no blows, no loud speaking, no scolding; but stop—pat him, pat his companion, speak gently, and he will soon move on.” How true this is; and not only with animals, but with man. My dear children, you may one day have others under you: LEARN THUS, THEN, the way to get, and the way to keep authority is, “to do to others as ye would they should do to you;” let there be nothing overbearing, nothing angry, no threatening; and you will get an obedience of love, and not of fear.

The Bison. This formidable animal is of the Ox family. Its chief peculiarity is the lump between its shoulders: it also has a long shaggy

mane, and a beard, and a very fierce and fiery eye. It is found in most of the warm latitudes. This animal, though furious by nature, is capable of being tamed and domesticated, and then it is said to be even milder than the cow itself. The Hottentots train it to war, or at least used to do so, and under their management it became a most formidable animal to their enemies, for it would dash into the midst of the opposing ranks, fearless of danger.

The American Bison. This animal varies little from the former: the skin is covered with a dark wool, which is much esteemed. Its marked peculiarity is, the long hair, springing between the horns, hanging over the eyes, which gives it a very formidable appearance.

The Buffalo and the ox are very much alike, yet they have a rooted aversion to each other, and are evidently different species. It is found in Europe, and said to have been introduced into Italy in the year 600. They also abound in America. Mr. Catlin, in his animating and affecting picture of the North American Indians, gives a striking description of this family:—"The great variety of uses to which the Indians convert the body, and other parts of the buffalo, is almost incredible to the person who has not actually dwelt amongst these people, and closely studied their modes and customs. Every part of their flesh is converted into food, in one shape or another; and on this they entirely subsist. *The robes* of the animal are worn by the Indians instead of blankets; *their skins, when tanned*, are used as coverings for their houses, and for their beds; *undressed*, they are used for constructing canoes; for saddles, bridles, varrets, lassos, and thongs; *the horns* are shaped into ladles and spoons; *the brains* are used for dressing the

skins, and *the bones* for saddle-trees, war-clubs, and scrapers for graining their robes; others are taken for their *marrow*; *their sinews* are used for strings, and backs for their bows, and for thread to string their beads, and sew their dresses; *the feet*, when boiled, make glue, by which they fasten the heads of their arrows, &c.; and *the hair* from the head and shoulders is twisted and made into halters; and *the tail* itself is used for a fly brush.”—*Catlin's Letters on the North American Indians*, vol. i. p. 262.

The SIXTH ORDER comprises the Horse, the Ass, the Zebra, the Wild Boar, the domestic Hog, and the Hippopotamus.

The Horse. Of all the quadruped family, the horse may be reckoned to reach the highest point of symmetry and proportion; and, when kindly treated, may be brought to the greatest state of docility. The value of this animal was very early known. We find them in the armies of Pharaoh, when he pursued the children of Israel, and in many other parts of Scripture they are continually alluded to; but of all the parts of the world where they are in perfection, *Arabia* is pre-eminent, so that the word Arabian and beautiful horse are almost synonymous. How grievous to see this noble animal treated sometimes so barbarously! I do not know what would be done in Arabia to some of our countrymen, if the natives saw them ill-treat their horses as they do. THERE, the horse is made almost one of the family. You remember that anecdote in your book of British Quadrupeds:—“In the time of Louis XIV., King of France, the French Consul in one part of Arabia offered to purchase a very beautiful mare of a poor Arab. He was almost naked, and his wife and children starving; and after a great deal of trouble, he consented to the purchase for a sum

that would have made him independent for life. He brought the mare to the dwelling of the Consul, dismounted, and stood leaning upon her. The gold, her purchase, was put before him; he first looked at it, then at the favourite;—he sighed and wept:—‘To whom,’ said he, ‘am I going to yield thee up? To Europeans, who will tie thee close; who will beat thee; who will render thee miserable; return with me, my beauty, my jewel, and rejoice the hearts of my children.’ Saying this, he sprang on her back, and was out of sight in a moment.”

“Away! the fevered dream is o’er:

I could not live a day, and know that we should meet no more!
They tempted me, my beautiful!—for hunger’s power is strong—
They tempted me, my beautiful!—but I have loved too long.

Who said that I had given thee up? who said that thou wast sold?
’Tis false—’tis false, my Arab steed! I fling them back their gold!
Thus, *thus*, I leap upon thy back, and scour the distant plains;
Away! who overtakes us now shall have thee for his pains!”

I have before remarked, that the horse, if treated kindly, will do anything: abundant facts confirm this statement. I will only mention one:—Sharon Turner, in his book on Creation, in one of his valuable notes, says, “An experienced cavalry officer once told me, that he did not fear the most vicious horse, and would soon cure it. I asked him his means. His answer was, always by mild and gentle treatment, and forbearing patience. If you whip them, he said, you make them bad-tempered, and continually vicious; but steady kindness, occasional humouring as far as was safe, with a hard run now and then, to let their spirit exhaust itself, constituted always the most successful system.”

But not only is the horse cruelly treated in life, but after it has rendered man his best services, the history of its closing days would record scenes of the most astonishing barbarity. Mercifully, some benevolent minds have taken up the subject, "AND HAVE LIFTED UP THEIR VOICE FOR THE DUMB." How true is that word, "The righteous man is merciful to his beast."

The Ass. This useful animal, though much like the horse, is very different in its habits. It is known in most parts of the world; and, *if possible*, is worse treated than the horse. But still it is a great friend to man; and the milk from the dam is considered much lighter and more digestible than that of the cow. In the countries where the wild ass is in its perfect freedom, you would hardly know it as the same animal with its present degraded-looking descendant. There it is the fleetest of the fleet; and I think Xenophon remarks, in his account of Cyrus's expedition, that such was its swiftness and strength, that they could only catch it by having relays of horses. In those countries its flesh is esteemed as a rarity. Though accused of stupidity, observation leads to a very different conclusion, *i. e.*, that it ponders much and acts wisely. Indeed, facts are abundant in proof of this. In Eastern countries, to ride on white asses was a mark of high distinction.

The Zebra. This beautiful animal is rather smaller than the horse, but, if possible, more beautiful, and is as swift as the stag. It inhabits the Cape of Good Hope, and most of the southern parts of Africa. The stripes of the zebra are exceedingly beautiful,—in the male, they are brown and white, and in the female, black and white. This animal is most difficult,

either to catch or retain; though it is said that four of them were once yoked to the King of Portugal's carriage.

The Hippopotamus is a vast, unwieldy-looking animal, but of inoffensive habits. It resembles a rhinoceros somewhat, but its skin is like an elephant's. Its enormous head and mouth give it a striking appearance. Its home is in the still waters of the sedgy Nile, and other rivers of Africa. Rice, corn, and such supplies, constitute its food, and during the night the fields near its haunts are exposed to its devastating depredations. By means of a beautiful contrivance these animals can remain for some little time below the water and feed on the sub-aqueous herbage. They are formidable animals when attacked, and often turn upon their pursuers and demolish the frail boats which contain them. Their teeth are valuable for the making of false teeth for those who have had the misfortune to lose their own.

THE HOG. Animals of this genus seem to unite in themselves *some of the characteristics of several other quadrupeds*: they resemble *the horse*, in the number of their teeth; *the cow*, in their cloven hoofs and the position of their intestines; and *the claw-footed tribes*, in their appetite for flesh, and their numerous young.

The Wild Boar. This animal may be considered the parent stock of our domestic swine: he is, however, smaller, but very undaunted. He is found in most parts of the world; and because he is courageous, man likes to hunt him.

The Domestic Hog. This animal is known in almost all parts of the world; and is among the most prolific of all the quadruped family. In

Ireland, it is an invaluable boon to the peasantry; though they very rarely taste those they rear; having to sell them for their rent money.

In the South Sea Islands this animal abounds.

The Cassibara, or Water Hog. This animal is found in South America. It looks like a hog; but its snout is divided. It delights in the water, and has a kind of web foot, to enable it to swim. It feeds on fish, flesh, and vegetables indiscriminately: nothing comes amiss to it. It is easily tamed, and then manifests attachment.

The Peccary. This animal is also an inhabitant of South America. It is much like a pig, but of a lighter and more elegant form.

The Babyroussa, or Indian Hog. Though this singular animal has been ranked with the hog genus, it has but few similarities with it. Its general figure more resembles the stag, and its hair is more like wool than bristles. It also has four enormous tusks growing out of the jaws—the two uppermost of which rise like horns, and bending backwards, point to the animal's eyes; these tusks give it an imposing appearance, and are very valuable, being the best ivory.

The Babyroussa is chiefly found in Borneo, and the neighbouring parts of Asia. It is a quiet animal, except when attacked.

The Seals and Walruses I mention here under a separate division, because of their strictly amphibious habits, and because there is some slight reason for supposing that they formed part of the fifth day's creation.

Seals are animals of exceedingly curious form and habits. They possess the four limbs of quadrupeds, but so arranged by the wisdom of God as to

be hardly recognised. The fore legs contain the same bones as our own hands, but are modified into swimming paws, and the hind legs are stretched out close together, so as almost to look like a broad tail.

Their habits confine them much to the sea, where they swim with admirable ease. Their fur is of the densest description, and they are provided with a thick layer of fat both to render them buoyant, and to defend them from the cold of the northern seas they inhabit. Their food is fish.

To the Greenlander the seal is most valuable. Its skin is used as clothing, its oil supplies light, its flesh food. There are many varieties.

The Walrus is still more remarkable in appearance than the seal, for its bulk is much greater, and its body being more of the quadruped form, seems strangely provided with legs. "In wisdom hast Thou made them all," is however the record of the Spirit of God about the works of creation. When we meet with any new form, or new fact, our duty is to say, "I am sure this is perfectly what it should be, let me set myself to find out its adaptation 'to the wants of the animal.'"

The walrus has two remarkable tusks hanging down from the upper jaw, which are supposed to aid it in clinging to the icy rocks of its native shores. These tusks are admirable ivory. When in company the walrus will sometimes attack the men of a ship's boat, if wounded. The walrus feeds on marine plants, and its tusks are of great use in tearing up these; it also eats various other matters. Its length is from eight to ten feet.

We now descend lower in the scale of creation, and come to the creeping things that creep upon the earth; and after these, to the Insects, some of

which emphatically, as the Ephemera, are the creatures of a summer's night, having their birth, maturity, and death, between the setting and rising of the sun.

The former of these come under the Order *Amphibia*, or animals that inhabit both elements: for though this is not strictly the case with all, yet it is with the greater part.

This order of animals is distinguished from those which suckle their young by several particulars:—1. They have cold blood, though red; 2. They are oviparous; 3. Their lungs chiefly consist of a pair of bladders, parted into small subdivisions, among which are beautifully distributed their few pulmonary blood-vessels.

Some of the Amphibia are furnished with formidable teeth; some are without. Some are fierce and predaceous; others quite inoffensive. The bodies of all are cold to the touch: and this, with the squalid appearance of many, has produced in man a repugnance to the whole family, from the crocodile to the little lizard, and yet many, very many, of this order are perfectly harmless. And the serpent tribe, though it has some species venomous, yet they form not more than one-sixth of the whole family; and when we consider how small a portion of the globe they occupy, and for what a length of time, in cold countries, they are torpid, we have only to be thankful we know so little of them.

The Amphibia are sub-divided into *Reptiles* and *Serpents*. The reptiles have legs, and the serpents are destitute of feet, but move by the assistance of scales, and their general powers of contortion.

REPTILES. *The Tortoise and Turtle Tribe* is a very singular family, with

coverings of amazing strength. One of the larger species has been known to bear five men on his back, at the same time, without feeling it. Their body is protected by a singular bony covering, with a horny, scaly, or cartilaginous integument. The covering consists of two large plates, one above and the other below, joined at the edges. From these shells, the animal is not able to disengage itself; and they defend them sufficiently from almost every enemy but man.

Those species that live on the land feed on succulent vegetables; and those that inhabit the ocean on sea-weed. There are about thirty-eight species of this tribe—four that live on the sea, eighteen on the fresh water, and the remainder on the land.

The Common Tortoise. This well-known little animal, which rarely reaches more than nine inches in length, is found by the Mediterranean Sea, and in North Africa. Its legs are very short, feet broad, and covered with scales, as is the tail also. In autumn it disappears for the winter, and is torpid until the spring. The longevity of this animal is surprising; some having lived upwards of one hundred years.

The *Turtle* is a marine tortoise, living in the sea and coming on shore to lay its eggs. Its form and appearance are well known. The time of its coming on shore for the deposition of its eggs is the moment of capture. The fishers wait for them at night and as fast as they emerge from the water, turn them over on their backs, or strike them with clubs to disable them. They are also sometimes taken with a harpoon in the water. Their principal use is as a delicacy for the table. One of the species, the *hawk's-bill turtle*, furnishes the beautiful substance called "tortoise-shell."

All the seas of warm latitudes produce turtles of different kinds. They are common in the Mediterranean.

The Frog tribe is well known in this country.

The Common Frog is too well known to require any minute description. It is a harmless, inoffensive creature, feeding on insects. Who would think that the great Creator should lavish, so to speak, upon a frog three separate modes of existence! When it first escapes from the egg form, it is provided with external little branches of vessels, as breathing apparatus, which are aëriated by simple swimming about through the water; next it receives internal gills, like a fish; and at last real lungs, somewhat like our own, are developed for its use as a frog.

All these changes may be easily watched, if a little of the spawn be put into a glass vessel in the spring, and the water be kept changed, and some pond weeds, or water-cresses, be put into the water for the tadpoles to feed on.

The Bull-Frog is the *giant* of the tribe, and measures sometimes twenty-eight inches. They abound in Virginia in America. They prey on young fowl, when they can catch them. The bull-frog is eatable.

The Tree-Frog is a native of France, America, and Germany. It resides, in the summer, in the upper branches of trees; but in the autumn descends to the muddy banks of rivers, and becomes torpid until the spring.

The Toad. There is a great dread of this little animal, as if it were poisonous; and if met, it is often killed; and yet it is as harmless as the frog. The circumstance of toads being found in stones, imbedded there, would be scarcely credible, if it were not substantiated on indubitable

authority. To account for it seems impossible, though many very interesting reasons have been given.

The Pipa. This toad is found in Surinam. It is much larger than ours. In the bringing up of its young, it is something like the opossum. On the back of the female are certain cavities, like the cells of a bee-hive. When the female lays her eggs, the male gathers them together, about seventy-five in number, and places them carefully in these hiding-places, which then close over them: in about three months they are hatched, and come out, in miniature, just like the parent.

The Lizard Tribe. Although the larger species of this family, as the crocodile and alligator, are predatory, yet by far the greater part are *inoffensive*, though their look, and cold feel, make them much dreaded. In this genus are found some of the largest, as well as the smallest, of the great quadruped family. They are called oviparous quadrupeds.

The Crocodile. This voracious animal is much dreaded by man, and yet he attacks it, and as in Java, catches it with hook and line, or with a net. This animal abounds both in the Old and New World, but especially in the rivers of Africa; and strange to say, though it grows to the size of twenty-five feet, yet it lays eggs not much larger than those of a swan.

In shape, the crocodile is very much like the lizard. The armour, or coat of mail, with which the upper part of the body is covered, is *most perfect*, and a musket shot flies off it quite harmless. The under covering is more pliable. The mouth is larger than that of any other animal, and is armed with frightful sharp teeth.

I remember Captain C. telling me of a meeting he had with a crocodile

in the East Indies. He was going on shore in a boat: just as they got near the land, they observed one of these monsters; on which one of the officers incautiously fired at it;—the ball, however, bounded off in an instant; but the animal, enraged at the attack, made towards the boat; and just as it reached the shore, he lifted his huge tail out of the water, and smashed it to pieces; and if my memory serves me, two of the men were killed, though the rest escaped.

This terrific animal lives a good deal in the water, and floats on its surface *like a dead tree*, or else secretes himself in the reeds by the river's side; and when the tiger, or bull, or even the lion itself, comes to drink, he sometimes springs on them, and dragging them under water, drowns them. He seldom pursues man or beast on shore, as they can generally escape his tremendous mouth, by running, and changing their course. The prolific character of this animal is at first sight frightful, laying, as it does, seventy or eighty eggs: but then it has many enemies. The keen eyes of the vulture and ichneumon discover the nest, and destroy a whole brood in a few minutes; and then, again, at the moment the sun has hatched them, they take to the water, and a variety of fish make them their prey. Thus, by a gracious provision, this monster family is kept within bounds. When the Javanese fish for this animal, it is not a chain or a cable that they fix to their hook, but a long large piece of loosely-twisted cotton. The voracious creature always swallows the bait; and finding himself a prisoner, seeks to bite the line, but he cannot, it being entangled in his teeth, and the natives, with spears, knowing his vulnerable parts, soon dispatch him. When taken by nets, he breaks the first or second; but by

this time he is weakened, and is easily made captive. Thus man here also has dominion; and this monster of the rivers becomes his prey.

The Alligator. This is the crocodile of the New World. The natives call it “Lagarto;” and some Englishmen put the article to it, and it became “a lagarto;” and thus the origin of the word *Alligator*. They are less than the crocodile of the Old World. Their teeth are as white as ivory; and their flesh is very nutritious: so much so, that in some districts it is the natives’ chief subsistence. Sometimes, armed with a double knife, the Indians will attack the Alligator in his own place of resort.

The Common Guana. This is a most useful animal in the way of food. The natives of the Bahama Islands feed entirely on it, and catch it with wonderful adroitness. This animal, like the whole of the family, is very fond of music. This the Indian knows; and when he sees his prey, he commences whistling. This charms the guana, who lets him approach, and tickle him with a switch, with which the animal is so much delighted, that not until it is too late, he finds that, amid the sweetest sounds there is death. How forcible is that word in Prov. ix. 15, 17.

This animal is found in the East and West Indies. In length it is about four or five feet. The tail is long and round: the back serrated: the colour green. It has a large pouch under its chin, which is capable of great distension. Their eggs, which are about the size of pigeons’, are considered better than those of a hen.

The Salamander. This singular animal, for a long time, was supposed to be proof against fire, and even to have the power to extinguish it. The ancients called it “the daughter of fire, with a body of ice.” Thus,

offices for insurance against fire, and fire-engines too, have taken this little lizard as an emblem. But naturalists have satisfactorily ascertained, that fire would act upon it as upon other animal substances; and also, that it is harmless and innoxious. It is found in Germany, Italy, and France. Its general length is about half a foot; but it is sometimes much larger. It is easily distinguished by its short cylindrical tail, and its deep black colour, variegated with bright orange spots. It brings forth its young alive, the eggs being hatched within the parent animal.

The Chameleon. This peculiarly singular little creature is a native of India, Africa, and some of the warmer parts of Spain and Portugal. Its usual length is ten inches, and its tail the same length.

This animal is perfectly innoxious, and feeds almost entirely upon insects, which its tongue is wonderfully formed to take, being long, and furnished with a glutinous tip. This it darts out in an instant, and the prey adheres to it. It lives generally in trees, for which its feet are wonderfully fitted, having five toes, united three and two; but the chief singularity of the chameleon is its power to change its colour at will. The cause of the change of colour seems to depend on its blood, (which is of a violet blue,) and the coats of the vessels, which are yellow. But there is much variety of opinion on this subject.

Thus, when the animal is well fed and healthy, the colour of the blood prevails; and when weak and sickly, the colour of the skin. Another peculiarity in the chameleon is, that it can look with one of its eyes forward, and with the other backward. You remember the tale of the chameleon and the two travellers who were going to fight about this little animal, one

asserting that it was one colour, and the other a different one. The moral of the tale is excellent—never to form an opinion without examining both sides: and then to offer it with modesty and humility.

The Nimble Lizard. This animal is one of the British species. It is about six inches long, and the tail near twice that length. This is a most gentle and inoffensive little creature. It is fond of the sun, and delights in it in spring-time. It is torpid during the winter.

The Serpents possess no legs, but this lack is amply compensated for by the muscular power they possess. There are very many species, but only a sixth of these are poisonous. All the species change their skins periodically; and in cold and temperate climates they are torpid during the winter. The flesh of several of these snakes is eaten by the natives of many countries. They bring forth their young by eggs; and some of them, like the salamander, hatch their young before birth.

The Rattle-Snake. There are not many species of this family; but all are furnished with poisonous fangs. The bite, however, is not in general fatal, unless the animal is exasperated. They give notice, except in hot weather, of their approach, by the rattle on their tails, which rattle is composed of hollow membraneous articulations, that annually increase till they reach to forty.

This formidable serpent is found in North and South America; and is usually about five or six feet in length. Its colour is yellowish brown, with transverse black lines. Both the jaws are furnished with small sharp teeth, and the upper one has four large incurvated and pointed fangs: at the base of each is a round orifice, opening into a hollow, that appears

again near the end of the teeth, in the form of a channel. These teeth may be raised or compressed at pleasure. This dreaded animal, however, happily for man, is slow in pursuit; and then, again, its rattle and foetid smell give notice of its near approach; and, moreover, if not attacked by man, it will seldom attack him.

Some naturalists of America have denied the power of the rattle-snake to fascinate with its eye; but the proofs of it are incontrovertible. Among other facts, you remember our kind friend Mr. W., who related the following account to us of an incident which occurred to himself not many years since. He was in America; and had gone out with the view of getting one of these animals as a curiosity. He soon came upon one that was fast asleep. He stood over its head, and was just in the act of plunging his sword-stick into it, when in a moment it opened its fiery eyes on him. No language, he said, could fully describe their power. He was transfixed to the spot: his body was covered with a profuse perspiration; and he felt he would have given worlds to have been on the falls of Niagara—to have fallen back from *those eyes*—when, in a moment, by God's mercy, the animal hearing a rustling near it, glided through the grass, and he saw it no more. At that time our friend was ignorant of the Lord; but since then he has learnt who it was that protected him in the hour of danger.

Rattle-snakes are viviparous. When their young apprehend danger, they run, like the little chickens, to their best protector; and the method that Nature has provided for their safety is most singular; for the mother opens her mouth and swallows them alive, and returns them again when the danger is over. Of this *fact* M. de Beauvois says he was an eye-witness.

The Indians eat the rattle-snake as we do eels.

The Great Boa. This enormous snake is sometimes from forty to fifty feet long; and its thickness then is that of a moderate-sized man. This race is destitute of venomous fangs: they never attack but by necessity, and then openly; but the result is almost always fatal. Three species are found in Asia; the rest on the New Continent. The colour of the body is a yellowish grey, variegated with reddish brown, distributed along the back. It is a native of Africa, India, and the Indian Islands. It generally lives in most retired places.

The strength of this creature is almost beyond belief. When it sees its prey, it springs upon it; and by its wonderful power it squeezes to a mummy even the body of the buffalo, breaking every bone in its skin. The following fact is related by a gentleman who lived some time in America; and illustrates the dread the Indians have of the boa. One day he sent a soldier with an Indian to get game. The Indian, being tired, sat down on what he thought the trunk of a tree. It was a boa; and the monster beginning to move, the poor fellow perceived his perilous situation, and dropped down through fear. The soldier, with great presence of mind, levelled his piece, and in a few moments the snake was dead: but alas! on going to the poor Indian, he found that, overpowered with terror, he had fallen a victim to his fright. This animal was thirty-six feet long. The skin was stuffed, and sent to the cabinet of the Prince of Orange.

But although the boa is so terrific an enemy, yet he never attacks but when impelled by hunger; and then he so gorges himself, as to be incapable of moving; and a boy might kill him if he had courage to make the attempt.

The bite of this serpent is not venomous. The natives eat it, and use its oil for various purposes. One serpent has been known to yield five gallons.

The Common Viper. This poisonous little snake seldom exceeds two feet in length, and is found all over the Old Continent. It is not uncommon even in some parts of our own island. It is chiefly distinguished from the common snake by its darker belly, and by the head being much thicker than the body. If this snake is trodden upon, even by accident, it will be sure to bite; and the bite is poisonous. Its teeth, &c., by which the poison is conveyed, are similar to those of the rattle-snake. The most esteemed remedy for the viper's bite is salad-oil, rubbed continually over the wounded part. The viper is the only poisonous snake known in this country.

About two thousand years ago, our fathers were wont to dip their arrows and spears in the poison of the viper, as the barbarous natives of New Zealand do at this day.

The Common Snake. These animals are perfectly harmless to man; and are torpid during winter. They come forth from their hiding-places when the sun begins to be fervent, and then cast their skins.

The common snake feeds on frogs and insects of various kinds, and is particularly fond of milk.

The Hooded Snake. This is one of the most poisonous of all the reptile family. It is between three and four feet long, and one inch thick. The head is small; *its hood*, which is a loose skin that it can distend to a great size, reaches about four inches down the body: when it is going to spring, it puts up this hood and shows its fangs, and then darts on its prey with great force.

The hooded snake, when *despoiled of its fangs*, is exhibited in India, and will move its body as if with pleasure, at the sound of the flageolet.

The Black Snake. This serpent is a native of North America. It grows to a great length, but has no poisonous qualities. This animal will glide over the face of the earth as fast as a horse can gallop; and will also climb trees with great agility in quest of the tree frog. Its power of fascination is like that of the rattle-snake. In America it is esteemed much for its cleverness in catching rats; and also in attacking and destroying the rattle-snake, which it does by twisting itself round its body. The Americans cherish the black snake as a friend. It has been seen taking milk out of the same dish with children.

This closes the account of the Amphibia, and, I think, my dear children, we have not found them, except the crocodile, rattle-snake, boa, and hooded-snake, so terrible a family as we thought; but in many cases have seen them supply man with food. And I may add what an old sailor told me even yesterday,—that the lizard, if it sees a man sleeping, and knows of any snake, or beast of prey at hand, never leaves the man until he has awoke him, by creeping over his feet or hands. And then the sailor added,—the man knows the sign, and they both make off together. On this account, he said, “it is too bad to kill a lizard.” If this be correct, how merciful—how gracious this provision!

INSECTS.*

As on the fifth day, after having contemplated the gigantic whale—the largest of living things—we were called through all the stages of the numerous inhabitants of the deep to the countless *Animalculæ*, some of which we were obliged even to get a microscope to look at; so now, on the sixth day, having gazed upon the lion and elephant, and all the wild beasts of the forest, and cattle of the field, we have come down to the innumerable tribe of insects, some of exquisite beauty, as the butterfly of South America; some of exceeding value, as the bee, the silk-worm, and the Spanish fly; some the creatures of a day, as the ephemera; but all arranged after the most beautiful order; their wings, eyes, and general structure, all calculated to fill us with the utmost admiration. Indeed, in all creation, nothing is more full of interest than the insect tribe.

“ Each moss,
Each shell, each crawling insect holds a rank
Important in the plan of HIM who fram'd
This scale of beings; holds a rank, which, lost,
Would break the chain, and leave a gap,
That Nature's self would rue!”

The class of animals called INSECTS, I will dwell upon a little more fully; not because they are more beautiful, or more numerous, or more important, (we are little able, from our ignorance, to say which parts of God's works are most important,) but because insects are so obvious to every

* See Appendix.

one's notice;—they come into our houses, abound in our flowers, cross our path when we walk, hum by us and around us in every direction; and seem to intrude themselves on our attention in so many ways, that to be quite ignorant of them would be almost a disgrace.

You will understand them better if I speak of them arranged in order, so I will first give you an outline of the most remarkable orders.

The First Order includes all insects with a shelly covering over the thin, transparent wings; such as the cockchafer, the stag-beetle, the weevils, &c. These are called *Beetles*.

The Second Order comprehends all insects with long, straight, rigid wings; such as grasshoppers, crickets, &c.

The Third Order consists of insects whose wings are distinguished by net-like nerves; these are the dragon-flies, May-flies, &c.

The Fourth Order contains insects with four membranous wings, of which the two pairs are unequal in size, and which are not nerved, like those of the last order. The wings of many insects of this order are hooked together by a beautiful little hook and eye. The bees, wasps, ants, &c. belong to this fourth order.

The Fifth Order includes the numerous insects whose wings are covered with downy powder, or scales, as seen under the microscope. These are the butterflies, moths, &c.

The Sixth Order includes all the two-winged insects, such as the common fly, the gnat, &c.

The Seventh Order contains insects with wings half of a horny substance and half membranous; such are the cuckoo-spit, the cicadæ, &c.

The Eighth Order consists of insects, and some few other animals, without wings. The centipedes, book-worms, lice, fleas, &c. belong to this order.

The spiders, scorpions, mites, &c. cannot strictly be called insects, because they lack the distinct division into three parts, and the invariable number of six legs, of insects.

ORDER THE FIRST. The Beetles. This is a most numerous Class. England alone, I have no doubt, contains upwards of 5,000 species. Some families of these feed on other insects, some on decayed animal and vegetable substances, some on living plants. Many are of formidable size, and many are exceedingly minute. The variety is extraordinary, whether we look at their form, food, or habits.

I will just refer to a few whose history appears peculiarly interesting. The genus called *Cicindela* by naturalists, contains an insect that burrows, in its larva or grub state, in the earth, where it lies concealed with its head and fierce jaws at the mouth of the hole, ready to seize the unwary wanderer. The perfect insects are of brilliant colours, very voracious, and of exceedingly active habits. They are not uncommon on sunny paths near to heaths, but, owing to their agility, they are difficult to catch.

The *Bombadier beetle* is remarkable for possessing the means of making slight discharges of an irritating fluid, which becomes vapour as soon as it is discharged into the air. The species of this genus found in England are all small; as many as twelve discharges have been noticed in one of these insects. If the beetle be kept alive in a box for a little while, it may be

made to play off its artillery, by touching its back with some little instrument, such as a needle. They are found under stones.

The Aquatic beetles are very numerous and interesting: with some of them you are all, I should think, acquainted. Is there one of you who has sat down to watch the busy population of the margin of a pond without noticing the little black whirling *Wheel-beetles*, now swimming in endless circles upon the surface, and anon diving into the safer depths of the pond or ditch, at the least alarm? These merry little fellows are wondrously cared for by their Maker. Swimming on the surface of the water, the eyes with which insects are ordinarily provided would only enable them to perceive danger from above them; but as there may arise peril from beneath, they are provided with an extra pair of eyes, two being above and two being below the water, as they swim. You have seen, too, I dare say, the great *Diver-beetle* of our ponds, with its two powerful oar-like legs, fringed with stiff hairs; if you have not, when you next have the opportunity on a summer's day, do watch a little while the surface of a pond, and you will most likely soon be gratified with the sight of a large beetle rising slowly, tail uppermost, with its oars stretched out, until it reaches the surface of the water, where it will rest. And if you notice attentively, you will see that the tip of its tail appears to repel the water;—this is its mode of taking breath.

Insects, like whales, have to come to the surface to breathe, or to obtain a globule of air to be consumed under the water, which is the same thing. The breathing tubes of insects open by several apertures along the sides of their abdomen.

In the *Divers* the horny wings fit so close as to exclude the water from coming between them and the abdomen, which would suffocate the insect; but at the end of the abdomen and wings there is a beautiful contrivance for keeping out the water while the beetle is under the surface, and for admitting air when it floats, as I have described, to the top. These beetles, of which there is a great variety, some being an inch and a half long, and others not larger than hempseed, are all voracious insects, feeding on other beetles, tadpoles, worms, small fish, &c. They will live a long time in captivity, and some of them, the largest especially, will, after a time, take a bit of beef from the hand. Their state previous to assuming the beetle form is that of a formidable grub, with long legs, and horrible-looking jaws, which swims about, the tyrant of the waters.

The famous *Fire-fly* is a beetle of the same kind as our own curious species, which, laid on their backs, spring by a muscular contrivance into the air a few inches. The South American species emit a bright light.

Southey beautifully describes the effect produced on the first visitors to the shores of the New World by the appearance of these brilliant insects.

“ Sorrowing, we beheld

The night come on; but soon did night display
More wonders than it veiled; innumerable tribes
From the wood cover swarmed, and darkness made
Their beauties visible: one while they streamed
A bright blue radiance upon flowers that closed
Their gorgeous colours from the eye of day;
Now, motionless and dark, eluded search,

Self-shrouded; and anon, starring the sky,
Rose like a shower of fire."

The *Glowworm* next claims our attention. We are apt, in hearing of the wonders of other lands, to overlook the beauties and rich mercies with which our own is arrayed. The little glowworm is just as much an object of admiration as the fire-fly. Its lamp may be somewhat less brilliant, its powers of locomotion more limited; but just as the wondrous phenomenon of the production of light is as much shewn by the taper as the lamp, so our humble little glowworm as abundantly proves the amazing power and skill of God as the glittering fire-fly or the blazing sun. And it has this important advantage, of being within our reach to examine.

The glowworm is the wingless female of a brown softish beetle about three-quarters of an inch long. It is something like a dark flat caterpillar. The light, for which it is so remarkable, is emitted from the under surface of the hinder part of its body. The light appears to be destitute of any heat, and in this, of course, it differs entirely from sunlight or lamplight. Indeed it is not at all understood by what means this luminosity is occasioned. "Where is the way where Light dwelleth?" saith God to Job. This insect, during its grub state, feeds upon small slugs, and suchlike aliment, and is rather voracious; but as soon as it assumes its perfect form it eats only the tender leaves of plants.

The *Death-watch*, because of the curious effect of its ticking noise on ignorant people, requires a few words. It is a small beetle which lives on decaying wood, and has the habit of tapping with its head on the wood, to call to its fellows; this sound, which is just like the tapping of the finger-nail on

the table, has been supposed to be the ticking of Death's time-piece; and the natural fear of death in those who do not know Jesus as a Saviour has invested this little insect with terror and distress. Beloved children, remember there was one who said, "I have a desire to depart, and to be with Christ, which is far better." What gave Paul that desire? He shall answer the question:—"This is a faithful saying, and worthy of all acceptation, that Christ Jesus came into the world to save sinners, of whom I am chief. But for this cause I obtained mercy, that in me first Jesus Christ might shew forth all long-suffering, for a pattern to them which should hereafter believe on Him to life everlasting." (1 Tim. i. 15, 16.)

The *Burying beetles* are too curious to be passed over. They are rather long-shaped beetles of yellow and black colours, their bodies extending somewhat beyond their wing-cases. The most marked peculiarity in their manners consists in their habit of interring small animals, such as mice and moles, for the purpose of depositing their eggs in the decaying carcasses. To effect this operation, they remove the earth from beneath the dead body, which sinks into the hollow, and is afterwards covered with the loose soil of the excavation.

In this way these little grave-diggers remove from the surface of the ground numberless tainted substances which, without their assistance, would be very offensive to us.

The *Cockchafer* is a very common insect in this country, and a good illustration of this order. Examine the next you find, and notice its admirable beauty of structure and marking.

The grubs of this insect live on the roots of grass, corn, &c. just

beneath the surface, and in the consumption of these do much serious mischief in some years when they are plentiful. They live three years as grubs, eating voraciously during the summer of each. The beetle, too, is a hungry feeder, and in some years the foliage of the trees suffers materially from their attacks.

Earwigs must also be noticed here. Their form and appearance are too well known to need description. Their habits are, however, but little understood by most persons. In many this ignorance arises from a foolish prejudice against all insects, and this one in particular, and in some from really not understanding how interesting are the facts recorded in the works of naturalists. First, let me tell you that, unlike any other insect, so far as I am aware, the earwig watches over her eggs with care; and if they happen to be scattered, collects them together again; and after the young are hatched the parent continues her solicitude for some time. The earwig lives upon vegetable matters, and our fruits and flowers suffer much from their depredations. The best way to catch them is to lay about old rags for them to creep into, or to place reeds, or calves' hoofs, or lobsters' claws for them to take refuge in. From these they may be shaken and destroyed with little trouble.

These that I have described must suffice to give you an idea of the First Order.

ORDER THE SECOND consists of such insects as grasshoppers.

The *Locust* is just like a *very* large grasshopper. It is very rarely met with in England. In Africa they are abundant, and in many parts of the East their ravages are not infrequent. The reference to the awfully

destructive visitation of a flight of these insects in the Scriptures is emphatic and solemn.

In his *Travels in South Africa*, Mr. Barrow records, that in the southern districts which he visited, the surface of nearly 2,000 square miles might be said to be covered by them. The water of a wide river was scarcely visible, in consequence of the innumerable drowned locusts which floated on its surface. By-and-by this countless host was driven into the sea by a violent wind; and their bodies being thrown back again on to the shore, formed a bank about three feet high, of many miles in length. An eye-witness of a locust army, says, "The column extended *five miles*, and the insects flew so close together that they darkened the light of the sun, as in an eclipse."

" Onward they came, a dark continuous cloud
Of congregated myriads numberless,
The rushing of whose wings was as the sound
Of a broad river headlong in its course
Plunged from a mountain summit, or the roar
Of a wild ocean in the autumn storm,
Shattering its billows on a shore of rocks."

Most of the Arabs use the locust as an article of food. In preparing them the cook throws them into boiling salted water. After a few minutes they are taken out, their heads, legs, wings, &c. removed, and are then packed in bags for use. Others fry them in butter, and spread them on bread. You will at once recollect that John the Baptist subsisted on locusts and wild honey, when testifying to the Jews the immediate appearance of the blessed Lamb of God which taketh away the sin of the world.

The lively chirping *Cricket* is of this order, too. But I suppose I need hardly have told you this; because if you have paid attention to what I have said, and have understood what this order includes, you would at once conclude that the cricket and the grasshopper belong to it.

THE THIRD ORDER contains those insects which have the beautiful net-like wings. Such are the *Dragon-flies*, which dash about through the air with such power and address, after the insects they feed upon. Few insects exhibit so much beauty as do these. I dare say you have all noticed them in your walks. The larva or grub of these insects is aquatic, and is remarkable for many curious points of structure and habit. The only one I will notice is an apparatus like a mask with which the head is furnished. This contains a pair of nipper-like jaws, and can be projected forward from the head to some distance, by means of a sort of arm with an elbow; with it the animal seizes its prey. The grubs live about eleven months in the water.

The *Ephemeræ*, or *Day-flies*, are an abundant genus of this order. Their brief span of life has been often noticed. But it is only in their perfect state their existence is so fleeting; as larvæ they live at least a year beneath the water. The *day-flies* usually come to maturity about eventide, and then sometimes rise from the water almost in clouds, but few of these hosts see the morning alive—hence their name. Their value as food for the fish is exceedingly great.

To this order belongs the *Panorpa*, a large winged fly, common in moist situations, with a pinching apparatus exceedingly like a crab's claw at its tail.

Also the *Ant-lion*, so curious for the pit formed by its larva. This is so remarkable I must describe it. The perfect insect is very much like a dragon-fly, only with broader wings, but the larva is a wingless creature, with a pair of formidable jaws. It has little power of moving rapidly about, but it makes up abundantly for this by its surprising cunning. This larva, choosing a dry sandy soil, constructs a pitfall with sloping sides, about two or three inches deep; and conceals itself at the bottom. No sooner does a busy ant or small beetle approach the treacherous edge, than the sand slips from under its feet, and it begins to slide down the deadly slope. The falling grains of sand apprise the watching ant-lion of the success of its snare, and in a moment it jerks up a little shower of sand, the more to bewilder its hapless prey. There is little hope after once the thoughtless creature has passed the limit of firm ground; its struggles may be more or less prolonged, but its progress is ever downward, and its end the hungry jaws of its crafty destroyer.

How forcibly does this remind us of the slippery paths of the Destroyer of souls! We have all passed within the limit of his toils, for "the Scripture hath concluded all under sin," in declaring, "there is none righteous, no not one:" and Satan, "as a roaring lion, is ever seeking to devour," and "blinding the eyes of them that believe not." But, God be thanked, there is a way of escape for guilty sinners, hopelessly ruined as is their state by nature. God hath laid help on One that is mighty to save. He bids the careless sinner who is sliding unconsciously down the broad road to destruction, and the struggling soul awakened to a sense of his peril, to look unto Him. God so loved the world that He gave His only-begotten Son,

that whosoever believeth in Him should not perish, but have everlasting life. You, beloved children, may be little aware of the vortex in which, by nature you are involved; truly its flowers and pleasures may well deceive your eye: but the Word of God, which cannot be broken, plainly declares your danger, and the ruin that awaits the impenitent. I preach unto you Jesus who fulfilled the law, yet died for the ungodly, and rose again, the proof of sin forgiven. "There is none other name given among men whereby we must be saved."

The *Termites*, or white ants, which construct such towering nests in South Africa, are sometimes arranged under this order.

The *Caddis-fly*, too, so common about our rivers, is classed here. The larva of the Caddis-fly makes a curious little house for its protection. It weaves a case, silken withinside, and defended without by small stones beautifully cemented together into a compact covering. These are common enough in shallow streams, as I have said, and will well repay your examination.

ORDER THE FOURTH. This order includes the most interesting of all the insect tribes, I might say the most remarkable individuals of the whole animal creation. The bees, the ants, the wasps, with the numerous saw-flies, ichneumons, gold-flies, and others—all full of energy of purpose, and endowed with wondrous instincts.

The *Saw-flies* are provided with a curious little saw, with which they slit the bark of gooseberry and rose trees, and there lay their eggs.

The *Ichneumons* are a numerous series of insects which deposit their eggs in the living bodies of other insects. There are many hundreds of species

in Britain, and their curious habits must be in some degree familiar to every one who has any eye for natural objects, and any opportunities for observing them.

The *Gall Insects* are remarkable for the vegetable excrescences which grow from the orifices made by the parent insects in the bark of the oak and other trees. How wonderful that we should owe our principal supply of so important an article as writing-ink to the labours of an insect not a quarter of an inch long! Oak-galls powdered, with sulphate of iron and water, form the essential ingredients of black inks.

But all the insects of this class, numerous, interesting, and brilliant as they are, must yield the palm of value to man, to the admirable *Hive-bee*. I do not mean to tell you all I know about the bee, abounding with interest as would be the recital, but shall content myself with an enumeration of the principal facts, for your guidance in hearing or reading the details of their wonderful history.

The hive contains ordinarily a queen, a number of drones, which are the males, and a host of working bees. The queen has a sting, and so have the workers, but the drones have not. The queen's duty consists in laying eggs, and she is the parent of the whole swarm; the drones are idle fellows which live on the toils of the workers; and the workers are the busy people who perform all the labour of building the beautiful cells, and collect the entire supply of food. They also fulfil the duties of nurses to the young brood.

As soon as a number of the cells are formed, the queen deposits an egg in each, which hatch in about three days, and the grubs are immediately supplied by the workers with pollen as food, on which they grow apace.

Pollen is that yellow dust which you must have often noticed in flowers. In about a week the grub grows to its full size, and then nearly fills its cell. It now ceases to eat, and the workers cover over the cell with a wax lid. In the meantime the imprisoned grub spins a silken case, and changes in a few days into a chrysalis. In another week it bursts its silken shroud and waxen cell, and emerges a perfect bee. At first the new-born insect is quite pale and soft, but the warm hive soon dries off superfluous moisture, and when its wings are crisp, and its body invigorated, it flies off to join its fellow-labourers in their active duties, without the toil of an apprenticeship, or the necessity for instruction; for God has given it wisdom equal to all its difficulties, and powers fitted for all its wants.

As the summer advances the working bees become more numerous than the hive can contain, and there arises a necessity for some to seek a new habitation. It would be of little use for a swarm to depart without a queen; and so, about the same time as this overcrowding occurs, the bees choose one or two of the common grubs, and, making their cells much larger than usual, commence feeding them with a different and peculiar food. These distinguished grubs become queens, strange to say, and if they happen to come to maturity when a swarm is ready to depart, one of them leads off the colony, and the old queen dispatches the rest with her sting.

About the end of summer all the drones are destroyed by the workers; unless, indeed, the hive has lost its queen by any accident, in which case a few drones are allowed to survive the winter.

After the destruction of the drones, the rest of the fine weather is used for collecting the winter stores, which are deposited in the now empty cells.

Many ingenious contrivances have been resorted to by observers, to enable them to watch the labours of the bees, and many books have been written about bees by those who have made them their particular study.

ORDER THE FIFTH,—which contains all the butterflies and moths. The history of all these is much alike. The eggs, deposited in endless variety of circumstances, become caterpillars, which feed voraciously on leaves, changing their skin repeatedly as they increase in size; when full-grown the caterpillars become chrysalises, and, after more or less delay in this mummy state of existence, emerge as perfect insects.

The *Silkworm* is a familiar example of the manners of all the class.

ORDER THE SIXTH contains a most numerous family of insects,—those with two wings only, such as the common house-fly, the long-legged crane-flies, all the gnats, &c. &c.

The *Gad-flies* do not seem to be very dreadful-looking insects, but if you were to witness the terror of the poor oxen when the sound of their humming is heard, you would understand at once there must be some real cause of alarm. The fact is, the gad-fly deposits its eggs in the back of the ox and cow; and it is the fear of this operation which leads them to gallop about so wildly, at the least sound of its wings. The egg when laid soon turns into a little maggot, which remains during its whole growth beneath the skin, living upon the *matter* which the irritation of its presence produces, and forming a little round tumour about as large as a small walnut. It is worthy of notice that the maggot carefully avoids the suffocation of being shut in by the healing of the hole in the tumour, by keeping the tail end of

its body, through which it breathes, in the aperture. When the maggot is mature it creeps out, drops down to the earth, and, if it escapes the eyes of watching birds, burrows a little way, and soon after becomes a chrysalis, and then a perfect fly. Other species lay their eggs on the hair of the horse, which are taken into its stomach by being licked off. These live in the stomach and intestines until mature.

The *Crane-flies* are those common meadow flies called by children Daddy-long-legs. They lay their eggs in the ground, where the grub feeds voraciously upon the roots of grass and other plants, occasionally by their numbers doing much mischief.

The habits of the common *Blue-bottle fly* are well known. The fly itself feeds upon all sorts of moist sweet substances, but its young require a flesh diet, and so the parent, with admirable instinct, discovers where meat may be found, and there lays its eggs, or, as we say familiarly, "blows the meat," much to our discomfort, often. Its maggots, after a time, turn into chrysalises, and then into flies.

Gnats are almost as well known as common flies, for they are to be found everywhere performing their graceful evolutions in the air, and many of us have often suffered from their irritating bite. But if in England we are incommoded by these little fellows, what will the inhabitants of those countries say who are exposed to the *musquito*! Truly we have no idea of the mercy we enjoy in the absence of this terrible insect. Those only who have visited countries where they abound, can appreciate our freedom from the distress their incessant attacks occasion.

Gnats lay their eggs on the water, glued together in the form of a little

life-boat, where they hatch, and the larvæ escape into the water, to pass there the first state of their existence, as active little wriggling, voracious worms. Their next, or pupa, or chrysalis state, is also passed in the water. They then emerge into the air as winged insects. Few operations of Nature are more fraught with interest than the transformations of the gnat. The beautiful boats may be found in any rain-water butt, and if put with some water into a wide-mouthed bottle, and kept in a cool place, all their habits may be watched with ease and delight.

ORDER THE SEVENTH contains those insects which we are accustomed to admire less than almost all others.

The *Cockroach* is a well-known insect, but not a very welcome one, for its appearance is not very inviting; its habits are nocturnal, and its inroads on our provisions are disagreeable.

It is, nevertheless, like all other of God's works, endowed with a beauty of its own, and is perfectly adapted to perform its duty in the Creation. The existence of those insects which prey upon man himself, or invade his dwellings, or consume his food, is a humiliating lesson we ought all to take heed to. Man may see in them the proof of his having lost his place as head over the creatures. To the Christian the annoyances of noxious animals will be a continual remembrance not only of lost headship, but of Jesus the Second Adam, the Lord from Heaven, who has redeemed the place of glory Adam lost, and who will by-and-by take to Himself his great power, and reign over a ransomed and joyful creation.

But I was speaking of the cockroach and its habits. It is, as perhaps you know, a dark brown insect with long legs and antennæ, which inhabits

kitchens and other places where small portions of food are to be found. Its common name is "Black-beetle." As soon as the house is quiet, and all the lights gone, it issues from its lurking-places, and roams over the floors, tables, shelves, &c. in search of food. Its disagreeable smell, and its running over every thing, are its most unpleasant characteristics. The female lays its eggs within a most curious little bandbox, which it carries about for a time, (just as the spiders do their ball of eggs,) and then deposits in some cranny to hatch.

The *American Cockroach* is a much larger and more formidable insect than the species common here. Its habits are the same.

The *Mantis*, often called the "praying mantis," from its attitude when disturbed; for then it raises its body, and holds up its front legs ready to seize its enemy, and looks as if supplicating.

This insect is a native of China, and there the people amuse themselves at its expense, by bringing them together to fight. They are so pugnacious that when two of them are put into a basin they will tear each other to pieces.

ORDER THE EIGHTH, or wingless insects.

The famous *White ants* of Africa belong here, although their males and females, at particular seasons, are furnished with wings.

These little insects are remarkable for building immense hills, inside which they construct their roomy nests. These hills are sometimes ten or twelve feet high, and so firm, that the wild cattle mount them for the purpose of watching against danger.

The termites, or white ants, are divided into females, males, workers, and

soldiers. These have very different duties to perform, and are constructed in a way best adapted to fulfil their functions. The workers build their castles, and the soldiers defend them.

The *Louse* is a repulsive insect found upon almost all birds, and upon many animals, and sometimes upon man when he neglects personal cleanliness. It lays its eggs upon the hair, and increases very rapidly.

Fleas are likewise of this order. Man, and beast, and bird, have alike to bear the the attacks of this active little foe to their peace. In some countries they abound to the most serious extent. We have reason to be thankful for our comparative exemption.

They lay their eggs upon the hair of animals, or on blankets, or such like situations; these change into little maggots; these, again, into chrysalises; and, finally, the perfect flea is produced.

The *Chigoe*, or *jigger-flea*, is a really troublesome insect in the West Indies, and other places, for its habit is to burrow beneath the skin of the feet, and there lay its eggs. This produces acute inflammation and great pain, and if the insect be not extracted, and allowed to remain while the eggs hatch, the consequences may be fatal from the irritation caused.

The *Mites* are a numerous race. I will speak only of the *cheese mite*. This is a minute, transparent animal which preys upon cheese, and is well known to us all. Under a microscope its appearance is beautiful. It lays eggs which in about ten or twelve days produce perfect insects, which are very voracious, and change their skins several times before arriving at full growth.

The family of *Spiders* contains a wonderful variety of species. These

all, however, agree mainly in their habits. Some, however, do not construct any web, but hunt for prey in the sunshine by leaping on the unwary. A few species are so large as to prey upon the helpless young of small birds ; but these are not found in England.

The *Scorpion* and *Centipede* are terrible pests to the inhabitants of warm climates ; both being furnished with poison apparatus for inflicting painful and sometimes dangerous wounds. The scorpion is, you know, somewhat like a crab, with a long tail which ends in a sting. The centipede's power of injury resides in its jaws. The centipede is about six inches long, and exceedingly like the small centipede found so commonly in decayed wood and damp places in England.

Having thus, my beloved children, considered the three great divisions of the Creation of this day, *i.e.* the quadruped, serpent, and insect tribes, we come to a being of altogether a different order—a being made in the image of God. This is the account of his creation, as particularized in Gen. ii. :—“ And the Lord God formed man out of the dust of the ground, and breathed into his nostrils the breath of life, and man became a living soul.” This was the crowning act of the sixth day. The previous days, God having brought the world into being, furnished it and filled it with animated life. He now places Adam in it, to rule and have dominion over every living thing. Of the extent of Adam's blessedness we can have no conception ; but this is revealed, that he was perfect the day he was created. The immediate time of Eve being brought to Adam, having been previously created in him, bone of his bone and flesh of his flesh, is not recorded.

Thus the Lord saw every thing that He had made, and behold it was very good; “*and God rested on the seventh day from all His work which He had made, and God blessed the seventh day and sanctified it; because that in it He rested from all His work which God created and made.*” (Gen. ii. 1—3.)

At this time, all was peace and happiness in Eden; for as Creation shall be when restored, so was it ere man fell. The leopard and the kid lay down together, and the lion ate straw like the ox; and all was peace. Adam had a soul capable of communion with God, and a body of perfect symmetry and beauty; no sin had sullied the one, nor sickness marred the other. How long this blessed state continued is unrevealed; for though Adam was created upright, yet his standing depended on his obedience. Gen. ii. 15—17, gives us the prohibitory law of Eden:—“*And the Lord God commanded the man, saying, Of every tree of the garden thou mayest freely eat: but of the tree of the knowledge of good and evil, thou shalt not eat of it: for in the day that thou eatest thereof thou shalt surely die.*” Gen. iii. opens with the great enemy of God and man tempting Eve, and by his subtlety beguiling her; and she ate of the tree in answer to his temptation, and in violation of God’s command, and she gave to her husband, and he did eat; and *dying, they died*: that is, the soul instantly was cut off from God; the body became mortal or dying; and both body and soul were exposed to the judgment of God and the second death. Thus sin entered into the world, and death by sin; and so death passed upon all men, for that all have sinned. And the history of all mankind is summed up in these words—He was begotten, and he died—the earth is

at once their cradle and their grave. How affecting is the picture given by the afflicted patriarch Job!—"Man that is born of a woman is of few days, and full of trouble. He cometh forth like a flower, and is cut down: he fleeth also as a shadow, and continueth not. And dost thou open thine eyes upon such an one, and bringest me into judgment with thee? Who can bring a clean thing out of an unclean? not one." (Job xiv. 1—4.)

But, my beloved children, amid all the gloom and sorrow of the first day of man's wretchedness, see the dawning of that hope—that Day-star, that arose even amid the horrors of that great darkness. The guilty Adam and his wife, and Satan, stood before their great Creator; but ere one word of judgment is pronounced on the tempted and fallen, the Tempter is thus addressed,—“I will put enmity between thee and the woman, and between thy seed and her seed; it shall bruise thy head, and thou shalt bruise his heel.” This was the great prophecy of the Messiah—the Lord—the Woman's Seed—the Virgin's Son—the Emmanuel, God with us—God manifest in the flesh. All subsequent prophecy went back to this primary one, which testified of the sufferings of Christ, and the glory that should follow. (Gen. iii. 15; Isa. vii. 14; 1 Pet. i. 11.)

After this, the ground was cursed for Adam's sake, and Adam and Eve, clothed with coats of skin, were banished from the garden,—then came the birth of Cain and Abel,—and now, for the first time, we expressly read of sacrifice. Abel offers, and offers by faith, *a Lamb*; and as “faith is the substance of things hoped for, the evidence of things not seen,” (Heb. xi. 1,) Abel's faith must have rested on a promise; and, beyond all doubt, as Abraham did, so Abel saw the day of Christ afar off, and was glad. The

lamb lay on his altar; and the death which he deserved, the lamb suffered. But Cain also brought his offering; here was no blood; and there could be no faith, for there was no promise—no substance of things hoped for; and his offering was rejected. And Cain was wroth with God, and his countenance fell. On this, the devil, the murderer from the beginning, led him to kill Abel, God's accepted child, and he died. It was the just one who died; and oh, blessed thought! his spirit went to God who gave it. Yes, the spirit of the first man who died, in a world that had fallen, went to God—went to God in triumph—went up justified, doubtless, amid the songs of millions round the throne. How could this be? Even thus: the Son of God had covenanted—had purposed (and being God, his purpose was immutable,) to become man, and die, as a lamb, the just for the unjust, and so pay, as the kinsman Redeemer, the price of redemption; and in virtue of this sacrifice, so certain to be offered, the holy and just God received into paradise the spirit of the justified Abel. The next important scene in the world's history is the birth of Seth, born *in Adam's likeness*—the likeness of a dead man. Five generations were then born; and Adam died. This was the first death of nature; for 900 years Adam had lived; but now the hour came, and he died.

After this is the translation of Enoch,—“And Enoch walked with God, and he was not, for God took him.” (Gen. v. 24.) The commentary on this passage by the Holy Spirit in the Epistle to the Hebrews, is, “*By faith* Enoch was translated, that he should not see death, and was not found, because God had translated him; for before his translation, he had this testimony, that he pleased God.” (Heb. xi. 5.)

There is here something full of joy,—that whilst the grave opened to receive the first man because of death; the heavens opened to receive the second without tasting death. Was it not the earnest that even the dead should live again? Surely it was. If you compare the dates of the fifth of Genesis, you will find that Adam died fifty-seven years before the translation of Enoch, and Seth fifty-five years after.

The next great event is the call of Noah, who also walked with God,—one of God's saints who had made a covenant with him by sacrifice (Ps. l. 5). Then follows the building of the ark; and Noah and his family's safety, and the world's destruction: for while the ark floated on the bosom of the waters, the wicked perished. When the waters had abated, and God had assuaged the flood, Noah came out; and the first thing that went up to God was the sweet savour of the burnt-offering; and God accepted the sacrifice: and as it was Christ, God's Lamb, that was placed in faith on Abel's altar, so on Noah's; and the rainbow, as a consequence, encircled the earth with blessing. (Gen. ix. 13.)

The three sons of Noah become the sources from which the earth was peopled.* (See Gen. x.)

And from Shem sprang Abraham, Isaac, Jacob, Judah, David, and the Messiah, to whom Nathanael said, "Rabbi, thou art the Son of God;

* The descendants of Shem peopled Asia, and a small part of Africa. Japhet came to the West; and Europe, as it is now called, was his lot, while Canaan went over to Africa. Compare the history of these nations. Oh, how true the prophecy!

America is, doubtless, of Shemetic origin, as the two continents, at the Straits of Behring, are visible one from the other.

thou art the King of Israel." Thus, after the lapse of 4,000 years, when the fulness of time was come, was this blessed word fulfilled, "To us a Child is born, to us a Son is given: and the government shall be upon his shoulder: and he shall be called Wonderful, Counsellor, the Mighty God, the Everlasting Father, the Prince of Peace." (Compare Isa. ix. 6 with Luke i. 32, 33.)

All heaven gazed on that wondrous birth. But not only were the angels spectators of the mighty scene, but in a measure were made partakers of the joy of God and man. One of them, doubtless high among the ranks of those principalities and powers that the Lord had created, was sent with the glorious tidings. And this was his message,—
"Fear not, behold I bring you good tidings of great joy, which shall be to all people; for unto you is born this day, in the city of David, a Saviour, which is Christ the Lord. . . And, suddenly, there was with the angel a multitude of the heavenly host, praising God, and saying, Glory to God in the highest; and on earth peace, good-will toward men." (Luke ii. 10—14.)

The *Gospels* relate the life, death, resurrection, and ascension of this blessed Saviour; and the book of the *Acts* opens with the promise, that in like manner as he ascended, so shall he descend. And this has been his people's hope ever since his absence,—looking for, and hasting unto the coming of the day of God.

And thus, my dear children, are we brought up to the history of man at the present moment. The Lord Jesus is now at the right hand of Power; and his people are looking for him; and, in all simplicity of

faith, resting alone in his precious blood and righteousness, are seeking to adorn the doctrine of God, their Saviour, in all things; and with their talents, *to occupy until he comes*. The sorrows of 6,000 years are well-nigh over; and a blessed sabbath is at hand. “Sweet is the harp of prophecy” that celebrates this time. You remember those most beautiful lines of Cowper:—

“The groans of nature in this nether world,
Which heaven has heard for ages, have an end:
Foretold by prophets, and by poets sung—
The time of rest, the promised sabbath comes.
Six thousand years of sorrow have well-nigh
Fulfilled their tardy and disastrous course
Over a sinful world; and what remains
Of this tempestuous state of human things,
Is merely as the working of a sea
Before a calm, that rocks itself to rest.
For He whose car the winds are, and the clouds
The dust that wait upon his sultry march,
When sin has moved him, and his wrath is hot,
Shall visit earth in mercy; shall descend
Propitious in his chariot paved with love;
And what his storms have blasted and defaced
For man’s revolt, shall with a smile repair.”

That you, my beloved children, may, when that day appeareth, be enabled to look up with confidence, and say, “It is my God, and I have waited for him; it is the Lord, I will rejoice in his salvation,” is the sincere prayer of

Your affectionate Father.

THE CREATION.

LETTER XII.

WORTHY IS THE LAMB THAT WAS SLAIN TO RECEIVE POWER, AND RICHES, AND WISDOM, AND STRENGTH, AND HONOUR, AND GLORY, AND BLESSING. AND EVERY CREATURE WHICH IS IN HEAVEN, AND ON THE EARTH, AND UNDER THE EARTH, AND SUCH AS ARE IN THE SEA, AND ALL THAT ARE IN THEM, HEARD I SAYING, BLESSING, AND HONOUR, AND GLORY, AND POWER, BE UNTO HIM THAT SITTETH UPON THE THRONE, AND UNTO THE LAMB FOR EVER AND EVER."—*Rev. v. 12, 13.*

MY DEAR CHILDREN,

Do you remember, when living in Ireland, the circumstance of a dear little boy at D., who, having received a present of Noah's Ark, was observed by his father very busy arranging the ferocious beasts of prey with the gentler ones; and when the question was put to him, as to what he was engaged in, he innocently replied, "Papa, I am placing the animals as they will be in *the happy time*, when the leopard shall lie down with the lamb, and the lion shall eat straw like the ox?" (Isa. xi. 6—9.)

It interested us all at the time; it was a little child taking the word *in simplicity*, which, indeed, is the only true way to profit by it. Yes, dear children, that day is rapidly hastening; every thing around us indicates its near approach; and then, in truth, shall "the groaning creation be delivered

from the bondage of corruption into the glorious liberty of the sons of God." (Rom. viii. 19—23.) But, as in that beautiful quotation from Cowper, in the end of my last letter, though the chariot of the Lord shall be paved with love to his children, not so to his enemies—to the open blasphemer—the careless, or the self-righteous (Matt. xxii. 7—19). He comes in flaming fire, taking vengeance on them that know not God, and obey not the gospel of our Lord Jesus Christ, when he comes "to be glorified in his saints, and to be admired in all them that believe." (2 Thess. i. 8—10.)

The emblems of this day are very numerous; some of which are continually before us—as the domestic animals. Of others we know but little.

The Lion is the king of the forest; and the Wise man says in the Book of Proverbs, that it is the strongest among beasts (Prov. xxviii. 1), and its whole appearance gives it at once pre-eminence; and thus, through the Scriptures, it is continually alluded to.

In Ezek. i. 10, you will find the heads of the Cherubim to be the man, *the lion*, the ox, and the eagle,—the emblems of intelligence, power, stability, and swiftness.

In the blessing of Judah the figure also occurs,—“Judah is a lion’s whelp: from the prey, my son, thou art gone up: he stooped down, he couched as a lion, and as an old lion; who shall rouse him up? The sceptre shall not depart from Judah, nor a lawgiver from between his feet, until Shiloh come; and unto him shall the gathering of the people be.” (Gen. xlix. 9, 10.) From this, and from the concurrent testimony of Jewish

history, it seems that the standard that floated over the royal tribe of Judah, and which was always planted before the door of the tabernacle towards the rising of the sun, when the camp was at rest, and which led the van of the tribes in the march, was a lion. Hence the Lord, who sprang out of Judah, being the Son of David by descent, was thus announced in the Book of Revelation to John: "Behold the lion of the tribe of Juda; the Root of David hath prevailed to open the book, and to loose the seven seals thereof." And John, looking for the Lion, "beheld there a Lamb as it had been slain." (Rev. v. 1—6.) But, as I before said, POWER is the characteristic of the lion, and therefore the emblem is continually used in this sense.

The righteous are bold as a lion—strong in the Lord, in the power of his might; they need not fear any thing—neither life, nor death, nor principalities, nor powers; but, covered with the panoply of God, they are more than conquerors through him that loved them (Rom. viii. 37—39). And thus they are spoken of in God's word, not only as clothed with robes of white, but *palms of victory in their hands* (Rev. vii. 9).

At times when the Lord is revealing himself as coming to punish Israel, then the fierceness and power of the lion are awfully introduced,—“For I will be unto Ephraim as a lion, and as a young lion to the house of Judah: I, even I, will tear, and go away; I will take away, and none shall rescue him. I will go and return to my place, till they shall acknowledge their offence, and seek my face: in their affliction they will seek me early.” (Hosea v. 14.)

But the lion is more frequently used to denote the tremendous power

and vigilance of the great enemy of souls. He is represented as going about as a roaring lion, seeking whom he may devour (1 Pet. v. 8); continually watching mankind as his prey! It is a fearful figure. Oftentimes, in a moment unlooked for, he springs on his victim, and too fatally succeeds. But the eye of God's children must be to the Lord; and so shall they with Paul be enabled to say, "I was delivered out of the mouth of the lion; and the Lord shall deliver me from every evil work, and will preserve me unto his heavenly kingdom, to whom be glory for ever and ever. Amen." (2 Tim. iv. 17, 18.) And thus, in Isaiah, when that kingdom is revealed, it is beautifully said, "No lion shall be there, nor any ravenous beast shall go up thereon, it shall not be found there; but the redeemed shall walk there: and the ransomed of the Lord shall return, and come to Zion with songs and everlasting joy upon their heads; they shall obtain joy and gladness, and sorrow and sighing shall flee away." (Isa. xxxv. 9, 10.)

Satan, in the twofold character of the cunning serpent and terrific lion, is set forth also in the ninety-first Psalm as subjugated under the Messiah's power,—“Thou shalt tread upon the lion; and the adder, the young lion, and the dragon shalt thou trample under thy feet,” (v. 13.)

In the last days, when Israel shall rise into power, and shall be (though a blessing to the world at large) as God's avengers on the nations that have despised his Gospel, they are thus spoken of:—“The *Remnant* of Jacob shall be among the Gentiles, in the midst of many people, as a lion among the beasts of the forest, as a young lion among the flocks of sheep, who, if he goes through, both treadeth down and teareth in pieces, and none can

deliver. Thine hand shall be lifted up upon thine adversaries, and all thine enemies shall be cut off." (Mic. v. 8, 9.)

The Wolf, also, is an animal very frequently chosen in the book of God, by way of illustration; but (excepting in the blessing of Jacob on Benjamin,) it always sets forth cruelty, and an insatiate appetite for blood. Remember, in Livonia, its fearful power of destruction, and the force of the illustration will be strongly before you.

The wolf is said to be the most rapacious in the evening; and thus the figure is used in Jeremiah, when the prophet is mourning over the rebellion of his people, and speaks of the desolation coming upon them:—"Wherefore a lion out of the forest shall slay them, and a wolf of the evenings shall spoil them; a leopard shall watch over their cities: every one that goeth out thence shall be torn in pieces: because their transgressions are many, and their backslidings are increased." (Jer. v. 6.)

So, also, the prophet Habakkuk, under this emblem, describes the terrible army of the Chaldees, about to come down on Israel:—"Their horses also are swifter than the leopards, and are more fierce than the evening wolves: and their horsemen shall spread themselves, and their horsemen shall come from far; they shall fly as the eagle that hasteth to eat." (Hab. i. 8.)

When the prophet Zephaniah would set forth the debased state of his people, how striking the imagery! "Her princes within her are roaring lions; her judges are evening wolves; they gnaw not the bones till the morrow." The power of royalty, so good when exercised for the welfare of the people, was turned to cruelty. The uprightness and justness of the judge—a nation's blessing—was changed for rapacious violence. (Zeph. iii. 3.)

In the New Testament, also, our blessed Lord frequently alludes to this image. The great enemy of souls is the *wolf*, ever prowling about the sheepfold of God. False teachers are wolves in sheep's clothing; and Paul calls them grievous wolves *entering in among them*, not sparing the flock. (Acts xx. 29.) Satan, as in the case of the young woman whom he possessed at Philippi, will even at times enter in as an angel, seeming to favour the Gospel; for he could say, when Paul and Silas crossed over from Asia to Europe, at the call of the man of Macedonia, "These men are the servants of the Most High God, which show unto us the way of salvation." But the Lord did not need such aid; the evil spirit was rebuked by Paul; and then it was he changed his character to that of a *ravening wolf*. But the Lord was above all; for he sitteth above the water-floods. He had created the smith that bloweth the coals in the fire, and that bringeth forth an instrument for destruction, and he had created the waster to destroy (Isa. liv. 16, 17); and when he had done his work, then the Lord stayed his hand; and the earthquake shook the prison-house of his children, and the jailer and his house were added to the church at Philippi. (Acts xvi. 9—40.)

The Wolf also, as well as the lion, is most blessedly introduced in the 11th of Isaiah, as feeding with the gentler animals, during the reign of the Messiah—David's Son and David's Lord.

The Bear is an animal proverbially attached to her young; and this is the image introduced with exceeding force in Prov. xvii. 12; for when speaking of the pernicious tendency of the society of fools—that is, of the unwise, who know not Christ, the Wisdom of God, Solomon says,—“Let a bear

robbed of her whelps meet a man rather than a fool in his folly." Yes, my dear children, far better to lose one's life by the infuriated bear, than to fall into the hands of the ungodly. Look at this figure again and again; for it is most striking.

The third of the four terrific beasts that rose up from the tempestuous ocean, in the vision of Daniel, was like unto a *bear*; setting forth the Medo-Persian empire. (Dan. vii. 5.) And the beast of Revelation (xiii. 2,) seems to be a compound of the four beasts of Daniel, whose feet were as the feet of a bear.

It was a *she* bear that the Lord used in judgment on those despising children that mocked his servant Elisha. (2 Kings ii. 24.) A mocker of God's messengers is a fearful character; for the Lord is insulted through his servants.

The Fox. This creature is the emblem of deceit; and the facts recorded of its cunning are wonderful:—sometimes it feigns itself dead; and then, when the bird of the air lights on it, suddenly it makes it its prey. In the Canticles, or Songs of Solomon (chap. ii. 15), the little foxes, or perhaps the young ones, are represented as spoiling the tender grapes. This has been thought to allude to those cunning *wiles* of Satan, by which he checks the fruit in the tender bud. And how true it is that many an act, excellent in itself, has been spoiled by the deceiver coming in, who, with some very trifling thing, too little at first to be noticed, has succeeded in *spoiling the tender grapes*.

The Fox is also alluded to in that ever memorable passage, when the Lord, the Maker of heaven and earth, said, "The foxes have holes, and the

birds of the air have nests, but the Son of Man hath not where to lay his head." "Every man went to *his own home*; and Jesus went to *the Mount of Olives*." (Compare Matt. viii. 20; John viii. 1, and preceding verse.)

In allusion, most probably, to the cunning and fraud of Herod, the Lord sent this message to him,—“Go ye, and tell that fox, Behold, I cast out devils, and I do cures to-day, and to-morrow, and the third day I shall be perfected.” (Luke xiii. 32.)

The Ox. When we see this animal grazing in the field, and led home so quietly in the evening, we should call to mind the Lord’s use of the figure in Isa. i. 3,—“The ox knoweth his owner, and the ass his master’s crib; but Israel doth not know, my people doth not consider.” How affecting is this remonstrance! What a happiness to listen to the voice of the Lord—to be continually looking for him, *waiting* his appearing!

The ox was not to be muzzled under the Mosaic law; but whilst (as was then the custom) he trod out the corn, the same as our thrashers now beat it out, he was to feed as he worked; it was the reward of his labour. And so says the Apostle,—that the Lord hath ordained, that they which preach the Gospel shall live of the Gospel. (1 Cor. ix. 9—14.) The prayer in the conclusion of the 144th Psalm is very beautiful, and probably the imagery refers to Israel’s blessedness in the last days,—though in anticipation, it should be true of the Church of God now:—“That our sons may be as plants grown up in their youth; that our daughters may be as corner-stones, polished after the similitude of a palace; that our garners may be full, affording all manner of store: that our sheep may bring forth thousands and ten thousands in our streets: that our oxen may be strong to

labour: that there be no breaking in, nor going out: that there be no complaining in our streets. Happy is that people that is in such a case; yea, happy is that people whose God is the Lord.”

And now we come to consider that emblem more frequently used in the Scriptures than any other—THE LAMB—nothing living so innocent, so harmless, so gentle. There are two scriptures, the one in the 1st Epistle of Peter, and the other in Revelation, of great interest, when considering our blessed Lord under this figure. In the former, the children of God are said to be “redeemed with the blood of Christ, as of a lamb without blemish, and without spot, foreordained before the foundation of the world.” (1 Pet. i. 19, 20.) And in Revelation xiii. 8, the Lord Jesus is spoken of as “the Lamb slain from the foundation of the world.” And when we come with these two scriptures to the first victim offered by man, and see it to be a lamb, and that it was offered by faith, we cannot doubt but that that faith rested on *some promise* of God connected with that *Lamb*, the only-begotten of the Father. So, also, we may say of the burnt-offering of Noah on coming out of the ark into the new world. In short, the offerings of Abraham and the Patriarchs,—the Paschal lamb, and the continual burnt-offering of the morning and evening lamb, all had respect to God’s promise, and looked forward to the day when that promise should be fulfilled. Thus, when John the Baptist first saw the Lord, he at once directed the eye of the disciples to *all these offerings*, and said, “Behold the *Lamb of God*, which taketh away the sin of the world.” (John i. 29.) And our blessed Lord himself unfolded the same truth (at least in part) to Nicodemus, when he said, “God so loved the world, that he gave *his only-*

begotten Son, that WHOSOEVER believeth in Him should not perish, but have everlasting life." (John iii. 16.)

But the part of Scripture that most frequently alludes to our Lord under this emblem, is the Revelation of St. John, from the fifth chapter to the end; I think there are twenty-six references. In the fourth chapter, he is most blessedly introduced as opening the Seven-sealed Book, in virtue of his death:—"For I saw," says St. John, "a *lamb*, as it had been slain, come and take the book out of the right hand of him that sat upon the throne;" on it followed the triumphant song of the redeemed, giving the Lamb all the glory of their redemption. It is *the Lamb*, also, that opens the seals of the book, (chap. vi;) and when the innumerable multitude are beheld around the throne of God, with robes of white and palms of victory, John is told, that because they have washed their robes, and made them white in the blood of the Lamb, THEREFORE they are before the throne of God, and serve him day and night. (Chap. vii.) Also, when the accuser is cast down, who accused God's children before him day and night, this is the note of triumph,—“They overcame him by the blood of the Lamb, and by the word of their testimony; and they loved not their lives unto the death.” (Rev. xii. 11.) Also, chapter xiv.: “John looked, and, lo! a Lamb stood on the mount Sion, and with him an hundred forty and four thousand, having his Father's name written in their foreheads.” These “follow the Lamb whithersoever he goeth.” And so, in Rev. xix., the Church is called the *Lamb's wife*. And at the last, when speaking of the glory of the Holy City, it is said, “The glory of God did lighten it; and *the Lamb* is the light thereof.” (Rev. xxi. 23.)

But there is one passage more, to which I must especially call your attention; it occurs in the sixth chapter, at the opening of the sixth seal, and represents the Lamb with his character changed; and the wicked dreading that countenance, which, till then, had exhibited nothing but mercy. Yes, dear children, the countenance of the Saviour will then exhibit wrath,—the wicked will be overwhelmed by it: “The kings of the earth, and the great men, and the rich men, and the chief captains, and the mighty men, and every bondman, and every freeman, hid themselves in the dens and in the rocks of the mountains; and said 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: for the great day of his wrath is come; and who shall be able to stand?” (Rev. vi. 15—17.)

Having thus, my dear children, looked at the passages which refer to our blessed Lord as the Lamb, there are a few others which use the same similitude, as it regards his children: and then the character the Lord sustains is the *Shepherd*. Thus, in Isaiah, “He shall feed his flock like a shepherd; he shall gather the *lambs* with his arm, and carry them in his bosom, and shall gently lead those that are with young.” (Isa. xl. 11.) Often as I have read this passage, yet it seems sweeter to me this day than ever. Yes, Jesus is indeed the “Good Shepherd.” The good shepherd giveth his life for the sheep. You remember, also, that very beautiful chapter, the last of John:—“Lovest thou me?” said the Lord to Peter—“Lovest thou me more than these?” Peter answered *for himself*, “Lord, thou knowest all things, thou knowest that I love thee?” “Feed *my lambs*.”—That was to be his FIRST care. And surely the sweetest sight on earth is to see the

young early brought to Christ. His service is more than perfect freedom; for adoption into God's family gives no less a name than of sons and daughters of the Lord Almighty. (2 Cor. vi. 18.)

I suppose you all remember the parable of the little ewe lamb, that lay in the poor man's bosom, and was unto him as his own daughter, and of the cruel hand which spared his own flock and robbed the poor man of his little all. (2 Sam. xii. 1—3.) May we all think of this parable practically; and never, in any wise, oppress the poor, but seek, as the word of God says, always to remember them. (Gal. ii. 10.)

The Sheep. The memorable passage of the fifty-third of Isaiah is most striking:—"He is brought as a lamb to the slaughter, and as A SHEEP before her shearers is dumb, so he openeth not his mouth;" alluding evidently to that quiet state of soul which the Lord manifested before the priests, and elders, and Roman governor; for it is said, "He answered him to never a word, insomuch that the governor marvelled greatly." (Matt. xxvii. 14.) But the *sheep* is most frequently alluded to as describing the *flock* of Christ,—himself the Good Shepherd. The Gospel of John is exceedingly full on this figure. The SHEPHERD is there represented as going before the sheep; leading them out, and providing them pastures; calling them by name; knowing them all; protecting them; standing before them when the wolf comes, and *dying rather than they should die*, (chap. x. 1—16.) The SHEEP are represented as hearing the Shepherd's voice—following him,—not listening to the hireling's voice, but fleeing from it. This is the figure; and how forcibly the Lord himself applies it:—"I am the good shepherd: the good shepherd giveth his life for the sheep.

But he that is an hireling, and not the shepherd, whose own the sheep are not, seeth the wolf coming, and leaveth the sheep, and fleeth: and the wolf catcheth them, and scattereth the sheep. The hireling fleeth because he is an hireling, and careth not for the sheep. I am the good shepherd, and know my sheep, and am known of mine. As the Father knoweth me, even so I know the Father: and I lay down my life for the sheep. And other sheep I have, which are not of this fold; them also I must bring, and they shall hear my voice; and there shall be one fold, and one shepherd." (Ver. 11—16.)

If you compare this last passage about the *other sheep* with the Lord's prayer, in John xvii. 20; with his command to his disciples, when he manifested himself to them in the Mount of Galilee (Matt. xxviii. 19); with the account of the Holy Spirit's descent at Pentecost, when it is said that devout men *out of every nation under heaven* heard in their own tongues the wonderful words of God (Acts ii. 5); with the vision of the sheet knit at the four corners, that the Lord gave to Peter, to show him that God had granted to the Gentiles repentance unto life, (Acts x. 11;) and last of all, with Eph. ii. 14, 22, where both are said to be ONE, and the middle wall of partition broken down that before existed; then, I think, you will understand scripturally the Lord's promise concerning the other sheep, and the *one fold* under the one shepherd.

You will find many children who can repeat the twenty-third Psalm,—“The Lord is my shepherd, I shall not want;” and happy the child that can *from the heart* repeat it. Many other passages I might refer to, such as Ezekiel xxxiv., where the characters of the true and false shepherds are described; Psa. lxxx. 1, where the Lord, sitting between the cherubim,

is styled *the Shepherd of Israel*; and 1 Pet. v. 4, where he is called the Chief Shepherd; and finally, in Heb. xiii. 20, where he is called the Great Shepherd. But let these suffice. The shepherd's character is one of the greatest interest; and sweet is it to know the Good Shepherd's voice, and to follow it.

The Goat. This animal is not so often alluded to as the sheep; though, on the great day of atonement, it was two kids of the goats that, as the sin-offering, were presented before the Lord, and the one on whom the Lord's lot fell died; and the other, with all the transgressions of Israel, in all their sins confessed over its head by the high-priest, was led away by the hand of a fit man into the wilderness. (Lev. xvi. 9.) The burnt-offering also was taken either from the sheep or the goats. (Lev. i. 10.)

The parable of the sheep and the goats, at the day of the Lord's appearing, is very striking and awful. (Matt. xxv. 31, 32.) It is not *sheep and swine*, but sheep and goats. The one, that is, the sheep, were really Christ's fold; the other had only a name. The one showed the truth of their love; the other were barren. The one he welcomed to his Father's presence; the other heard, and heard it once for ever, "Depart from me." But that day is not yet come. This is the day of grace; and whoever comes to the Good Shepherd now, shall in no wise be cast out; for he hath said,—“By me if any man enter in, *he shall be saved*; and shall go in and out and find pasture.” (John x. 9.)

The Camel is sometimes, though not frequently, alluded to. In the 60th of Isaiah, the glory of Israel, in the last days, is set forth under a great variety of emblems; indeed, if you read the chapter attentively, you

will find that there is not one day of the seven that has not lent its imagery to show forth the unutterable happiness of that time. Thus, when considering the emblems of the fifth day, we saw Israel hastening to their long desolate and forgotten Jerusalem, with the rapidity and fondness of the dove flying to its home; and now, on the sixth, what can be more blessed than the following verses,—“The multitude of camels shall cover thee, the dromedaries of Midian and Ephah; all they from Sheba shall come: they shall bring gold and incense; and they shall show forth the praises of the Lord. All the flocks of Kedar shall be gathered together unto thee, the rams of Nebaioth shall minister unto thee: they shall come up with acceptance on mine altar, and I will glorify the house of my glory.” (Isa. lx. 6, 7.)

The meaning of our Lord's reproach to the Pharisees, that they strained at a gnat and swallowed a camel, is very obvious. They paid the tithes of anise, mint, and cummin most rigorously; but they neglected the weightier matters of the law—judgment, mercy, and faith. (Matt. xxiii. 23, 24.) So is it now. A person is sometimes most scrupulous in a number of little things, right in themselves, but is altogether neglectful of the great things of God's law; and the fruits of the Spirit are unseen in him,—such as love, joy, peace, long-suffering, gentleness, goodness, faith, meekness, temperance. (Gal. v. 22, 23.)

The exceeding danger attendant on great possessions, is also illustrated by a proverb that was well known to Israel,—“It is easier,” said our Lord, “for a camel to go through the eye of a needle, than for a rich man to enter the kingdom of God.” (Matt. xix. 24.) But, the things impossible

with men, *are possible with God*. Rich men are stewards; they must give an account of the talent entrusted to them. Some rich men love to lay out their riches for the glory of God; some to lay them out on themselves; and some to hoard and look at them;—*the former is the true use of riches*, which the Lord will not forget; no, nor will he forget *the cup of cold water given in the name of a disciple*. The Christian should be noble, full-hearted, and generous, a follower of Him who maketh his sun to rise on the evil and on the good; and sendeth rain on the just and on the unjust.” His motto is, “Do good unto all men, especially unto those who are of the household of faith.”

The Horse. You have read that wonderful description in Job xxxix. 19—24, of the war-horse; now see how the Lord uses this figure in Prov. xxi. 31,—“The horse is prepared against the day of battle; but safety is of the Lord.” If you look at the former description of the horse, *victory seems certain*. Not so, says God:—safety is of me. How forcible the instruction to the Christian! He is never, in his conflicts with the great adversary, to consider himself *independent*; he is to fight on *his knees*. The watchman wakes in vain, the builder builds in vain, if the Lord be not acknowledged. (Psa. cxxvii. 1.)

In Zechariah, under the vision of horses, red, speckled, and white, is represented the Lord’s minute observance of what is passing on the earth. In Rev. vi. as the first four seals of the seven-sealed book are opened, horses are the emblems:—the white horse, of victory; the black horse, of famine; the pale horse, of death; and in the nineteenth of Revelation the innumerable host of the redeemed are seen on white horses. I do not, my

beloved children, attempt to explain these figures to you; but I am anxious to put before you the Scriptures, and would earnestly seek of God, that by his Holy Spirit he would enlighten your minds on them; for we must ever remember that “*all scripture* is given by inspiration of God, and is profitable for doctrine, for reproof, for correction, for instruction in righteousness; that the man of God may be perfect, thoroughly furnished unto all good works.” (2 Tim. iii. 16, 17.)

The Ass knoweth his master’s crib, Isa. i. 3. He knows where to go for food. With this fact the Lord reproves his people, as I have before remarked; therefore, even the sight of this lowly animal should bring the question, Do I look to my God for food, for my daily bread, yea, for every thing—as this poor dumb animal looks to its owner? Other thoughts, also, should arise on seeing the ass. I should remember Him who was meek and lowly in heart—Zion’s King,—who rode into Jerusalem on an ass, and on a colt, the foal of an ass. (Zech. ix. 9; Matt. xxi. 5.)

The Coney, exceedingly wise, builds his house in the rock. I will speak to you of this emblem when coming to the ant.

The Dog and *Swine* are awfully introduced in illustration, in 2 Pet. ii. 22. In each case they represent a man who for a time ran well, but went back afterwards to the world; and whose last state was worse than his first.

Having thus briefly looked at the Scriptural illustrations drawn from the quadruped family, we will now consider those derived from the reptile and serpent tribes.

As the lion is used as an emblem of Satan’s power, so the serpent is of his subtlety and deceit; and, excepting the passage where the Lord exhorts

his disciples to be wise as serpents, and harmless as doves, I am not aware that this illustration is ever used otherwise than to set forth cruelty, cunning, and deceit. Satan is called “that old serpent”—“the crooked serpent”—“the great dragon”—“the wicked one;” and his children are called “the seed” of the serpent: that is, they have the ways of the serpent, and lurk like that wicked spirit (whose servants they are) privily to shoot out their tongue at the innocent. The most awful words the Lord Jesus ever used on earth were taken from this similitude, “Ye serpents, ye generation of vipers,” said he to the Pharisees, “how can ye escape the damnation of hell?” (Matt. xxiii. 33.)

It was a fiery serpent that bit the Israelites in the wilderness; and one like it, at God’s command, was lifted up; and it came to pass, that whosoever looked upon it lived. Our Lord, alluding to this wonderful history, says,—“As Moses lifted up the serpent in the wilderness, even so must the Son of Man be lifted up, that whosoever believeth in him should not perish, but have eternal life.” The bite might have been dreadful, and certain death its result; but one look at the brazen serpent, and there was life. So the poor sinner, whosoever he be, that looks by faith to the cross of Jesus, shall never, no never, perish; for he came to seek and to save that which was lost. (Luke ix. 56; John iii. 14, 15.)

The *Insect* world also are not overlooked, in the way of illustration.

In Prov. vi. 6, the sluggard is sent to *the ant* for wisdom: and let any indolent person take a chair and watch the progress of this little community for an hour, and he will at least see the force of the divine injunction.

In Prov. xxx. 24—28, there is another most striking passage:—“There

be four things which are little upon the earth, but they are exceeding wise. The ants are a people not strong, yet they prepare their meat in the summer. The conies are but a feeble folk, yet make they their houses in the rocks. The locusts have no king, yet go they forth all of them by bands. The spider taketh hold with her hands, and is in kings' palaces." This is, doubtless, given to us for instruction, as well as the previous passage.

The ant in summer is exceeding wise, and prepares for winter. What is the lesson? Surely a most important one:—it links the present and the future together. The Christian, like the ant, has his store provided; and at that hour, when all would be otherwise dark and cheerless around, he is happy,—“exceeding wise,” taught of God's Spirit. He is safe in Christ, and provided for, when the bread of life could not be had, if neglected till then.

The Conies; a feeble folk—without power to burrow as the rabbit, they seek, as their natural history tells us, crevices of rocks, and find a building that God has made for them. “Exceeding wise” are they in their plans. So is it with the Christian. He cannot build himself a dwelling; but in the Rock Christ he finds a house that no power can take from him.

The Locusts. Unlike the bee, the locusts have no visible head; and yet they go forth in bands, with one determinate purpose, and nothing can resist them. So the Christian family, held together by an invisible bond of union, are of one heart and of one mind, striving together for the faith of the gospel; and though assailed on every side, the gates of hell shall not prevail against them. (Matt. xvi. 18.)

The Spider. In outward appearance this insect is unattractive, yet it is

exceeding wise and persevering. Again and again it will fix its web until it has reached its point; and it aims to have a home even in the palace of the king. So the Christian. He is of the household of God; and never is content until he has reached the dwelling-place of God.

The Bees. This persevering little family are not, in the way of illustration, often alluded to in Scripture, but when they are the figures are very striking; see especially Ps. cxviii. 12. The allusion is evidently to the great power of the enemy surrounding the Lord Jesus, and the signal character of his defeat. "They compassed me about, yea, they compassed me about; but in the name of the Lord I will destroy them. They compassed me about like bees: they are quenched as the fire of thorns; for in the name of the Lord I will destroy them." (Ps. cxviii. 11, 12.) This is the only true way of resisting the enemy; thus only the giant Goliath falls before the stripling David. How striking the address of the son of Jesse to this man of Gath!—"Thou comest to me with a sword, and with a spear, and with a shield; but I come to thee in the name of the Lord of hosts, the God of the armies of Israel, whom thou hast defied. This day will the Lord deliver thee into mine hand; and I will smite thee, and take thine head from thee; and I will give the carcasses of the host of the Philistines this day unto the fowls of the air, and to the wild beasts of the earth; that all the earth may know that there is a God in Israel. And all this assembly shall know that the Lord saveth not with sword and spear: for the battle is the Lord's, and he will give you into our hands." (1 Sam. xvii. 45—47.)

The Fly. "Dead flies cause the ointment of the apothecary to send

forth a stinking savour; so doth a little folly him that is in reputation for wisdom and honour." (Eccles. x. 1.) It is the exceeding insignificance of a dead fly that gives force to this image; but thus it is, that at times the most trifling thing, coming by surprise on a very correct person, causes him to commit himself; and the precious ointment which should be all fragrant, (that is, his profession of the name of Christ, whose "name is as ointment poured forth," Cant. i. 3,) is defiled by this neglect of watchfulness and dependence on God.

The Leech. When you see this little animal, most valuable in its place, crying, "Give, give," I think the lesson to be learnt is *not imitation*, but the reverse. A craving after gifts is most undesirable, whether in grown up people or children. (Prov. xxx. 15.)

The Grasshopper. This light and fragile insect *abounds* in all its varieties *in the east*, and is frequently alluded to in the Scriptures in the way of illustration. When the spies were sent by Moses to search the land of promise, two only of the twelve were faithful, the others were unbelieving; for forty days they searched "*the pleasant land*," and then returned to the camp and gave the most glowing account of the country; that it was a land flowing with milk and honey; and two of their number (in all probability the faithful Caleb and Joshua) bore upon their shoulders, as the earnest of the land, a bunch of the grapes of Eschol, and pomegranates, and figs,—but the ten, forgetful of the deliverance from Pharaoh, and the passage of the Red Sea, had all their thoughts on the fenced cities of Amalek, and the mighty men thereof, *and of their own weakness*; and this was their language: "*We* be not able to go up against the people, for they

are stronger than *we* The land through which we have gone to search it, is a land that eateth up the inhabitants thereof, and all the people that we saw in it are men of a great stature: and there we saw the giants, the sons of Anak, which come of the giants; *and we were in our own sight as grasshoppers*, and so were we in their sight." But Caleb and Joshua, the faithful ones, *had their eye to God*, and this was their reply: "The land through which we passed is an exceeding good land. If the Lord delight in us, then he will bring us into this land, and give it us, a land which flows with milk and honey. Only rebel not ye against the Lord, neither fear ye the people of the land; for they are bread for us, their defence is departed from them, and the Lord is with us; fear them not." (Numb. xiii. and xiv.) Yes, my beloved children, before our enemies we may be indeed weak as the grasshopper—but let our eye be to the Lord, and the whole power of the Prince of Darkness shall be as nothing. *The Lord is with us*, is the watch-word of the Calebs and Joshuas of God's camp. But read the whole narrative—it is full of interest.

In the last chapter of Ecclesiastes, which is addressed more especially to the young, there is also a most striking allusion to this little insect, whose form is so light, that the most delicate blade of grass on which it rests bends not beneath its weight. The scene is the bed of death. "The silver cord"—"the golden bowl"—"the pitcher at the fountain"—"the wheel at the cistern," *are in an instant* snapt and broken—such is death: *this moment*, the soul a tenant in its earthly tabernacle; the next moment, fled—gone to God who gave it. But ere this change takes place, the whole frame is shaken. The right-hand of strength, that but a little since

would have swept all before it, is now in trembling weakness. The legs, the pillars on which the body stood with such manliness and power, bow themselves. The appetite fails, and the grinders cease because they are few. The eyes, once brilliant and sparkling, now are glazed and dim. The lips, that but a few days past were opened with language the most touching, now are closed; and the voice, so flexible and melodious, is now hushed into silence. The nervous system, once the medium of all pleasing sensations, is now weakened and shaken, and the dying man starts at the least sound; and finally, *the grasshopper*, whose weight could not bend the most fragile flower, *is now a burden to him*, who once triumphed in his power. Yes, my dear children, such is the end of man: he is cut down like a flower. (Job. xiv. 1, 2.) In both the righteous and the wicked the whole nature is prostrated in utter weakness: *but oh, how different is the next scene!* Angels carrying the spirit of the just to the paradise of God,—for they depart and are with Christ; and wicked spirits hurrying the lost soul to the outer darkness; who there learns, but learns too late to profit by the lesson, that God is not mocked. For whatsoever a man soweth, that also shall he reap. (Gal. vi. 7.)

There is yet one more allusion that I will advert to: you will find it in Isaiah xl. 22. The prophet is describing the exceeding majesty of God, and the weakness of the creature: various are the emblems used. “It is he,” saith the prophet, “that sitteth on the circle of the earth, and the inhabitants thereof *are but as grasshoppers*; that stretcheth out the heavens as a curtain, and spreadeth them out as a tent to dwell in.” How awfully sublime is this language! and yet, my beloved children, amid the

innumerable multitude that the eye of the Lord gazes on, let your soul flee to Him, resting on Jesus, the son of his love, and you shall be as much the Father Almighty's care, as if there were not another in the whole earth.

*The Earth Worm.** This is a creature low in the scale of creation; and yet, Job, in the deepest humility, thus speaks of himself,—“I have said to corruption, Thou art my father; and to the worm, Thou art my mother, and my sister.” (Job xvii. 14.) But Job had hopes beyond this relationship,—“Dust he was, and to dust he would return.” But how glorious his hope! “I know that my Redeemer liveth, and that he shall stand at the latter day upon the earth: and though after my skin worms destroy this body, yet in my flesh shall I see God: whom I shall see for myself, and mine eyes shall behold, and not another; though my reins be consumed within me.” (Job xix. 25—27.) Blessed, indeed, was the hope of Job; and happy, and only happy that man who has the same hope: he can look beyond the sorrows of the grave, and rejoice in the thought, that even over the bodies of the saints alive at the Lord's appearing, death shall have no power. How beautiful the language of St. Paul,—“Behold I show you a mystery; we shall not all sleep, but we shall all be changed, in a moment, in the twinkling of an eye, at the last trump: for the trumpet shall sound, and the dead shall be raised incorruptible, and we

* Our blessed Lord, in Ps. xxii. v. 6, says of himself, “I am a *worm*, and no man:” this was in the deepest hour of his sorrow: but in the very same Psalm, in the fulness of his anticipated joy, the word is, “My praise shall be of thee in the great congregation,” ver. 25.

shall be changed." This will be the triumph of the Lord and His Church ; and then will death be swallowed up in victory :—" O death, where is thy sting ? O grave, where is thy victory ? The sting of death is sin ; the strength of sin is the law. But thanks be to God who giveth us the victory through our Lord Jesus Christ." (1 Cor. xv. 55, 57.)

And now, my beloved children, I must bring my long series to a close. Very happy have I been in thus endeavouring to search out, both through the fields of nature, and especially in God's blessed word, instruction for you. Imperfectly I feel it is done ; but still, I trust, the Lord will own it. May you, and all who read this book, be found children of God, and adopted into his happy, holy family ; and know in your own souls the power of this word,—“ Unto them that look for him shall he appear the second time, without sin, unto salvation.” (Heb. ix. 28.) How sweet the invocation of our poet Cowper !—

“ Come, then, and added to thy many crowns,
 Receive yet one,—the crown of all the earth,—
 Thou who alone art worthy ! It was thine
 By ancient covenant, ere Nature's birth,
 And Thou hast made it thine by purchase since,
 And overpaid its value with thy blood.
 Thy saints proclaim thee King ; and in their hearts,
 Thy title is engraven, with a pen
 Dipp'd in the fountain of eternal love.
 Come, then, and added to thy many crowns,
 Receive yet one, as radiant as the rest,
 Due to thy last and most effectual work,—
 Thy word fulfilled—the conquest of a world !”

Farewell, my beloved children; my first and last prayer shall be for you,—that you may love the Lord; and, resting alone on the precious blood and righteousness of Christ, may be faithful in every good word and work—blessed of God—and a blessing to others.

Believe me,

Ever your affectionate Father.

APPENDIX.

A P P E N D I X.

THE ATMOSPHERE.—Page 18. It is a singular thing to say, that we can weigh that which we cannot see; and yet this is strictly true of *the atmosphere*. We little think how it is pressing upon us on every side; for it is calculated, that on the body of a full-grown man its pressure is equal to 30,000 pounds; but then, as it presses *equally on every side*, and as also we have an equal *resistance within*, we not only do not feel any inconvenience from it, but positive blessing. But as a *proof* of the pressure of the atmosphere, supposing you exhausted the air from a thin vessel, the outward pressure of the atmosphere would crush it to pieces. But the principle of expansion of the atmosphere is as wonderful as that of its condensation; for it is calculated, that at the height of five hundred miles a cubic inch of rarified air would fill a sphere equal in diameter to the orbit of Saturn. The proof of the power of *expansion* is very simple. Suppose you put into an air-tight vessel a bladder, with its mouth tied, out of which you have expelled as much air as possible, and then exhaust the air from the vessel, the bladder would swell out quite distended: reverse the experiment, and again let in the atmospheric air, and it would shrink up as if there were nothing in it. What makes the balloon so struggle to get free? simply, it is filled with a gas *lighter* than atmospheric air, *i. e.* with hydrogen, and pants to have its string loosed, that it may ascend to regions where its weight is in harmony with the rarified atmosphere; and so it sails through the firmament, not indeed in a given direction, but just as the fickle currents of air direct it; and when its adventurous guide has satisfied his curiosity, he lets some of the *light hydrogen* escape, and rapidly descends—if too rapidly, he throws out sand, and thus balances himself. But the experiment is a dangerous one; and since 1783, when Mr. Montgolfier first discovered the principle of Aerostation, or air-sailing, there has been no progress whatever made in guiding the balloon, and men of science say

there never will;—but deaths and narrow escapes have frequently marked its brief history.

EVAPORATION—Page 21. The following beautiful passage in Ecclesiastes is very descriptive of the sources of rivers, their ebb into the ocean, and their return to their original source,—“All the rivers run into the sea; yet the sea is not full: unto the place from whence the rivers come, thither they return again,” Eccles. i. 7. The principle of evaporation draws up the waters to the clouds: and the clouds in their turn empty their contents, and so the supply never fails. See also the prophet Amos, ix. 6.

THE NILE—Page 22. The sources of this famous river appear to lie in the Mountains of the Moon, about 7 degrees north latitude.

THE WIND—Page 25. It has been ascertained from observation that the wind travels at the following rates per hour :—light air, $4\frac{1}{4}$ miles; fresh breezes, 14 miles; half gale of wind, 36 miles; a gale, 62 miles; a hurricane, 88 miles; a hurricane carrying all before it, 120 miles. Winds may be divided into three classes :—first, *trade winds*,—these always blow one way, and blow within the tropics, and a few degrees beyond it; second, *monsoons*,—these blow half the year N.E., and half N.W.; third, *variable winds*,—liable to daily change. The phenomena of the wind, or the atmosphere in a state of movement or agitation, come to man fraught with blessing; for the storm and tempest have beneficial results.

THE VOYAGE OF THE DUFF—Page 28. How graciously was prayer answered as it regards that most interesting of all interesting voyages, when the good ship Duff, with devout Capt. Wilson, and a crew, many of whom loved the Lord, and thirty missionaries, left our native land for the islands of the Pacific, thousands praying for her. We traced her voyage on our map a few days since with the utmost interest. How beautiful were the remarks of the good old Dr. Haweis, when, in his thanksgiving sermon, he mentioned to the congregation the safe return of the ship Duff:—“To traverse more than twice the circumference of the globe, especially amidst the lurking shoals, hidden rocks, and low islands of the Southern Ocean, must, it is well known, be full of danger. They felt it, and sometimes were at their wits' end, going up to heaven, and sinking down into the depth, shook by the pealing thunder, embayed without a passage, and once suspended on a dreadful reef. I read and trembled; but ‘he that dwelleth under the defence of the Most High shall be safe under the shadow of the Almighty.’ I was ashamed, humbled, comforted; and I exulted, when, in the midst of the most awful scenes, I heard one of the brethren

say, " We took the wings of faith, and fled in prayer to the God of our mercies ; and when we had sung an hymn, presently the storm abated, and we lay down comfortably and fell asleep.' Ah, ' so he giveth his beloved sleep.' In the whole of this long voyage, not a life was lost, not a limb was broke, not a mast sprung, not a sail split, not an anchor lost, but goodness and mercy followed her the whole voyage." And how beautiful on the great sea was the course of this ship that published peace, and proclaimed salvation to the islands of the South ! I just add the course of the *Duff*, that those young friends who have not the valuable book from which I gathered it (Rev. Mr. Griffin's *Life of Capt. Wilson*) may have the same pleasure as we had :— " Sept. 23rd, 1796, left Portsmouth ; Oct. 6th, passed Madeira ; Oct. 14th, anchored at the Cape de Verds ; Nov. 12th, reached Rio Janeiro ; sailed down the Coast of Spanish America to lat. 30° S., long. 50° W., then bore away across the Atlantic towards the Cape of Good Hope ; Jan. 30th, 1797, passed New Zealand ; March 6th, anchored at Otaheite ; May 26th, sailed to the Friendly Islands ; Jan. 5th, to the Marquesas ; Aug. 4th, Huahine ; Aug. 18th, Tongataboo ; Sept. 9th, Feejees ; Nov. 7th, passed the Pelew Islands ; and reached Macao Nov. 21st ; left China Dec. 23rd ; anchored at the Cape of Good Hope March 17th, 1798 ; touched at St. Helena April 15th ; put into Cork June 24th ; and arrived at London July 11th ; " so that in less than two years, by three months, she had traversed more than twice the circumference of the globe, having sailed near 50,000 miles ; and going out and coming in, the Lord remarkably blessed her voyage ; and since then, thousands have left those islands blessing God for the light of the gospel.—See the lamented Rev. Mr. Williams's valuable *Missionary Work*.

VAPOURS.—Page 30. *Rain* is the vapour that ascends from the earth and seas, condensed in the upper regions, and by electrical action formed into drops, which descend to the earth by their own weight. *Snow and Hail* are the same drops frozen in their journey to the earth. In the former case, the frost catches the revolving cloud ere its particles are formed into drops ; in the latter, after they are so formed. *Hoar Frost* is produced by the dew being frozen ; and thus in autumn you will find the dew just on the transit, that is, just commencing to be the hoar-frost. *Dew*.—In a *calm and serene night*, part of the vapours, as they ascend from the earth, are condensed by the coldness of the air into invisible particles, somewhat heavier than the air, and which descend so gently as not to injure the most fragile and delicate flowers. In some countries, (the Holy Land especially,) the dew is so heavy that the tent of the traveller requires to be wrung out in the morning.

THE GREAT BRITAIN STEAM VESSEL.—Page 45. The Great Britain is the largest vessel in the world; she is built solely of sheet iron riveted together. The enormous quantity of 7,000 tons of iron, that is, nearly 16,000,000lbs., were used in building her. She was launched at Bristol July 19th, 1843. His Royal Highness Prince Albert named her. The dimensions of the Great Britain are as follows :

	FEET
Length	320
Depth	31
Breadth	51
Draught of water	16

She has no paddles, but is worked by the Archimedean screw. The Great Britain is a vessel of wonderful magnitude, but as the wise man must not trust in his wisdom, nor the rich man in his riches, nor the mighty man in his might, no more must the Great Britain in her strength; let us never forget this, but write over even our most perfect works, “The horse is prepared for the battle, *but safety is of the Lord.*” (Prov. xxi. 31.)

THE COFFIN OF CARDINAL BORROMEO—Page 48. The superb coffin of the Cardinal Borromeo, in the Cathedral of Milan, is composed of CRYSTAL on the top and sides, and *quite transparent*. The description has just been sent to me by our valued friend, E. J., who examined it:—“The coffin is very large, and constructed of framework in squares, oblongs, triangles, &c., and very massive, of the most highly burnished silver, and the spaces are filled in, not with glass, but with the most brilliant rock crystal, of wonderful size.” By this means the body is visible. The crozier and mitre also are studded with the most sparkling gems, the gift of the kings of Spain and Portugal. I just mention this as the historic fact, but far better is it to lay the dead with all solemnity in the *hidden* grave; if they sleep in Jesus, they shall rise in the resurrection of the just, all glorious and resplendent IN HIS LIKENESS. (1 Thess. iv. 14.)

WEIGHTS OF METALS—Page 50. The relative weights of Metals are—Gold, about 19 times as heavy as its own bulk of water; Silver, about 11; Copper, nearly 9; Iron, about $7\frac{3}{4}$; Lead, about 11; Zinc, 7; Platinum, 21.

MEDICINAL HERBS—Page 74. It is a curious fact connected with the present state of things, that the whole field of herbs so long used by man medicinally, should, by

some learned men, be cast entirely aside, and a "water-cure" substituted for almost every thing. Now, doubtless, water, properly applied, both internally and externally, is very valuable; but to make it a *catholicon*, or universal cure, is *too much*. Some herbs have, in some diseases, a SPECIFIC effect, and may not be put aside. *A prayerful use of the good creatures of God, whether for food or medicine, is the best means to ensure the blessing of health.*

DIAMONDS—Page 90. When a Negro finds a diamond in the mines of the Brazils, he instantly stands upright, claps his hands, and holds the gem between his finger and thumb: an overseer receives it from him, and it is registered, and the slave's name who found it attached to it. In the evening of the day, the precious stones are weighed, and if any slave has been so fortunate as to find one without flaw of seventeen and a half carats—that is, seventy grains—his freedom is certain, and on an appointed day he is crowned with a wreath of flowers, and carried in procession to the administrator, who having purchased of the owner of the slave his freedom, *he is declared free*; and from that moment he works on his own account; and in addition to this, he is arrayed in new clothes, *which are his own*.

PROPHECY OF THE CHURCH—Page 93. Though this passage doubtless refers to Israel in the latter days, yet it is equally true of the Church (God's family on the earth) now. The way in which the Holy Ghost, by St. Paul, quotes Jer. xxxi. 9, 33, in 2 Cor. vi. 16—18, is a manifest proof of this: for though no one can question but that Jeremiah's prophecy refers to Israel's final blessedness; yet the Spirit of God uses it in the passage quoted, in exhortation to a Church formed principally of Gentiles. Formerly many people, forgetful of the Jew, applied all the Old Testament prophecies of blessing to the Church; and of later years, the extreme view on the other side has been taken, and the Church has been overlooked, in applying every thing to Israel: the truth partakes of both views;—the promises belonging *now* to the Church having the earnest,—the first-fruits of the Spirit; they belong *then* to the Jew, who, when the Church shall have been translated, shall be again God's family—a blessing to the nations. (Isa. xxvii. 6, Micah v. 7, Zech. viii. 13, Rom. xi. 15.)

TELESCOPES—Page 110. The great telescope of Dr. Herschel was an iron tube, thirty-nine feet four inches long. The concave reflecting mirror was three inches and a half thick, and its polished surface was four feet in diameter. It weighed upwards of two thousand pounds, and magnified 6,000 times; and its power was such, that Dr. H. says, that when the star *Sirius* was about to enter the field of the

telescope, the light was equal to that on the approach of *sun rise*, and *upon entering* the telescope, the star appeared in *all the splendour* of the rising sun.

The telescope of the Earl of Rosse, which has been prepared in Parsons-town, near Birr, his lordship's estate in Ireland, is far beyond that of Dr. Herschel, both in the diameter and polish of the reflector, and the diameter and length of the tube. The speculum, or reflector, is six feet in diameter, and so bright that it reflects clearly a little dial the size of a watch, fifty-two feet above it. The diameter of the tube is seven feet; its length, fifty-two feet; it is made of wood, hooped together; and, though so large, is capable, by machinery, of being moved by one man. It is not saying too much of this wonderful effort of man, that it is in the strictest sense *unique—unparalleled*. Workmen of every kind are employed by Lord Rosse in his workshop, immediately under his own inspection.

THE PLANETS—Page 113. The following Table will convey an idea of the dimension and orbits of the principal Planets. *Uranus* was discovered in 1781, by Dr. Herschel; and the four lesser ones,—*Ceres*, in 1801, by Mr. Piazza, at Palermo; *Pallas* in 1802, and *Vesta*, in 1807, by Dr. Olbers, at Bremen; and *Juno*, by Mr. Lilienthal, at Bremen.

TABLE OF THE PLANETS.

Name.	Miles from the Sun.	Time of Revolution.
Mercury	37 millions	About 88 days, or nearly three months.
Venus	68 do.	About 225 days, or seven months and a half.
The Earth	96 do.	365 days.
Mars	142 do.	About 686 days, or one year and eleven months.
Jupiter	485 do.	About 4,332 days, or nearly twelve years.
Saturn	890 do.	About 10,759 days, or nearly twenty-nine years and a half.
Uranus	1800 do.	About 30,686 days, or a little more than eighty-four years.

Sir John Herschel describes the comparative sizes of the Sun and its Planets thus:—Let us suppose the Sun to be as large as a globe four feet in diameter, then Mercury would be as large as a grain of *mustard-seed*—Venus and the Earth like *peas*—Mars, a *large pin's-head*—Juno, and the smaller Planets, as *grains of sand*—Jupiter, an *orange*—Saturn, a *small orange*—Uranus, a *cherry*. And if the four-foot globe which represents the sun, were laid in the middle of a large level field, the comparative distances would be, for Mercury, 174 feet—Venus, 284 feet—the earth, 430 feet—Mars, 654 feet—Juno, &c., 1,000 to 1,200 feet—Jupiter, *half-a-mile*—Saturn, *about three-quarters of a mile*—Uranus, *a mile and a half*.

COMMON RECKONING—Page 119. The common reckoning at sea is ascertained hourly, by throwing a long line overboard with a triangular piece of wood fastened to it, and measuring how much line is taken out in a minute, and then of course it is easy to calculate what *would go out* in an hour at the same rate; but this is a most uncertain method, as the wind by which the ship is impelled so varies: to obviate this, the officer or mate is supposed to be very observant, making all due allowances for increase or decrease of wind. A patent instrument is also now used, which, by a moveable index on a fixed plate, indicates the quantity of space that has been passed over in a given time; this of course must be the most correct, and yet the old-fashioned log line, to a sailor at least, seems *the most natural*.

ECLIPSES OF JUPITER'S SATELLITES—Page 123. Roemer, a Danish astronomer, found that the eclipses of Jupiter's Satellites happened about sixteen minutes and a quarter *earlier* when the Earth was in one part of her orbit, than when she was in the opposite part; and the difference of space being one hundred and ninety millions of miles, the light must travel over this distance in sixteen minutes and a quarter, at the prodigious velocity of a hundred and ninety-three thousand miles in a second.—*Exercises in Astronomy by the Rev. G. T. Hall.*

PROPHECIES OF THE LORD JESUS IN THE PSALMS—Page 133. *Promise of his coming*, Ps. xl. 7, 8; Exod. xxi. 6; Heb. x. 7—10. *Incarnation*, Ps. viii. 5; Heb. ii. 6, 9. *Infancy*, Ps. xxii. 9, 10; Hosea xi. 1; Matt. ii. 15. *Life*, Ps. lxix. 4, 12, xxxi. xxxv. xxxviii. xli. xci.; John ii. 17, xv. 25, vii. 5. *Betrayal*, Ps. xli. 9, lxix. 26, cix. 8; John xviii. 1—18; Acts i. 20. *Unjust Trial*, Ps. xxxv. 11, xxvii. 12; Matt. xxvi. 59, 61. *Crucifixion*, Ps. xviii. 1—4, xxii. xlii. lxix. lxxxviii.; Matt. xxvii. 46; Luke xxiii. 45; John xix. 21, xx. 25, 27. *The Grave*, Ps. xvi. 9, 10, 11; Acts ii. 25, iii. 15. *Resurrection*, Ps. ii. 7, xvi. 10, 11, xviii. 16, 24, xlix. 15; Matt. xxviii. 2, 4; Eph. i. 19, 23, ii. 1, 6; Rom. vi. 4; Acts ii. 31, xiii. 33; Phil. ii. 8, 9. *Ascension*, Ps. lxxviii. 18; Eph. iv. 8; Acts i. 9. *Exaltation to Glory*, Ps. xxiv. 4, 10, xv.; John xvii. 4. *Welcome to the right hand of Power*, Ps. cx. 1, ii. 8; Acts ii. 34; Phil. ii. 9; Eph. i. 19, 23; Heb. ii. 9. *Intercession*, Ps. cx. 4; Heb. v. vi. ix. xi. xii. *Return to the earth*, Ps. l. 3, 4, xcvi. 9, cx.; Matt. xxiv. 31; 1 Thess. iv. 16, 17. *Marriage of the Lamb*, Ps. xlv. 14; Eph. v. 27; Rev. xix. 7, xxi. 2. *Final reign of the true Solomon, the Prince of Peace*, Ps. lxxii. See a little *Companion to the Psalms*, published by Baisler, Oxford-street, price 3s.

THE BOOK OF REVELATION—Page 137. “Every one who really values Scripture

as the Word of God, must regard the Book of Revelation as being of considerable importance to Christians ; this importance must be felt to exist wholly apart from any real or supposed ability to interpret the things which are written therein. No book of the New Testament is pressed upon our attention with more solemn sanctions. ‘Blessed is he that readeth, and they that hear the words of this prophecy, and keep the things which are written in it ;’ this alone is sufficient to show us that if we desire, as believers in Christ, to have fellowship with the mind of God, and to have our thoughts subject to His will, this book will occupy no small share of our attention. It may be that we have but little intelligence of its general structure, or of its specific interpretation ; but still it is our place to *keep* the things written in it, even as Mary, who, though she little understood the things which were told her, yet kept them and pondered them in her heart. Surely, as we hold fast the Word of God in all its parts, we may expect, through prayer and the teaching of the Holy Ghost, to become more acquainted with the truths therein written, both in their detail and their practical power.”—*Book of Revelation in Greek and English*, by S. P. Tregelles. Introd. p. 1.

PIGEONS—Page 205. “The nests of the Passenger-pigeon are more closely packed together than in any rookery, and are built one above another from the height of twenty feet to the top of the tallest trees. Wilson says, ‘As soon as the young were fully grown, and before they left the nests, numerous parties of the inhabitants from all parts of the adjacent country, came with waggons, axes, beds, cooking utensils,—many of them accompanied by the greater part of their families—and encamped for several days at this immense nursery,’ [near Shelbyville, in Kentucky, U. S., forty miles long and several miles in breadth.] ‘I was informed that the noise in the woods was so great as to terrify their horses, and that it was difficult for one person to hear another speak without bawling in his ear. The ground was strewed with broken limbs of trees, eggs, and young squab pigeons, which had been precipitated from above, and on which herds of hogs were fattening. Hawks, buzzards, and eagles, were sailing about in great numbers, and seizing squabs from their nests at pleasure ; while, from twenty feet upwards to the tops of the trees, the view through the woods presented a perpetual tumult of crowding and fluttering multitudes of pigeons, their wings roaring like thunder, mingled with the frequent crash of falling timber ; for now axemen were at work cutting down those trees which seemed to be most crowded with nests, and felled them in such a manner that in their descent they might bring down several others, by which means the falling of one large tree

sometimes produced two hundred squabs, little inferior in size to the old ones, and almost one mass of fat. It was dangerous to walk beneath these flying and fluttering millions, from the frequent fall of large branches, broken down by the weight of the multitudes above, and which, in their descent, often destroyed numbers of the birds themselves ; while the clothes of those engaged in traversing the woods were completely covered with the droppings of the birds.’”

INSECTS—Page 292. “No one circumstance connected with insects has, perhaps, arrested the attention of ordinary observers so much as what is termed their metamorphoses. The vertebrate animals retain through life, with some variations in size and colouring, very much the same form which they had at birth. Insects, on the contrary, pass through four states of existence, and these are in general distinctly marked. They are first contained in eggs, which are deposited by their parents in suitable situations, and with a degree of instinctive care which fills us with admiration ; they then become active and rapacious, and are well known by the names of grubs, maggots, and caterpillars, according to the tribes to which they belong. To this condition, Linnæus applied the term *larva* (which means *a mask*), as if the perfect insect were masked or concealed under the figure of the caterpillar. The ravages of which the forester and gardener complain, result most generally from the voracity of insects in their larva state. They eat much, increase rapidly in size, change their skins several times, and pass into another state, in which, in some tribes, all appearance of vitality is for a time suspended. The caterpillar of the butterfly or moth, when the period for this change arrives, seeks out a secure asylum for its period of helplessness, and suspends itself by a thread, envelopes itself in silk, makes a covering of leaves, or entombs itself in the earth, according to the habits of the species ; some of them in this state appear, on a miniature scale, like Egyptian mummies, or like an infant wrapped up in swaddling-clothes. From this peculiarity, the term *pupa* (a baby) has been given to them ; and *chrysalis*, a word of Greek origin, referring to the bright or golden colours which some of them display, has also been applied. All insects do not, however, assume the quiescent state of those just mentioned. The young of the common gnat pass the early stages of their existence as inhabitants of the water, jerking about with great agility, or swimming with ease and swiftness. The crickets and cockroaches are as active and lively at this period of their lives as at any other, and differ in appearance from the perfect insect only in the absence of wings.

“The caterpillar is seen crawling on the earth, then apparently lifeless in its self-

constructed sepulchre ; then, flinging off the vestments of the tomb, and, with beauty of form and powers unknown before, entering on the enjoyment of a new state of existence.”—*Patterson's Introduction to Zoology*. This is an excellent work.

H Y M N.

O WHAT a bright and blessed world
 This groaning earth of ours will be,
 When from its throne the tempter hurl'd
 Shall leave it all, O Lord, to Thee!

But brighter far that world above,
 Where we as we are known shall know,
 And, in the sweet embrace of love,
 Reign o'er this ransom'd earth below.

O blessed Lord! with weeping eyes
 That blissful hour we wait to see;
 While every worm or leaf that dies
 Tells of the curse, and calls for Thee.

Come, Saviour, then, o'er all below
 Shine brightly from Thy throne above;
 Bid heaven and earth Thy glory know
 And all Creation feel Thy love.

THE END.

Works Published and in Preparation

BY

SAMUEL BAGSTER AND SONS, PATERNOSTER ROW.

BAGSTER'S POLYGLOT BIBLE. In Pocket Volumes.

POLYGLOT BIBLES are usually thought of as bulky Volumes, confined to the libraries of the wealthy, and suited more for occasional reference than for daily use.

The magnitude and costliness of the principal works of this character have naturally induced this association with their name, and their obvious inconvenience has excited a prejudice which still sometimes hinders the Student from availing himself of works which are of more recent publication and suited to his wants.

An Edition of the Scriptures, containing numerous languages, must of necessity occupy a considerable space; and the very great difficulty and outlay attending the preparation and publication of such works, render them unavoidably expensive. Thus the COMPLUTENSIAN POLYGLOT, in preparation from 1502 to 1517, is in Six small folio Volumes:—the ANTWERP POLYGLOT, published between 1569 and 1572, is in Eight large folio Volumes:—the PARIS POLYGLOT, which was compiled and published between the years 1628 and 1645, is in Ten immense folio Volumes:—and WALTON'S POLYGLOT, issued in 1653 and 1657, is in Six Volumes folio. The whole of these Works (with the exception of the PARIS POLYGLOT, which from its want of strict accuracy, and its excessive bulkiness, is little sought for) are as high priced as they are voluminous.

The Publication, in 1831, of the "BIBLIA SACRA POLYGLOTTA BAGSTERIANA," in Eight Languages, in a single Volume, containing the Original Text, with the principal Ancient and Modern Versions, was a great advance on the facilities until then afforded for the comparison of the Versions of Scripture with their Original and with each other.

But the most important improvement hitherto effected, for the accommodation of the Biblical Student, was the preparation of the last-mentioned POLYGLOT BIBLE in separate Volumes.

There are not many who can consult with confidence a display of eight or nine Languages; but the number is very great of persons who read with facility as many as two, or three, or four Languages. To meet the wants of such, the HEBREW TEXT of this POLYGLOT BIBLE, as well as all the various Versions of which it is composed, have been issued as separate and independent Volumes, of a pocket size; and to admit of their combination together, as Diglot Bibles, an Edition of each has been prepared, which will interleave, page opposite page, with any other.

This principal feature commends the plan of these Works specially to notice; the various languages being at once single, separate Volumes, complete in all respects, and adapted for study *per se*, and affording their possessor, without trouble or inconvenience, the assistance of the costly editions of the libraries.

An individual purchases a single language, and proceeds to study it—be it Greek, French, English, or what it may; he desires to compare the object of his study with another translation, or with the Original; and, possessing himself of it, he finds, to his inexpressible comfort, that he

has only to refer to the same page, and part of the page, to obtain the desired comparison. He afterwards adds another and another Version to his Library, and finds the same principle carried through the whole; and he obtains a Bible of two, three, four, or more languages, not only convenient for comparison with one another, but adapted to the various uses of single pocket volumes. This arrangement affords the purchaser also the opportunity of providing himself only with those languages he may require; and supplies his wants in the most convenient, elegant, as well as inexpensive form possible.

THIS POCKET SERIES CONSISTS OF THE FOLLOWING WORKS:—

I. THE HEBREW BIBLE with the Points (an Edition also without Points), with variations of the Samaritan Pentateuch, and the Masoretic readings. One small Volume, Price 18s.

The same, interleaved with the GREEK SCRIPTURES, Price 12s. extra.

The same, interleaved with either of the other Versions hereafter enumerated, Price 9s. extra.

A HEBREW and ENGLISH LEXICON is adapted to bind up with this HEBREW BIBLE, or with its Combinations, Price 6s. extra.

II. THE GREEK SEPTUAGINT VERSION;* consisting of the Vatican Text, and the Various Readings of the Alexandrine Copy, as given by GRABE. A small Volume, Price 12s.

The same, with the GREEK NEW TESTAMENT SCRIPTURES, printed from the *Textus Receptus*, with GRIESBACH's Readings, Price 16s.

The GREEK SCRIPTURES may be obtained interpagged with any other version, or with the Original.

A GREEK and ENGLISH LEXICON to the NEW TESTAMENT is prepared, suited to bind up with the last, Price, extra, 3s.

SCHMIDT'S GREEK CONCORDANCE, also, has been printed of a size to bind up with this Version.

III. THE VULGATE LATIN VERSION, according to the Edition of Clement VIII. and Sixtus V. One small Volume, Price 9s.

The same, interleaved and bound up with either of the other Versions, or with the HEBREW.

IV. THE AUTHORIZED ENGLISH VERSION, accurately printed from the Standard Edition, with the well-known and esteemed Parallel References to corresponding expressions and subjects, and a Series of Coloured Maps and Chart of Comparative Chronology. One elegant Volume, Price 12s., or 10s. without the Maps.

This Version is not only capable of combination, page for page, with all the other Versions, and with the HEBREW, with which it forms a Series of beautiful Diglot Bibles, but is connected with a number of other much used Works, such as the BOOK of COMMON PRAYER, CRUDEN'S CONCORDANCE, an INDEX of SUBJECTS, the PSALMS of the CHURCH of SCOTLAND, &c., &c., &c., which have been prepared of the same form, and on paper of the same Texture, and with which the ENGLISH VERSION is kept bound in a variety of styles.

* THE SEPTUAGINT VERSION, Translated into English, with the principal Variations, also translated, has lately been published, Price 21s., Two Volumes Octavo.

The following Table will exhibit the various convenient combinations of this Version, with their prices in various bindings.

THE ENGLISH VERSION, Fcap. 8vo.		BEST PLAIN MOROCCO.	In BAGSTER'S Flexible Turkey binding.
* * * WITH THE MAPS, 2s. EXTRA.		<i>s. d.</i>	<i>s. d.</i>
The ENGLISH BIBLE is the authorized Version; it contains the marginal readings—and the valuable selection of really parallel passages so well known and esteemed, which are peculiar to this Edition. In one elegant Pocket Volume (without the maps)		14 6	18 0
The same work with the PSALMS of the CHURCH of SCOTLAND		15 0	18 6
— with a copious INDEX of SUBJECTS		15 6	19 0
— with the INDEX of SUBJECTS and SCOTCH PSALMS		16 0	19 6
— with the APOCRYPHA		16 6	20 0
— with the BOOK of COMMON PRAYER		16 6	20 0
— with the BOOK of COMMON PRAYER and NEW VERSION of PSALMS		17 0	20 6
— with WATTS'S PSALMS and HYMNS complete		17 6	21 0
— with the BOOK of COMMON PRAYER, INDEX, and NEW VERSION of PSALMS		18 0	21 6
— with WATTS'S PSALMS and HYMNS and INDEX to BIBLE		18 6	22 0
— with CRUDEN'S CONCORDANCE, complete		18 6	22 0
— with CRUDEN'S CONCORDANCE and SCOTCH VERSION of PSALMS		19 0	22 6
— with CRUDEN'S CONCORDANCE and INDEX of SUBJECTS		20 0	23 0
— with the NEW TESTAMENT, ENGLISH and GREEK, page opposite page		20 0	23 0
— with the BOOK of COMMON PRAYER, NEW VERSION, CRUDEN'S CONCORDANCE and INDEX		22 6	25 6
— with the NEW TESTAMENT, ENGLISH and GREEK, and the GREEK and ENGLISH LEXICON		23 0	26 0
The other Versions of this Series may be had bound in the same styles as the English Version, at an extra charge on the cloth price, of		4 6	8 0

The combinations of the ENGLISH BIBLE with other languages have a peculiar interest. To mention only one: the HEBREW OLD TESTAMENT SCRIPTURES, interleaved page for page with the ENGLISH, with the GREEK NEW TESTAMENT interpaged with ENGLISH, forms a single, really portable, Volume; containing the Originals of the entire Scriptures, with our Vernacular Translation throughout, admirably arranged either for comparison or continuous reading. To this may be added, without disregard to convenience, a HEBREW and ENGLISH, and a GREEK and ENGLISH, LEXICON.

V. LUTHER'S GERMAN VERSION, Price 9s.

Suited to bind up page for page with any other Version, or with the HEBREW.

VI. THE FRENCH BIBLE. OSTERSVALD'S Version, Price 9s.

All the other Versions, and the Original Text, interleave and bind up with this.

VII. THE ITALIAN VERSION of DIODATI, Price 9s.

VIII. THE PORTUGUESE VERSION. Price 9s.

IX. THE SPANISH BIBLE of PADRO SCIO, Price 9s.

These also combine in every variety with other Versions, and with the Original, and form elegant and portable Volumes.

X. THE SYRIAC NEW TESTAMENT, is the PESCHITO VERSION, edited and printed with care and exactness, from the WIDMANSTADT Edition, with various Readings, Price 8s. A SYRIAC LEXICON to the NEW TESTAMENT, binds up with this, Price 4s. A SYRIAC CONCORDANCE is in the Press.

A Series of the Polyglot Versions in a still smaller form than the preceding, entitled:—

THE MINIATURE VERSIONS OF BAGSTER'S POLYGLOT BIBLE, 16mo. The MINIATURE ENGLISH VERSION of this Series is the Authorized edition, with the same well-known references to Parallel Passages as are contained in the rather larger edition. The type is particularly distinct, and being most carefully printed, on paper of the finest texture, and bound only with the best materials, it is offered as one of the most desirable editions of the Sacred Scriptures extant. The Maps with which the work is illustrated are clear, beautiful, elaborate, and carefully coloured, and may be relied upon for geographical information of the latest investigation.

This Bible is kept on sale bound up with the Book of Common Prayer, an Index of Subjects, the Greek and English Testament, the Scotch Psalms, &c., of the prices of which the following Table furnishes a list.

THE ENGLISH VERSION, 16mo.	BEST PLAIN MOROCCO.		BAGSTER'S TURKEY MOROCCO.	
	s.	d.	s.	d.
The ENGLISH VERSION with REFERENCES, 16mo, with a Series of highly finished Coloured Maps	12	6	15	0
— without the Maps	11	0	13	6
— with a copious INDEX of SUBJECTS	13	6	16	0
— without the Maps	12	0	14	6
— with the BOOK of COMMON PRAYER	14	6	17	0
— without the Maps	13	0	15	6
— with the BOOK of COMMON PRAYER and INDEX of SUBJECTS	14	0	16	6
— with the BOOK of COMMON PRAYER and NEW VERSION of PSALMS	15	0	17	6
— without the Maps	13	6	16	0
— with the BOOK of COMMON PRAYER, NEW VERSION and INDEX of SUBJECTS	14	6	17	0
— with the PSALMS of the CHURCH of SCOTLAND	13	0	15	6
— without the Maps	11	6	14	0
— with the PSALMS of the CHURCH of SCOTLAND and INDEX of SUBJECTS	12	6	15	0
— with WATTS'S PSALMS and HYMNS, complete	15	6	18	0
— without the Maps	14	0	16	6
— with WATTS'S PSALMS and HYMNS and INDEX of SUBJECTS	15	0	17	6
— with WESLEY'S HYMNS. (Conference Edition)	19	6	22	0
— without the Maps	18	0	20	6
— Interleaved with Blank Paper for MS. Notes			20	6
— Interleaved with Blank Paper for MS. Notes with INDEX of SUBJECTS			21	6
— (OLD TESTAMENT) with the CRITICAL GREEK and ENGLISH NEW TESTAMENT in Parallel Columns			21	6
— the same, with the INDEX of SUBJECTS added			22	6

THE MINIATURE FRENCH VERSION is that of MARTIN, which is accounted the most faithful translation at present in use. The Miniature Edition is enriched with copious Parallel Passages and several Vignette Engraved Maps. Price, in cloth, 9s.; in best plain morocco, 12s. 6d.; in the flexible Turkey binding, 15s.

THE MINIATURE FRENCH AND ENGLISH BIBLE consists of the two Versions above described, interleaved together page for page, and form a beautiful and remarkably small Bible, admirably suited to become the vade mecum of persons familiar with the two languages.

Catalogues of these Works, and others of a similar description, and of a considerable variety of works adapted for the study and elucidation of the Scriptures, may be obtained from the Publishers or through the principal Booksellers. Specimens, with Prospectuses, or particular information about any of their works, will be forwarded, free of expense, through the Post, to any who will favour the Publishers with their address for this purpose.

Hebrew Reading Lessons : consisting of the first Four Chapters of the Book of Genesis, and the Eighth Chapter of the Proverbs ; with a Grammatical Analysis, and an Interlineary Translation. One Volume, fcap. 8vo. cloth, 3s. 6d.

THE first FOUR CHAPTERS OF GENESIS have been selected as containing specimens of almost every simple form of construction, as well as a very large number of words : to these, the EIGHTH OF PROVERBS has been added, as a specimen of one of the Poetical books.

The Serviles added to the root, as well as all Prefixes and Suffixes of each word, are printed in *hollow* letters ; and all letters which have been dropped from the root, are placed above the line.

Beneath each Hebrew word the corresponding English is given literally.

Whatever in the Hebrew Text cannot be rendered into English, (such as the participle מְ marking the object,) is represented by the sign $\text{)}(\text{}$. Words necessarily added to complete the English form of expression, are printed in italic. Words expressed in Hebrew, but which are redundant in English, are inclosed within brackets []. The Article when expressed or implied in Hebrew is distinguished by small capital letters.

The Grammatical Praxis is connected with the Text by a reference letter prefixed to each word.

The Syriac New Testament. The Peschito of Widmanstadt, 1555, with the ABSENT EPISTLES and the APOCALYPSE, the former from the BODLEIAN MS. as published by Pocock, and the latter from DE DIEU. In one pocket Volume, in cloth boards, 8s. ; in plain morocco, 12s. 6d.

A SYRIAC CONCORDANCE to the NEW TESTAMENT is in the Press.

A Syriac Lexicon : containing all the Words and Particles of the NEW TESTAMENT, uniform with the above, Price 4s.

The Septuagint Version of the Old Testament, according to the Vatican Text, translated into English; with critical Notes and the principal various Readings of the Alexandrine copy. By Sir LANCELOT CHARLES LEE BRENTON, Bart. Two Volumes, Large Octavo. Price 21s.

“But the book most necessary to be read and understood by every man who studies the New Testament, is without doubt the Septuagint; which alone has been of more service than all the passages from the profane authors put together. It should be read in the public schools by those who are destined for the church, should form the subject of a course of Lectures at the University, and be the constant companion of an expositor of the New Testament.”

“The Septuagint, by far the richest source, has been used with great success; but, as not the half of its treasures has been employed in explaining the New Testament, an intimate knowledge of this Version is more necessary for every Theologian.”—*Marsh's Michaelis*, Vol. I. pp. 177—183.

“The Greek Scriptures were the only Scriptures known to, or valued by, the Greeks. This was the text commented on by Chrysostom and Theodoret; it was this which furnished topics to Athanasius, Nazianzen, and Basil. From this fountain the stream was derived to the Latin Church, first by the Italic or Vulgate translation of the Scriptures, which was made from the Septuagint, and not from the Hebrew; and, secondly, by the study of the Greek Fathers. It was by this borrowed light that the Latin Fathers illuminated the Western hemisphere; and when the age of Cyprian, Ambrose, Augustine, and Gregory, successively passed away, this was the light put into the hands of the next dynasty of Theologists—the Schoolmen, who carried on the work of Theological disquisition by the aid of this luminary and none other. So that, either in Greek or Latin, it was still the Septuagint Scriptures that were read, explained, and quoted as authority, for a period of fifteen hundred years.”—*Reeve's Collation of the Hebrew and Greek Texts of the Psalms*, pp. 22, 23. (Cited by the Rev. Thomas Hartwell Horne, Vol. II. p. 210.)

The Greek Ecclesiastical Historians of the First Six Centuries of the Christian Era. In Six Volumes, Octavo. Price 2l. 2s.

“If history be accurately defined as philosophy teaching by examples, no branch of it can contain lessons of philosophy so interesting and important as the history of the Church. Taking the terms in the most comprehensive sense, Church History for more than four thousand years is matter of express revelation. It is the history of man and of Divine Providence in their most momentous aspects, and has therefore been selected from the common events of history to form the subject of an inspired chronicle. The Acts of the Apostles complete the annals; thenceforth Ecclesiastical History flows from a different origin. It is written by the pen of man, and therefore marked by errors and defects; but the thought of ecclesiastical writers being, in a manner, continuators of the record of Scripture,—followers in the train of Evangelists and Apostles,—while it is calculated deeply to impress every author who enters on this field

of Literature with a sense of his personal responsibility, must also impart, in the estimation of the reader, a degree of interest to such compositions that no others can possess.

“Of all the periods of Church History, the first three or four centuries are in many respects the most important. They exhibit to us the early struggles and triumphs of Christianity, the means by which it was disseminated, and the extent to which it prevailed; the sufferings and heroism of Martyrs—the development of Theology as a Science—the effects of false philosophy upon the simple truths of revelation—the activity of the human mind in aiming at discoveries beyond its reach, and the forms of government and polity which the early Churches assumed; subjects worthy the examination not only of the Christian, but of the philosopher.”

An Ecclesiastical History to the Twentieth Year of the Reign of Constantine, by Eusebius, surnamed Pamphilus, Bishop of Cæsarea. One Volume, Octavo, 7s.

The Life of the Blessed Emperor Constantine, in Four Books, by Eusebius Pamphilus, with the Orations. One Volume, Octavo, 7s.

A History of the Church, in Seven Books, from the Accession of Constantine, to the 38th Year of Theodotius the Second, by Socrates. One Volume, Octavo, 7s.

A History of the Church, in Nine Books, by Sozomen. One Volume, Octavo, 7s.

A History of the Church, in Five Books, to the Death of Theodore of Mopsuestia, by Theodoretus, Bishop of Cyrus. One Volume, Octavo, 7s.

A History of the Church, in Six Books, by Evagrius. One Volume, Octavo, 7s.

“Eusebius closes his history with the year 324, where the thread of his narrative is taken up by Socrates Scholasticus and Sozomen, who continue it down to the year 439. Theodoret forms a kind of supplement to these, beginning with the same year as Sozomen, 324, and carrying it to the year 429. Evagrius again resumes the history at the year 439, and proceeds with it to the year 594. These form a cabinet of Ecclesiastical History for the first six centuries. The worth of works of this

kind, with all their imperfections, will be fully appreciated by every thoughtful mind. Modern compilations may be more philosophical, critical, and elegant; the matter may be more carefully collected, condensed into a smaller space, arranged in a better form, and expressed in more polished language, but the independent investigator will wish to examine for himself the sources whence they have been derived, and form a judgment from the perusal of original documents.”

This Series of the Ecclesiastical Historians are bound up in uniform Sets, Price 2*l.* 2*s.*

The various Authors may be purchased separately, Price, each, 7*s.*

ΑΠΟΚΑΛΥΨΙΣ ΙΗΣΟΥ ΧΡΙΣΤΟΥ ΕΞ ΑΡΧΑΙΩΝ ΑΝΤΙΓΡΑΦΩΝ ΕΚΔΟΘΕΙΣΑ.

The Book of Revelation in Greek, edited from Ancient Authorities; with a New English Version, and Various Readings. By S. P. TREGELLES. One Volume, Octavo, 5*s.* 6*d.*

“This beautifully and accurately printed edition of the Apocalypse contains:—1. The Greek Text, edited on the authority of the most ancient manuscripts and versions. 2. On the opposite page a faithful English version of the Greek text. 3. Beneath the text are exhibited the readings, which are more or less probable; the readings of the Elzevir edition printed in 1624, and a selection of the various readings which are at all supported by ancient manuscripts, by many more recent manuscripts, or by the earliest printed editions, together with

a classified statement of the authorities for such readings. To the whole is prefixed an introduction containing an account of the object and plan of this edition: a review of the state of the Greek text of the Book of Revelation, and of the sources of the emendation of the Greek text, together with the mode adopted by the editor in arranging the critical materials and forming the text. Piety, learning, and industry are happily united in this very useful critical edition of the Apocalypse.”—*Horne's Introd.* Vol. V. p. 44.

The Fathers not Papists : or, Six Discourses by the most eloquent Fathers of the Church ; with numerous extracts from their writings. Translated from the Greek, by HUGH STUART BOYD, Esq. A New Edition, considerably enlarged. *Νυν μιν εχεις τον λογον τουτου, ουκ απαρχην, αλλα ξυμπληρωσιν ισως της ημετερας καρποφοριας.* *Greg. Nazian.* One Volume, 10s. 6d.

A Treatise on the Grammar of the New Testament Dialect ; embracing Observations on the Literal Interpretation of numerous Passages. By the Rev. THOMAS SHELDON GREEN, M.A., late Fellow of Christ's College, Cambridge. One Volume, Octavo, 10s.

" The result of such an investigation as the proposed one, will be that the dialect of the New Testament will be found to differ from classic purity not so much in solecistic variation, as in defect : there will be a discovery not so much of departures from established rules, as of inelegancies more easily felt than described ; and there will be missed a portion of the minute and vivid picturing of the modifications of thought in written language which characterizes the speech of that wonderful people, in the disappearance of some pointed and refined variations of expression and forms of construction, and in an imperfect use of that exquisite array of particles, which, when their force is duly felt, give to the dead page almost the life and impressiveness of human utterance. * * *

" Let not the admitted result be viewed as tending to

discouragement, or favouring indifference in the student ; let him be assured, that the repayment of his labour will be abundant ; that so far from finding that he has been chasing a shadow and grasping a fleeting form, on the contrary, the more thorough his mastery of the subject, the greater will be his confidence and satisfaction in the reading of the New Testament, the greater his self-possession and clearness of thought, when surrounded by the conflicting interpretations and comments, that ingenuity unchecked by sound criticism has so abundantly generated. But let him be cautioned ever to remember that all-important as is a sound knowledge of this subject, still it is not final ; that the ultimate object should be not the canons of language, but ' the treasures of wisdom and knowledge ; ' not the spirit of mere criticism, but of ' reverence and godly fear. ' "

Ancient Egypt : her Testimony to the Truth of the Bible. Being an Interpretation of the Inscriptions and Pictures which remain upon her Tombs and Temples ; Illustrated by very numerous Engravings and Coloured Plates. By WILLIAM OSBURN, Junior, Member of the Council of the Royal Society of Literature. One Volume, Octavo, cloth, 14s.

Contents of the Work.

First Colonization of Egypt.—Ancient Geography.—The Tomb of Pihrai, at Beni Hassan, in Middle Egypt.—Wars of Sethos with the Canaanites.—Wars of Ramses II. Sesostris, and Ramses IV., with the Canaanites.—The Tyrians.—The Arvadites and Hermonites.—The Sidonians.—The Zuzim.—The Jebusites.—The Hittites.—The Amorites.—The **ϣΤΙΝ**.—The Philistines.—The Hamathites or Syrians.—Vases of the Canaanites.—Canaanitish Names at Ipsambul, Thebes, etc., and from the Triumphs of Sethos at Karnak.—Names of the Places in Judea conquered by Pharaoh Shishak, North external

Wall of the Palace at Karnak—and Chiefs of the Shethites who made a treaty with Sesostris, in the Twenty-first year of his Reign—of Gods of Canaan written in Hieroglyphics on the Temples of Egypt.—Characters which represent the Hebrew Letters of Proper Names, in Canaan.—Metals.—Overlaying.—Casting.—Beaten Work—Wool, Hair, and Flax.—Leather.—Wood and Carpentry.—The Saw.—Oil and Spices.—Precious Stones.—Stringed Instruments.—The Harp.—The Lyre.—The Psaltery.—The Lute.—Wind Instruments.—Timbrels and similar Instruments.—Cymbals.—Singing.—Song.—The Concerted Music of the Egyptians.

The Genuine Epistles of the Apostolical Fathers; St. Clement, St. Polycarp, St. Ignatius, St. Barnabas, the Pastor of Hermas; and an Account of the Martyrdoms of St. Ignatius and St. Polycarp, written by those who were present at their sufferings: being, together with the Holy Scriptures of the New Testament, a complete collection of the most primitive Antiquity, for about a Hundred and Fifty Years after Christ. Translated and Published, with Preliminary Discourses, by the Most Reverend Father in God, William Wake, late Lord Archbishop of Canterbury. Seventh Edition. Price 7s.

The Interlineary Hebrew and English Psalter. In which the Construction of every word is shown, and the root of each distinguished by the use of hollow and other types. A pocket Volume, price in cloth boards, 6s.

The object of this Work is to afford to the Hebrew Student grammatical aid in reading the book of Psalms in the original language.

The Hebrew Text is printed with care, according to Van der Hooght. The servile letters are distinguished by hollow types, the root remaining black: and in all cases where a *radical* letter has been dropped from a word, it is supplied in small type above the line.

The English translation has been made as literal as seemed practically useful; and the greatest possible *uniformity* in rendering the Hebrew has been preserved. That is to say, every needless variation of the translation, where the original remained the same, has been avoided.

In many instances, however, strict uniformity of rendering would have altered the true sense;—as in the case of verbs having both transitive and intransitive meanings,—in words applied to God,—and when the context affected the signification; these peculiarities have been observed.

Words which cannot be expressed in English are marked with) (; this is almost exclusively confined to ׀.

Words which the idiom of the English language has not required, are inclosed between [].

All supplied words are inclosed within ().

The Hebrew article, when prefixed to substantives, has been distinguished thus, “THE”; but this was not always practicable before participles and adjectives.

The interrogative ׀ is marked by a *prefixed* (?).

The Book of Psalms: Hebrew and English. A handsome pocket Volume, price in cloth binding, 5s.

This Edition of the Hebrew Psalms has been printed from the Text of Van der Hooght, (Amst. 1705,) with the utmost care. The English Translation is an accurate reprint of the Authorized Version (edition 1611.)

It is believed by the Publishers that this volume will be found at once the most convenient and beautiful edition of the Psalms ever produced.

The Miniature-Quarto Bible. Is an Edition of the Holy Scriptures prepared for the service of those who find it inconvenient to use a Bible of bulky Volume, and who yet require a legible Type, with Parallel References and Illustrative Notes.

The Work, which has been issuing in Parts, is now complete.

It forms a single, small, and exceedingly beautiful Volume; which, for commodiousness of size and lightness, for fulness of contents and lucid arrangement, as well as for its typographical clearness, is peculiarly adapted to the use of any who value the convenience of portability and comprehensiveness.

THE MINIATURE-QUARTO BIBLE CONSISTS OF—

- I. The AUTHORIZED TEXT, accurately Printed.
- II. Valuable Introductory Dissertations upon the Scriptures, proving their Authenticity and Inspiration; explaining their Divisions, &c.; giving an account of the principal MSS. and Editions; also of the Ancient and Modern Versions; the most important Jewish Writings; and of those of the Apostolic and later Fathers; an explanation of the Sects, Orders, and Factions of men mentioned; the Weights, Measures, and Coins, with the modes of computing Time; and the Geography and History of the Nations mentioned in the Scriptures.
- III. An Introduction to each Book, giving a concise account of its Contents; and Concluding Remarks to each, containing a Summary, with Illustrations, of the truth revealed in the Book.
- IV. Very numerous Explanatory Notes, and the most copious system of Parallel References ever Published with the Scriptures, with an indication of the Chronology, Sacred and Profane throughout.
- V. A History connecting the Times of the Old Testament with those of the New Testament.
- VI. A Tabular Harmony of the entire Gospel Narrative.
- VII. An Index to the Subjects mentioned throughout the Scriptures; superseding to a great extent the necessity of a Concordance.
- VIII. An Alphabetical Arrangement of all the Illustrative Notes; by which the explanation of any difficulty can be at once referred to.
- IX. A Chronological Table of the principal events of the Scripture History.
- X. A Table of the Comparative Chronology of the Kings and Prophets of Judah and Israel.
- XI. A Series of most carefully prepared Maps, intended to illustrate the Scriptures Chronologically; consisting of—

I. Canaan as inhabited by the nations before the time of Joshua.

II. The Peninsula of Sinai, with the route of the Israelites.

III. Canaan as occupied by the tribes.

IV. An enlarged view of the central district of Palestine.

V. The territory of Solomon.

VI. The Captivities of Judah and Israel, with the countries eastward.

VII. A comparative view of the Ancient Persian and Roman empires.

VIII. Jerusalem with the mountains, roads, and remarkable objects surrounding it.

X. Palestine as it was at the commencement of the Christian era.

IX. The Mediterranean sea east of Sardinia, with the surrounding country.

XI. Christendom at the rise of Mohammedanism, with the boundaries of the dioceses.

XII. Christendom during the crusades.

XIII. Mediæval Palestine, showing the sites of the battles, sieges, &c. of the crusading period.

XIV. Modern Palestine as it is at present known.

XV. An elaborate chart of universal history.

These Maps have been compiled with scrupulous attention to accuracy of detail, and will be found of much assistance to the reader. They are Coloured in the best manner.

The Prices of the Miniature-Quarto Bible are as follows:—

	£	s.	d.
In "Bagster's Flexible Turkey Morocco."	1	15	0
* * * This Binding is remarkable for its pleasantness in use and for its durability; the flexibility of the back allowing the Volume to lie completely flat during perusal.			
In best Plain Morocco, purple, green, or morone	1	8	6
In a New Style of Parisian Morocco, brown or purple	1	4	0
In Calf, half extra, gilt edges	1	8	6
In Calf, half extra	1	6	0
In neat Calf, marbled edges	1	4	0
Unbound	0	18	0

A Critical Greek and English New Testament. An elegant pocket volume. Price in cloth binding, 8s.; or on writing paper with wide margins, cloth extra, 14s. (Kept in various styles of binding.)

THIS EDITION OF THE NEW TESTAMENT SCRIPTURES CONSISTS OF:—

I. THE GREEK TEXT of Dr. M. A. SCHOLZ (*Leipsic*, 1830-6); but carefully purged from the typographical inaccuracies found in that edition.

II. Every variation found between Scholz's Text and that of Griesbach's Manual (*Leipsic*, 1805); together with all those readings, of the value of which Griesbach expresses any judgment.

III. The variations of the Text of the Third Edition of Stephens (folio, 1550).

The Text of this Edition was followed by Dr. Mill, and is that usually reprinted in England as the '*Textus Receptus*.'

IV. The variations of the Text of Beza's Fifth Edition (1598);

From which the Authorized English Translation is said to have been made; it is evident, however, that other editions were likewise consulted.

V. The variations of the Second of the Elzevir Editions (*Leyden*, 1633).

VI. THE ENGLISH AUTHORIZED VERSION, according to the Edition of 1611 (the *Italic* words of which have been carefully followed), with the whole of the marginal renderings.

VII. The Paragraphs into which the Greek Text is divided have been regulated, in doubtful cases, by the divisions of Bengel; whose arrangement is adopted by Bishop Lloyd, in his Edition of the Greek Testament.

Biblia Ecclesiæ Polyglotta. The Proper Lessons for Sundays, from the Scriptures of the Old Testament; together with the whole of the Book of Psalms; in Hebrew, Greek, Latin, and English. (*Dedicated by express permission to His Grace the Archbishop of Canterbury.*) Edited by FREDERICK ILIFF, D.D. of Trinity College, Cambridge; Head Master of the Royal Institution School, Liverpool.

This Work is adapted, primarily, to the wants of those who are connected with the Established Church, but will be found of extreme value to all who seek to understand the Scriptures, by comparing the Authorized English Translation with the Original Hebrew and the two ancient Greek and Latin versions.

The entire BOOK OF PSALMS, presented in HEBREW with five different translations in parallel columns, viz.: The GREEK, according to the LXX.; the LATIN VULGATE; the ENGLISH, King James's Version; JEROME'S LATIN VERSION from the Hebrew; and the ENGLISH PSALMS used in the Church Service, forms an important feature in the work. It constitutes the most complete and commodious POLYGLOT PSALTER ever prepared.

SMALL PAPER, One Volume, Crown 4to. cloth lettered, extra, 1*l.* 12*s.*—Ditto, neat calf, marbled leaves, 2*l.* 2*s.*—Ditto, calf, half extra, gilt leaves, 2*l.* 7*s.*—Ditto, morocco plain, gilt leaves, 2*l.* 8*s.*—Ditto, Turkey morocco, or in Russia, gilt leaves, elegant, 2*l.* 17*s.*

LARGE PAPER, Royal 4to, cloth, lettered, extra, 2*l.* 5*s.*—Ditto, Turkey morocco, or Russia, gilt leaves, elegant, 4*l.*

The Treasury Bible, containing the English Version of the Polyglot Bible, interleaved with a complete Biblical Treasury of Parallel Passages, and Explanatory and Historical Notes; with a connecting History of the Jews to the birth of Jesus Christ; tables of coins, weights, and measures; a table of the Books chronologically arranged; a collection of the Names, Titles, and Similes, applied to our Lord Jesus Christ; a Harmony of the Evangelists; a list of the Great Prophecies and Allusions to Christ in the Old Testament; concluding Remarks to most of the Books, with Fourteen Coloured Maps, and an Alphabetical Index of the names, characters, and subjects, both of the Old and New Testaments. One handsome pocket Volume, fcap. 8vo, 1*l.*; ditto, an elegant Quarto Volume, printed on a Writing Paper, with transparent lines in the fabric of the paper, in cloth boards, 1*l.* 10*s.*

TRASURY OF SCRIPTURE PARALLELS, being the Biblical Treasury found in the Treasury Bible, printed separately. It is in this form equally applicable to every edition of the Bible, the references of each respective verse being fully given; fcap. 8vo., in cloth, 10*s.*

The following opinion of the value of this Book occurs in the Rev. Robert Anderson's Life:—"Have you seen Bagster's Treasury Bible, the small Edition? I have it bound up with the English Version of the Polyglot, and it is really a pocket treasure." Page 49. Fourth Edition.

Bagster's Comprehensive Bible, complete in one Volume. A Family, Study, or Pulpit Bible, containing by far the largest number of parallel references ever published with the Scriptures; with above 4000 illustrative Notes, and most valuable Prefatory and other matter.

This edition of the Holy Scriptures, which is equally remarkable for the acknowledged elegance and perspicuity of its arrangement and the beauty of its typographical execution, is unique in its plan.

I. The TEXT (which is an exact reprint of the most accurate edition of the authorized version) is printed in a very bold and clear type, in two columns; between which, in two smaller centre columns are placed (as the situation most easily referred to) the References to parallel passages, and the Explanatory Notes. By this plan the illustration is situated close to the subject under consideration, and thus all inconvenience of reference to a distant part of the page is avoided.

II. The PARALLEL PASSAGES are about 500,000 in number, and consist of all those of Blaney, Scott, and Clarke, and those of the English Version of the Polyglot Bible, with the chief of those of Canne, Brown, and Wilson; the whole exhibiting the fulness of the illustration of Scripture from its own sources.

III. The NOTES, which are very numerous, are arranged in the centre columns of each page, close to the subject treated of. They consist entirely of Illustrations of Jewish and Eastern Manners, Customs, Rites, and Ceremonies—Critical and Philological Observations—Chronological, Historical and Classical Elucidations—Remarks on Sacred Geography and Natural History, in which much light is afforded; indeed those who are not acquainted with the concise clearness of Mr. Greenfield's style of writing can form little idea of the quantity of information comprised within the compass of these notes.

IV. The INTRODUCTION exhibits a condensed view of—

First. The principal EVIDENCES of the Genuineness, uncorrupted Preservation, Authenticity, and Inspiration of the Holy Scriptures.

Second. Disquisitions on the various Divisions and marks of Distinction in the Sacred Writings.

Third. A description of the Manuscripts and early printed editions of the Scriptures; of the Samaritan Pentateuch; the Ancient Versions; the English Version; the Jewish Writings; with notices of the Apostolical Fathers, and Doctors of the Church.

Fourth. The Jewish Sects, Factions, and Orders of Men; the coins, weights, and measures, and the modes of computing time, adopted by the Jews and Romans; with an outline of the Geography and History of the Countries and Nations mentioned in Scripture.

V. To each of the Books are added Introductory and Concluding Remarks, containing a succinct account of the title, author, date, occasion, and contents of each book, with the Masoretic and other notes.

VI. The volume contains copious Indexes and Tables of contents:—

First. A complete Index to the Bible, by which almost any subject may be readily referred to without a Concordance.

Second. An arrangement of all the Headings of the Chapters of both Old and New Testaments brought together under one view, forming a complete analysis of the Scriptures.

Third. A Chronological arrangement of the whole Scriptures, by reference to which they may be read as a continuous History.

Fourth. A Chronological Index of all the events of Scripture History, with which are arranged the coincident occurrences of General History. Thus exhibiting the Parallels of Scripture and General History, and enabling the mind more readily to understand the general train of events.

Fifth. An Index to the subjects of all the Notes and Illustrations throughout the work.

Explanatory remarks on any subject will of course apply to every passage in which the subject may be mentioned, but to save room for the fullest possible illustration, the notes occur but *once*, and their place of occurrence may be readily found by reference to this Index. By this simple contrivance the notes are really multiplied to ten times their apparent number.

The *smallest size* of the COMPREHENSIVE BIBLE, on crown Quarto paper, in cloth binding, 1*l.* 4*s.*; or bound in strong neat calf, marbled leaves, 3*l.* 4*s.*; in calf ornamented, and gilt leaves, 3*l.* 9*s.*; in plain morocco, gilt leaves, 4*l.* 0*s.*; in very stout Russia, gilt leaves, 4*l.* 9*s.*; in the 'Turkey morocco,' gilt leaves, 4*l.* 9*s.*

The *medium size* of the COMPREHENSIVE BIBLE is printed in Pica Type, upon demy Quarto paper, in cloth binding, 1*l.* 12*s.*; or bound in strong neat calf, 4*l.* 3*s.*; in calf ornamented and gilt leaves, 4*l.* 9*s.*; in plain morocco, gilt leaves, 5*l.* 1*s.*; in very stout Russia, gilt leaves, 6*l.* 0*s.*; in the 'Turkey morocco,' gilt leaves, 6*l.* 0*s.*

The *large size* of the COMPREHENSIVE BIBLE is printed upon fine royal Quarto paper, and forms a singularly handsome volume, in cloth binding, 2*l.* 6*s.*; or bound in plain Morocco, gilt leaves, 6*l.* 8*s.*; in very stout Russia, gilt leaves, 8*l.* 0*s.*; in the 'Turkey morocco,' gilt leaves, 8*l.* 0*s.*

Bagster's Chronological Scripture Atlas: containing a Complete Series of Maps elucidatory of the Sacred History; illustrating also the Principal Epochs of the Ecclesiastical History of Christendom, and the Condition of the Holy Land from the Earliest Ages to the Present Day; an Elaborate Chart of General History, and a Comparative Index and Complete Concordance of all the Scripture Occurrences of the Places. Small Quarto, price 10s. 6d. half morocco, gilt edges.

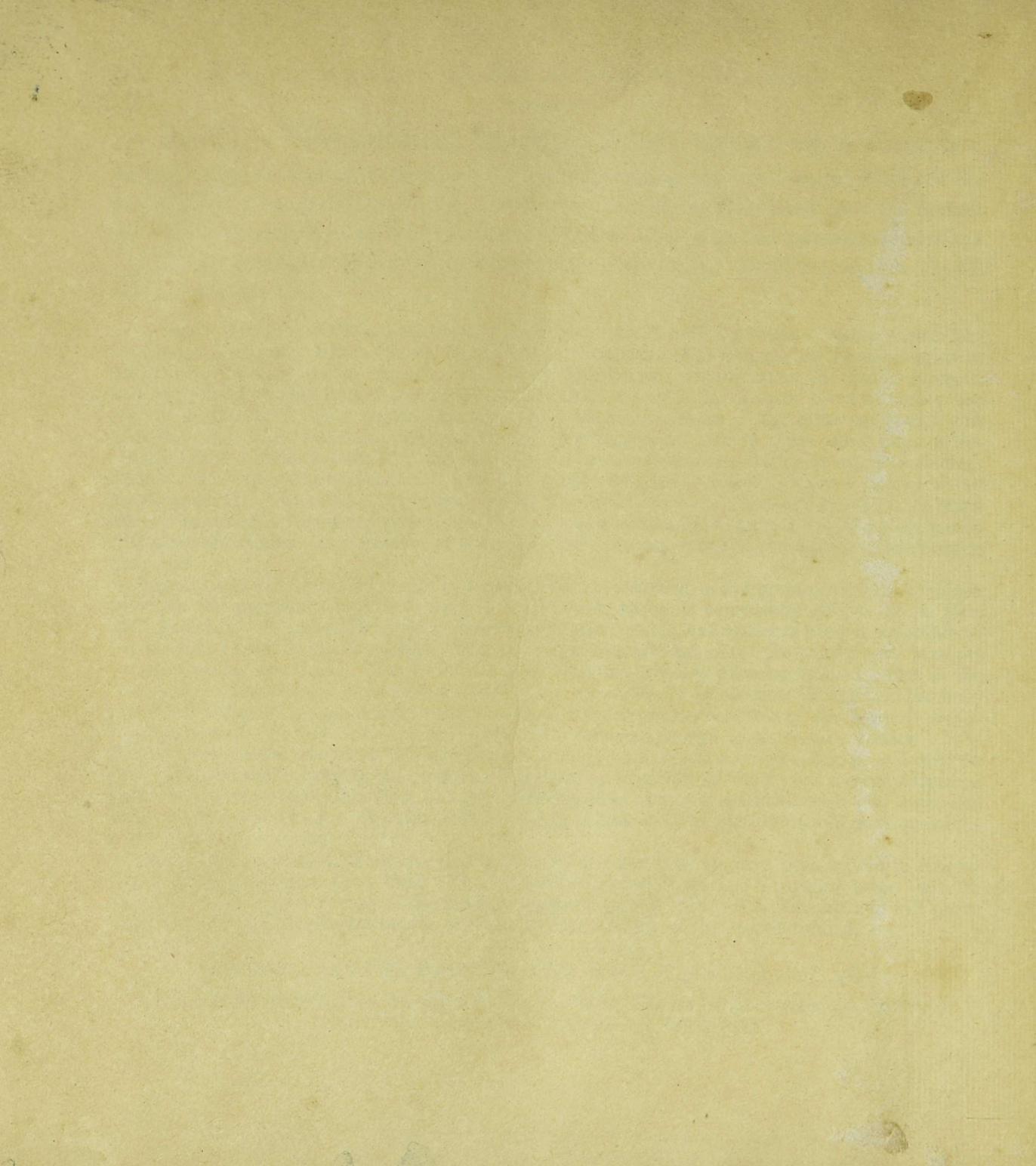
To each Map is prefixed a DESCRIPTIVE MEMOIR, in which notice is taken of those particulars of physical geography which cannot be adequately illustrated in the engraving, as the heights of mountains, the character of the lakes and rivers, with various circumstances of similar interest, and any disputed question of the scriptural localities which it involves is brought under the student's attention. In a similar manner, the present condition of the principal towns and villages in the Holy Land, and likewise of the more important sites in other countries of scriptural interest, is briefly described, and such circumstances of their population or other particulars stated as serve to connect them in the reader's mind with the localities of sacred history which they represent. The publishers, indeed, feel confident that these brief notices by which the maps are accompanied, without aspiring to the character of a systematic description of the Holy Land, will place the student in possession of a valuable body of facts of the most useful and interesting character.

Finally, the elaborate and carefully-prepared INDEX attached to the present work is a feature to which the publishers refer with peculiar satisfaction, as being completely *unique* in its plan and execution. It embodies a vast mass of information which has hitherto been inaccessible to the student except in the most costly form, and which indeed has never previously been brought together under one head. This Index contains *the name of every place mentioned either in the Old or New Testament,—its classical and modern appellations*, in all cases in which it has been identified either with an ancient or modern site,—*a reference to every text of Scripture in which it is mentioned,—and the latitude and longitude* of either its known or supposed situation. It is thus at once a GAZETTEER AND COMPLETE GEOGRAPHICAL CONCORDANCE OF THE BIBLE, and will be found of inestimable value to the student, not merely by bringing all the *known* facts of scriptural geography at once before his view, but by furnishing him (through the medium of the complete body of references which it contains) with the ready means of investigation into all such questions as are yet open to doubt.

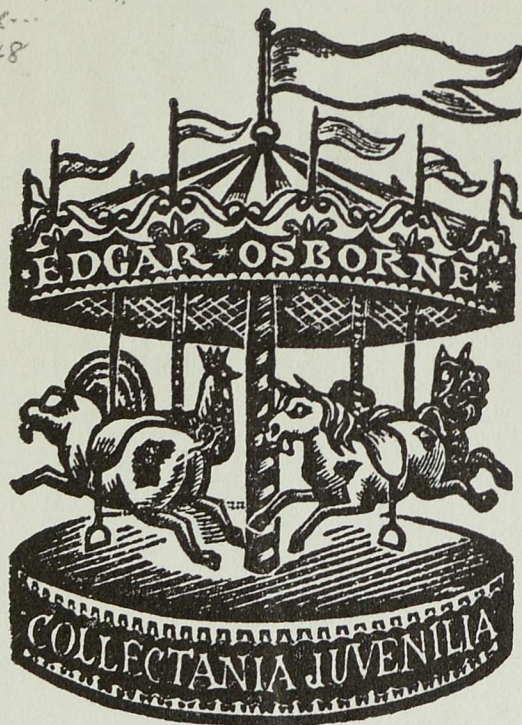
In the full conviction, therefore, that neither labour nor expense have been spared in its preparation, the publishers trust that "The Chronological and Historical Scripture Atlas" will be found in every respect worthy of the present advanced state of Biblical Literature, and will prove alike useful to the intelligent reader, and the critical student, of the sacred volume.

LONDON: SAMUEL BAGSTER AND SONS, PATERNOSTER ROW;

Warehouse for Bibles, New Testaments, Prayer Books, Lexicons, Grammars, Concordances, and Psalters, in Ancient and Modern Languages.



NS
RHIND, W. G.
SIX--
1848



37131 009 559 592

II 835

