

RAFFLESIA ARNOLDI, THE LARGEST KNOWN FLOWER. See page 36.

TO THE READER.

THE lover of Nature will need no apology for another effort, however humble, to set forth its beauties and wonders in a popular way. The lover of the Bible, it may be equally hoped, will look leniently upon all simple statements of eternal truth. But the following pages appeal to those—a large and increasing class—to whom both are dear. These, the more they drink into the depths of the Almighty's *written* word in Scripture, delight so much the more to search out His *wrought* word in creation. The author is persuaded that if the growing materialism of this scientific age is to be arrested, it will not be by ignoring its marvellous attractions, but by meeting it upon its own ground. Whilst some modern men of science, who doubt the existence of God, or deny the truth of revelation, like Adam when he fell, “use the trees of God's garden to conceal Him from their view,” we, like Zaccheus when he repented, should, as it were, climb up into those trees in order to see Christ! What good Thomas Taylor said in 1634 is still more true now, “Earthly things must remind us of heavenly; we must translate the book of nature into the book of grace.” The author would rejoice to show that the study of plant-life is in itself intensely healthy and interesting, and to lead many to gaze on the world of wonders lying unobserved all around them. This alone were to be desired. But he has kept in view throughout a much higher end. If any reader, as he henceforth tills his land, tends his garden, or takes his holiday ramble by shore or stream, mountain, woodland, or meadow, is led to read in their verdant beauty a fresh revelation of God's love, he will be amply rewarded.



“Bring flowers!
They speak of hope to the fainting heart,
With a voice of promise they come and part;
They sleep in dust through the winter hours,
They break forth in glory—bring flowers, bright flowers!”

“Your voiceless lips, O flowers ! are living preachers,
Each cup a pulpit, and each leaf a book,
Supplying to my fancy numerous teachers,
From loneliest nook.”

“For Nature, the old nurse, took
The child upon her knee,
Saying, ‘Here is a story-book
My Father has written for thee.’

‘Come wander with me,’ she said,
‘Into regions yet untrod;
And read what is yet unread
In the manuscripts of God.’

And he wandered away and away,
With Nature, the dear old nurse;
And she sang to him night and day
The songs of the universe.”



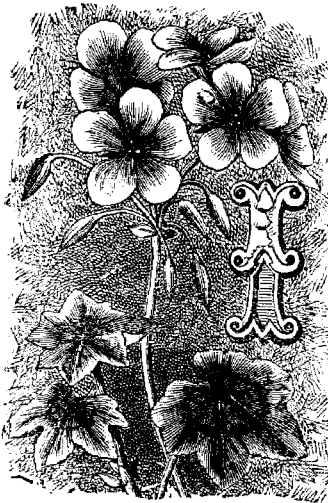


TALKING TREES,

OR

Rays, from, the, Realms, of, Nature,

THE PARABLES OF PLANT-LIFE.



*"Our life, exempt from public haunt,
Finds tongues in trees."*—SHAKESPEARE.

"God Almighty first planted a garden."—
BACON.

It has been well said, "God has made the world double." The lower kingdom of Nature is full of forms of the higher kingdom of Grace. This is a pleasant path which has not been sufficiently pursued. For, indeed, the material life is full of figures of the spiritual. Natural science, as with a magician's wand, is now calling up around us a new world. Surely we do well at such a time to trace Divine truths as pictured by its fresh and enchanting scenes.

Facts about trees and flowers are specially suited to furnish us with materials for our purpose, for the life of the field affords a rich and never-failing harvest of beautiful and instructive figures. Parables of plant-life everywhere meet the observing eye. A thoughtful writer has well said, "Next after the blessed Bible a flower garden is to me the most eloquent of books—a volume teeming with instruction, consolation, and reproof."

"Blessed be God for flowers,
For the bright, gentle, holy thoughts that breathe
From out their odorous beauty like a wreath
Of sunshine on life's hours."

Flowers are amongst the loveliest and most attractive of all natural

objects, and have been called on this account "the stars of the earth," "Nature's jewels." To the poet they are the very image of beauty—

"The spirit of beauty unfurls her light,
And wheels her course in a joyous flight,
I know her track through the balmy air
By the blossoms that cluster and whiten there."

They must have been certainly the first source of enjoyment to man, and that when his powers of enjoyment were at their greatest.

"Flowers, the sole luxury that Nature knew,
In Eden's pure and guiltless garden grew."



"THE RIGHTEOUS SHALL FLOURISH LIKE THE PALM TREE."—Ps. xcii. 12.

They remain still, in every succeeding generation his first and deepest delight in the days of childhood.

"O Father, Lord!
The All-Beneficent! I bless Thy name
That Thou hast mantled the green earth with flowers,
Linking our hearts to Nature! By the love
Of their wild blossoms our young footsteps first
Into her deep recesses are beguiled."

"Ye field-flowers! the gardens eclipse you, 'tis true,
Yet, wildlings of Nature, I doat upon you:
For ye waft me to summers of old,
When the earth teemed around me with fairy delight,
And when daisies and buttercups gladden'd my sight,
Like treasures of silver and gold."

The life of the field, too, from age to age, never ceases to be "a thing of beauty." While the fairest creations of man utterly perish in the course of time, flowers seem to possess immortal youth and bloom. Standing amid the ruins of Petra, the famous rock-hewn city of Edom's red sandstone fastnesses, a traveller has well-expressed this thought:—"The products of Nature are alone perennial; for while

the monuments of men are all spoiled, the delicate branches of the hyssop (the caper plant) hang down as fresh and beautiful from the chinks in the rock as they did two thousand years ago, and the foliage of the wild fig and tamarisk is as rich, and the flower of the oleander as gaudy, as they were when the princes of Edom dwelt in the clefts of the rock, and held in pride the height of the hills."



THE HYSSOP, COMMON CAPER PLANT (*Capparis spinosa*.)

Those, therefore, who neglect to observe plant-life lose one of the purest and most exquisite pleasures, and one suited, perhaps above most others, to minister at the same time solace to the heart and instruction to the mind.

"If thou art worn and hard beset
With sorrow that thou would'st forget,
If thou would'st read a lesson that will keep
Thy heart from fainting and thy soul from sleep—
Go to the woods!"

From remotest times, and from the rich imagination of the Orient, there has come to us the "language of flowers"—a language assigned by the poets to love.

"Flowers are love's truest language; they betray,
Like the divining rod of magi old,
Where priceless wealth lies buried, not of gold,
But love—strong love, that never can decay!"

And this pleasing fancy, which thus beautifully clothes the thoughts and expressions of human devotion in a floral dress, will be found to

have its origin in a lofty source. Flowers are indeed the language of love; the true, measureless, unspeakable love, that flame of which the noblest earthly affection is but the faintest spark—the love of the Father—love divine! There are countless traces of this language in the Bible itself.

In the Old Testament Scriptures so frequent are the figures drawn from the life of the field, that the great theologian, Professor Michaelis, has well said of Hebrew poetry, “that it might be almost called the botanical poetry.” The learned professor adds, “hence in



THE “LILY” OF SCRIPTURE (*Anemone coronaria*.)

the very few remains of the Hebrew writings which are come down to us, I mean the Scriptures, there are upwards of 250 botanical terms, which none use so frequently as the poets; and this circumstance, I think, gives an air of pastoral elegance to their poetry, which any modern writer will emulate in vain.” A choice example of this poetic usage is furnished at the conclusion of Hosea’s prophecy, in the gracious promise of Israel’s yet future revival in the last days:—

“I will be as the summer-night-mist unto Israel;
He shall grow as the crimson anemone,
And cast forth his roots as Lebanon.
His branches shall spread,
And his majesty shall be as the olive,
And his fragrance as Lebanon.
They that dwell under his shadow shall return;
They shall revive as the corn,
And grow as the vine:
The scent thereof shall be as the wine of Lebanon.”*

Here is *root* growth, illustrated by the prolific “lily,” the rich *Anemone coronaria*, whose splendid crimson, velvet-like bloom spreads so rapidly, that wherever it comes it soon covers the whole plain. But, as if no one emblem could fully depict the glorious stability of saved Israel, the nation’s sure establishment is further likened to

* Hosea xiv. 5-7. For the striking and important meaning of “summer-night-mist” see the author’s *Palestine Explored*, pp. 129-151. (J. Nisbet & Co.)

Libanus, that is, its mighty cedars, whose roots are said to strike as deep into the soil as their lofty summits soar above it. Next in the natural order we have *stem* growth, with all the evergreen, soft, silvery, olive-like beauty of the spreading foliage, that delicate shade of verdure suited to harmonise with the neutral tints and exquisitely bright lights of Palestine scenery.

But it is to be carefully borne in mind that the quality of the olive mentioned here, descriptive of its leafy glory, is "majesty" (*hoad*). The idea of beauty is included in this word, but it means much more. The Hebrew word *hoad* is constantly used of royal dignity and grandeur, being applied in this sense to God Himself, as "the Great King,"* and also to the state and splendour of royal personages in general.† It may be said in almost every instance to signify "regal



CEDARS OF LEBANON.

majesty." Now we learn from the allusion in Jotham's parable, † and other references to the olive, that it was regarded as first or king of Palestine fruit-bearing trees. Captain C. R. Conder, R.E., who for three or four years traversed Palestine in every part, whilst making an ordnance survey of the country, exclaims "the olive tree is the glory of Palestine and one of the chief sources of wealth to the peasantry." § Hence the great point and appropriateness of speaking of the "regal majesty" (*hoad*) of this which was regarded by the Jews as the natural monarch of the world of trees, the glorious evergreen olive.

Then, following foliage in due sequence, comes the growth of *blossom*, for his fragrance is like the scented bloom of that richly fertile

* 1 Chronicles xvi. 27; xxix. 11; Job xxxvii. 22; Psalm viii. 1; Habakkuk iii. 3, &c. † 1 Chronicles xxix. 25; Psalm xxi. 1, 5; Jeremiah xxii. 18; Daniel xi. 21; Zechariah vi. 13. ‡ Judges ix. 8. § "Tent Life in Palestine," vol. ii. p 261.

range of which Theophrastus has told us in his History of Plants, "as you enter the valley between Lebanon and Anti-Lebanon straightway the scent meets you." A statement which may be well understood when we remember that these two fertile, well-watered, and magnificent ranges were alike celebrated for vineyards of peculiar fragrance, cedar forests, spice groves, orange orchards, Damascus rose gardens, and herb-scented wastes, an almost unequalled collection of perfumes. Finally, in the true order of Nature, comes the growth of *fruitage*, abundant as the present hundredfold yield of Sharon plains, or the still teeming vintage of Hebron mountain sides. All these choice botanical figures are thus finely culled, in a few consecutive



OLIVE TREES OF PALESTINE.

verses, in order to set forth the matchless prosperity of God's ancient people, the Jews, when finally converted to Christ.

The force and beauty of much of this plant-life imagery can only be realised in the light of Bible lands. Flowers, for instance, frequently occur in Scripture as an illustration of the frailty of man. Thus the Psalmist says:—

"Man, his days are like grass!
Like a flower of the field, so he flowers.
For the wind has passed on it, and it is not!
And the place thereof shall know it no more." *

Under the description of "grass," or "grass of the field," wherever these words are found in the Bible, we are not to understand only the *gramineæ*, or grass family proper, the members of which are comparatively rare, but all the wild growth of the untilled plains and

* Psalm ciii. 15; Isaiah xl. 6—8; James i. 10, 11; 1 Peter i. 24.

desert pastures, consisting chiefly of the lovely wild flowers of countless variety that carpet the ground in spring. These flowers appear in great profusion from February to April, and form without doubt



“THE GRASS,” OR WILD FLOWERS, OF GALILEE.

the chief natural charm of the Holy Land. In May, a dry, burning east wind, unlike anything we experience in this country, called the *Shirocco*, blows across the interminable hot sand deserts of Arabia. Upon reaching Palestine, when it is at its height, it is like the blast

of a furnace, and at such time the usual tests fail to detect any particle of ozone in the air. It will be readily understood how fatal such a wind proves to all organised life. Sometimes, on these occasions, you may ride in early morning down a hot Judean valley, where the whole land is waving like one rich meadow of wild bloom. But the *Shirocco* arises, "the wind passeth over it," "a wind of Jehovah," that is, "an exceedingly strong or oppressive wind,"* and the "sun is no sooner risen with a burning heat," that is to say, in connection with this fiery wind, "but it withereth the grass." Within the short space of twelve hours, "the flower thereof falleth, and the grace of the fashion of it perisheth;" and when you ride back at even, death



AN EASTERN PALACE GARDEN.

and decay are written everywhere on that morning's scene of freshness and beauty. Striking, never-to-be-forgotten figure of man's mortality! Blessed be God, the preaching of "Jesus and the resurrection" has given to "the grass of the field" another voice.

"Yes, yes! ye weave a double spell,
And death and life betoken well.

* The same word in Hebrew means "wind" and "spirit," and the words translated in our version. "The spirit of the Lord," in Isaiah xl. 7, are literally "a wind of Jehovah." This expression is a form of the strong Hebrew superlative of frequent occurrence in Scripture, by which the name of God is added to a noun to intensify its meaning, and we must understand here "a mighty or intense wind." And, as any other wind in spring or summer would only tend to revive the "grass" or wild flowers, it is clear that this, and all similar allusions, refer to a *Shirocco*, that is, an east or south-east wind.

“Go, then, where rapt in fear and gloom,
 Fond hearts and true are sighing ;
 And deck with emblematic bloom
 The pillow of the dying ;
 And softly speak, nor speak in vain,
 Of your long sleep and broken chain.

And say, that He who from the dust
 Recalls the slumbering flower,
 Will surely visit those who trust
 His mercy and His power ;
 Will mark where sleeps their peaceful clay,
 And roll, ere long, the stone away.”

Man's first home is represented as a park-like garden, laid out by the Creator Himself, where grew “every tree that is pleasant to the sight and good for food.”* Perhaps not even Palestine itself could bear a wider range of productions, or greater richness and abundance, than those grand highlands of Armenia, among which we look for



FRUITS OF PALESTINE GARDENS.

Eden. The two first emblems of higher and deeper truths which occur in Scripture were to be found here, in “the tree of life in the midst of the garden, and the tree of knowledge of good and evil.” In that choice allegorical poem, descriptive of the union and intercourse between Christ and His believing people—the Song of Songs—the scene is principally laid in a series of delightful gardens. There was only one place of resort beside His Father's house which we read of Jesus frequenting, and that was a garden, while in another similar spot hard by He chose to lie in death.† The very joys of the world to come are set before us under the figure of man's garden-home regained, and the dying Saviour's latest words of mercy speak of it thus: “To-day shalt thou be with Me in Paradise!”‡ Fully to understand the beauty of this figure, we must bear in mind that the gardens of Palestine, which are always rendered delightfully cool by irrigation during the hot season, will bear four crops in succession, are capable of producing the combined

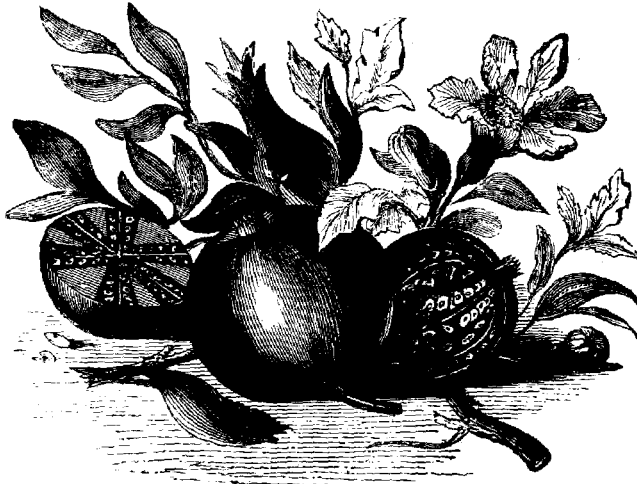
* Genesis ii. 8, 9.

† John xviii. 1, 2 ; xix. 41.

‡ Luke xxiii. 43.

products of England, Italy, and Egypt, and form a scene of the greatest luxuriance throughout the whole year.

The only sculptured or pictured symbols which were designed by God for the interior of the Temple consisted of botanical emblems. The single exception to this rule occurs in the engraved cherubim which over-shadowed the mercy-seat, together with those which stood out from the walls and doors, and the tapestried representation of the same figures on the veil. Yet even these, by an intimate and natural association, carry the mind back to the gates of the first garden.* Palm-trees were worked upon the veil. Palm-trees, gourds, or melons, and "opening flowers" of various kinds were carved on the walls of cedar.† Wrought upon the golden lamp-stand were stems, flowers, and fruits of the almond tree.‡ Pome-



POMEGRANATE—FLOWER AND FRUIT.

granates, and anemones—the latter uniformly rendered in our version "lilies"—adorned the capitals of the two brazen pillars in the porch.§ A golden crown, composed after the primitive manner of leaves and flowers, was attached to most of the sacred furniture, and surmounted the ark, the table of shewbread, and the incense altar.¶ In a word, wherever the eye rested in the Temple, from the dress of the high priest, profusely embroidered with flowers, and tasselled with a fringe of imitation fruit, to the very summit of the chamber walls, it was met by pictures of botanical objects. *The general effect of the whole scene was that of a fine garden.* These floral ornaments, like all else in the sacred structure, had, doubtless, a symbolic use. We are therefore proposing to pursue a line of thought that constantly enlivens the pages of Holy Writ.

While very few of our best known quotations from English poetry contain imagery drawn from botanical objects, it is deeply interest-

* Genesis iii. 24. † 1 Kings vi. 18 (see margin), 29, 32.

‡ Exodus xxv. 31—35. § 1 Kings vii. 18—20. ¶ Exodus xxxvii. 2, 11, 26.

ing to observe that our believing poets appear to have made by far the most use of such figures. This feature lends a great charm to the works of Herbert, Wordsworth, Cowper, Felicia Hemans, and Keble. They seem unconsciously to have caught the style of those sacred Scriptures which they were daily in the habit of searching. The holy George Herbert, amid all his quaintness, possesses a perfectly oriental wealth of bold botanical imagery, and hence his poems always strike a chord delightfully familiar to diligent readers of the Bible. A very characteristic example of this mode of illustration occurs in his allusion to the wondrous vitality of the orange, by virtue of which, in lands like Palestine, it bears fruit, in one stage of formation or another, throughout almost the whole twelve months.

“Oh, that I were an orange tree,
That busy plant!
Then should I ever laden be,
And never want
Some fruit for him that dressed me.”

In the day when these lines were penned, it could scarcely have been known that this glorious tree—whose exuberant vitality stands



ORANGE—FOLIAGE, FLOWER, AND FRUIT.

almost alone in bearing all together, during a great part of the year, thick, shining leaves, strongly-perfumed flowers, and sweet, nourishing, highly medicinal fruit—is the “apple tree” of Scripture.* As such this truly “busy plant,” a very “tree of life” in the natural world, was chosen by the Spirit of God as one of the choicest figures of Christ, the Bridegroom of the Church.

“A ^{an} orange-tree among the trees of the rocky-mountain forest,
So is my beloved among the sons.
I sit down under his shadow with great delight,
And his fruit is sweet to my taste.” †

Of prose writers, fewer would seem to have dealt with this subject, and for the most part only those of recent times. One eloquent modern author, portrayed by whose pen Nature appears instinct with

*For the full proof of this see the author's *Palestine Explored*. 2nd Edition, pp. 181—208. Nisbet & Co., 1883. † Song of Solomon ii. 3.

Bible truth, has drawn attention with exquisite delicacy to the many voices of earth's verdant tribes. His following word-picture contains an image of great beauty:—

"In the arid deserts of central South America there is a strange plant, the *Selaginella convoluta*, a species of club moss, endowed with very remarkable hygrometric properties. In the dry season, when every particle of moisture is extracted from the soil, it is detached from its growing place, rolled up into a ball, and carried away by the violent equinoctial gales which prevail at the time in these regions, often to very great distances. It remains coiled up in this form for a considerable time; but if carried to a marsh, or the margin of a stream, or any other moist place, it begins slowly to unfold, and spread itself out flat on the soil, assumes its former vigour and freshness, takes root, develops its fructification, and casts abroad its seed upon the air. When this new situation is dried up, it resumes its old unsettled habits, and, like an adventurous pilgrim, takes advantage of the wind to emigrate to a more favourable locality. And is not this plant an emblem of the man who is detached from Christ, and who therefore wanders from one broken cistern of earthly joy to another, restless, disappointed, dissatisfied? He is wearied in the greatness of his ways, in his manifold journeyings hither and thither in search of true satisfaction. Amid all the resources of modern science and art, there is still the same old vanity and vexation of spirit. Jesus knew well how deep and universal was the experience He was appealing to when He said, 'Come unto Me, all ye that labour and are heavy laden, and I will give you rest.' We are striving to attach outward things—our possessions, our friends, our enjoyments—to ourselves; but where is our own fixedness? . . . All our efforts to make ourselves centres and roots will be in vain. Our centre is Christ; and until we are in Him we shall never know true peace. Our root is Christ; and until we are rooted in Him, we shall be helpless and lifeless, overpowered by outward things, and disquieted by their terrors. Attached to Him, we shall not be moved. United to Him by a living faith, our hearts are fixed and at rest; we are united to God, to eternal life, and to all the blissful and glorious realities of the spiritual world."*

But chiefly we owe it to Him who spake as never man spake that we have been led to observe the full extent and variety of the teachings of our subject, and have learnt how limitless is the field of parable opened up by the beauties and wonders of vegetable life. Our blessed Lord was evidently a close and ardent admirer of Nature, and was constantly refreshing His hearers with its simple and delightful figures. In the case of His seven deeply important prophetic parables, recorded in the thirteenth chapter of the Gospel according to Matthew, the first four are all drawn from botanical sources, namely, the sower, the tares (or rather the Bearded darnel)† and the wheat, the mustard seed, and the leaven which we now know to be a species of fungus. The dweller in Palestine, in passing through that fair land of the Saviour's adoption, can never wander over its flower-bestrewn plains, its wild and romantic pastures, its rich corn-lands, its fertile vineyards and fig-orchards, or the remains of its once stately groves, without being reminded at every step of some of His gracious words. Now, not only may we think with Shakespeare that there are "tongues in trees," but, to the enlightened ear, the very whisper of the woods

* *Bible Teachings in Nature*, by the Rev. Hugh Macmillan, p. 215.

† *Lolium temulentum*.

is vocal with the music of the Gospel. We may truly feel, with Wordsworth,—

“To me the meanest flower that blows can give
Thoughts that do often lie too deep for tears.”

It has been finely said, “The natural world supplied the fount of types with which the words of Jesus were printed in order that they might be intelligible to the whole human family. Nature became the handmaid of revelation. Alone, without an interpreter, we know she is dumb. The practical atheist rejects her testimony to a God. The heathen blinds himself to the rays of light that would penetrate his darkened mind from the external creation. But at Christ’s touch



THE MUSTARD OF PALESTINE.

the dulled ear regains its power of hearing; the scales fall from the filmed eye; Nature becomes eloquent of truth. Responding to the Divine Teacher, voices innumerable from the heavens above and the earth beneath unite, a great company of preachers! The seed, the bird, the flower, the vine, the branch, the harvest—every object becomes significant of some spiritual lesson.” The Lord Christ, in His inimitable picture-discourses, has called us to behold the crimson anemones, pointed us to the fig-tree on the mountain side, and to the waving cornfields of the valley, and has led us to read the parables of plant-life, from that of the diminutive mustard seed to that of the mighty sycamore. May He assist us in our humble endeavour to follow in His footsteps through the fair paths of Nature, and open our eyes to gaze with spiritual profit upon many other of His glorious works.

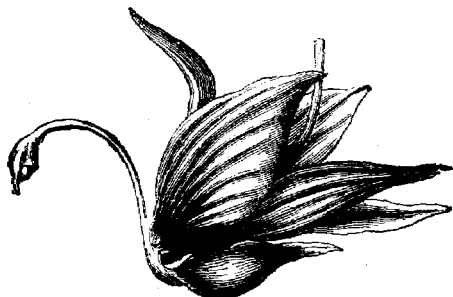


LOVE.



BEING in tropical forests, the very home of this order of flowers, grow large orchids of wondrous beauty. These plants are laden with blossoms famous for their splendid size and hue, and their resemblance to all manner of beautiful natural objects. They form the very crown of floral beauty, not only for richness of texture and variety of form, but also for the surpassing skill with which their soft but brilliant tints are blended. Some of them possess the most powerful and exquisite perfume. Many appear like large and glittering butterflies hovering around the highest

boughs. One magnificent flower is like a stately swan, and the upper lip of another bears such a close resemblance to a descending dove, that the people of Panama call it "Spirito Sancto," or Holy Spirit flower.



FLOWER OR SWAN ORCHIS
(*Cyanoche ventricosum*).



FLOWER OF SPIRITO SANCTO
ORCHIS (*Peristeria elata*).

The long, floating, delicate roots of these orchids are thrust out, not into earth, but into mid-air, from the impure vapours of which they draw their nourishment. They live seated on the trunks of huge decaying trees. Since decomposition proceeds very rapidly in this hot region, the dying giants of the forest would, if left alone,

fill the air with foul and poisonous gases. But the orchid, as it swings in rich festoons over the rotting boughs, covers the deformity of the tree with the mantle of its own loveliness, absorbs all the foul exhalations, and, as in the case of vanilla, turns them into the



ORCHIDS COVERING A ROTTING BOUGH.

rich and powerful perfume of its own sweet flowers. "Charity" (that is, "love") is this beautiful orchis. "Above all things have fervent love (*agape*) amongst yourselves: for love shall cover the



GATHERING VANILLA (*Vanilla aromatica*).

multitude of sins."* Love spreads the mantle of tender and invincible compassion over human frailty and corruption. It clears away those harsh suspicions, evil thoughts, and cruel slanders that, like noxious vapours, poison the moral atmosphere. It breathes forth in their place the pleasantness of good wishes, merciful judgments,

*1 Peter iv. 8.

long-suffering forbearance, and tender sympathy, for love thinketh no evil," "beareth all things, believeth all things, hopeth all things."* Thus "love completely covereth all sins."† In this cold world of ours it is known only as a rare exotic. Its native home is in a brighter land. It issues from the Eternal throne—for "God is love"—and fills with its fragrant beauty the realms of glory.

DEATH UNTO LIFE.



It is a striking feature in the natural world, that life, with all its glorious activities and beauties, seems to spring out of death and decay. Winter comes, the death of vegetation, the leaves wither, the flowers die, the woods become bare, and all the radiant beauty of summer fields is buried in the cold ground. But spring returns, and with it wood, meadow, upland, and brook burst forth into renewed life.

"From the green marge of lake and stream,
Fresh vale and mountain sod,
They come in gentle glory forth,
The pure sweet flowers of God."

Yet has not all this life of the new year been nurtured and produced by the very ingredients added to the soil in winter's decay?

Observe the life of many islands. At their birth they were bare rocks. Then the lichen came and fixed its slender film, bloomed, and withered, and left behind the first faintest indication of soil. Next came the moss, raising its slender stalk, soon to pass away, and add its tiny deposit of earth. Now the hardy fern appeared, springing up again and again in wild profusion, in its turn to die and replenish the ground. In time the very rock itself, under the influences of sun and shower, decayed and crumbled away, and rolled down in its ruin rich, fertile mould. The waves washed upon its shores cocoa-nuts, which during last year's storms they had snatched from some far-off beach—those travellers whose fragile bark is so wonderfully poised as to float in salt water and sink when it reaches fresh. The birds dropped over it in all directions the seeds which formed their often undigested food. Then came many a wild flower and many a stately tree. Centuries pass by, and out of this cemetery of Nature comes a glorious scene of life,

"Summer isles of Elen lying in dark purple spheres of sea."

We read the same lesson in the records of remotest ages, graven deep in the bowels of the earth. When the secrets of the mine are

* 1 Corinthians xiii. 4—7.

† Proverbs x. 12. This is the literal meaning, for the word which signifies "to cover" is here, in the Hebrew, in the *piel*, the strong intensive structure of the verb, which signifies the doing of anything much or well.

revealed, we see how its black veins consist of the buried ruins of vast forests and ferneries of stupendous growth and rank luxuriance. Singularly grand and beautiful were the lovely groves of that primal era. The markings or regular tracery on the stems of the plants led Hugh Miller to style this vegetation "the sculpturesque." He says, "In walking among the ruins of this ancient flora, the palæontologist almost feels as if he had got among the broken fragments of Italian palaces, erected long ages ago, when the architecture of Rome was most ornate, and every moulding was roughened with ornament; and,

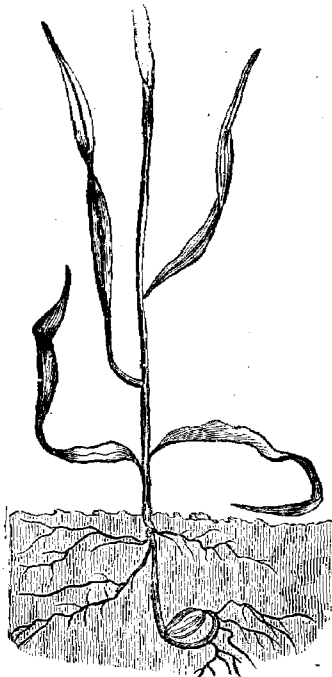


A FOREST OF THE COAL PERIOD.

in attempting to call up in fancy the old carboniferous forests, he has to dwell on this peculiar feature as one of the most prominent, and to see, in the multitude of trunks darkened above by clouds of foliage that rise upon him in the prospect, the slim columns of an elder Alhambra, roughened with arabesque tracery and exquisite filagree work." These age after age alternately flourished and fell, and were finally overwhelmed in periods immensely remote. Yet their destruction has given to man the coal which forms the very sinews of the wondrous life of commerce and art in these last days.

Underlying the whole order of Nature we see this important principle of **DEATH UNTO LIFE**. It is this very principle to which

our Saviour calls our attention in the most solemn and striking manner: "Amen, amen, I say unto you, except a corn of wheat fall into the ground and die, it abideth alone: but if it die, it bringeth forth much fruit."* Here the inspired figure is that of a seed of corn cast into the ground, which, when warmth and moisture reach it, decays and dies. Yet out of its death the mighty power of God calls new life." "First the blade, then the ear, then the full corn in the ear," yielding fruit in due season, "some thirty, some sixty, some an hundred-fold." There is a remarkable fact connected with the germination of wheat, which lends great force to our Lord's



GERMINATION OF WHEAT.

illustration, and which, I believe, has nevertheless escaped the notice of commentators. A grain or corn of wheat, when properly buried in the ground, like all other seeds sends forth roots which grow downwards, and a stalk which ascends. But when the stalk emerges from the earth, its first knot or joint is made, from which a leaf springs; and here a very peculiar feature may be noticed. As soon as the weather will allow, a second set of side roots are thrown out from this knot, "which act as the real feeders of the plant; *while the stalk and roots that are beneath speedily perish.*" This must occur in the case of all healthy wheat that is to bear "much fruit." The growth of these side roots, and the decay of all below them, is only found wanting where the grain has been too superficially sown, that is, has been allowed to fall *on* but not "*into* the ground," and under these circumstances it can never flourish. It is, therefore, literally true, in a remarkable manner in which it is not true

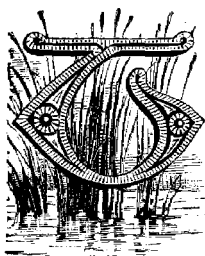
of most other seeds, that a "corn of wheat," in order to its proper and abundant increase, must actually die. If it were left to remain in the barn it would abide safe, but alone; but if it be cast to the earth, if it be buried and die, "it bringeth forth much fruit." "Just so," it is as though our Saviour would say, "except

* John xii. 24. The word "Amen," or, as it is translated in our version "verily," twice repeated by our Saviour at the commencement of some solemn declaration, only occurs in this Gospel, and here but twenty-four times. We may conclude that this doubly emphatic mode of speech, the well-known forceful Hebrew figure of Repetition, calls our attention in each instance, as with a trumpet-note, to truths of the deepest importance, and those, perhaps which men of themselves would be most likely to overlook.

I suffer you cannot be happy, except I die you cannot live. Were I to pass to My throne along an easy path of triumph, as you desire, man would remain unsaved, but if I die for you on the cross, I shall bring forth much fruit, both in the rich and abundant gifts I shall receive for men, and in the countless multitudes of the redeemed."

And as with our Lord, so also with His people. In the very next verse Jesus applies the principle equally to us: "He that loveth his life shall lose it; and he that hateth his life in this world, shall keep it unto life eternal. If any man serve Me, let him follow Me." Thus Christ calls upon us to be conformed to His sufferings, and points out that, in our case, too, the path of life and usefulness leads in every instance through "the valley of the shadow of death." Self must be slain, the flesh must be crucified, and we must die to the world if we are to bring forth much fruit. This is a hard saying for flesh and blood, and the disciples of Jesus have always been slow to receive it. Those who first heard it thus plainly taught had been but just before leading the acclamations of the crowd in proclaiming a kingdom of ease and glory, the while He Himself was weeping. Indeed, they had actually been disputing beforehand which of them should enjoy the most of its honours and emoluments, so reluctant are even the Lord's own people to take the way of the cross. But the success of apparent failure is one of the deepest and most glorious mysteries of the kingdom. Well for us if, like the Apostle Paul, who had truly learnt the Master's lesson, we too can say, "I die daily." If our work is to be fruitful, our attitude must be that which he has so plainly described—"always bearing about in the body the dying of the Lord Jesus, that the life also of Jesus might be made manifest in our body." *

THE WATER OF LIFE.



HERE is a tree somewhat resembling a Palm, but allied to the *Musa* or Banana family, known by the name of the Traveller's Tree, which grows in the Island of Madagascar, in hot and comparatively waterless regions.† It has a very handsome and regular appearance, the large leaves starting out like wings from opposite sides of the trunk, so as to resemble an extended fan. The stalk of each leaf rises immediately above the one below, and forms at its base a large cavity where a considerable quantity of moisture is collected and preserved. The thirsty native has but to raise his spear, and on piercing the thick, firm end of a leaf-stalk obtains a welcome and abundant supply of cool, pure, fresh water, even in the hottest and driest season of the year.

Christ the Lord is such a tree of life in the midst of earth's arid desert. Thus by the voice of the prophet He cried long ago, "Ho, every one that thirsteth, come ye to the waters;" ‡ and in the days

* 1 Corinthians xv. 31; 2 Corinthians iv. 10.

† *Urania speciosa*, or *Ravatala madagascariensis*. ‡ Isaiah lv. 1.

of His flesh repeated the gracious invitation, saying, "If any man thirst, let him come unto Me, and drink." * The weary traveller on life's way here may drink abundantly, "without money and without price." In calling us to Jesus, "the Spirit and the bride say, Come. And let him that heareth say, Come. And let him that is athirst come : and whosoever will, let him take the water of life freely." †



THE TRAVELLER'S TREE.

Well may our cry be that of the awakened woman of Samaria—"Sir, give me this water ;" for has He not declared, "Whosoever drinketh of the water that I shall give him shall never thirst ; but the water that I shall give him shall be in him a well of water springing up into everlasting life." †

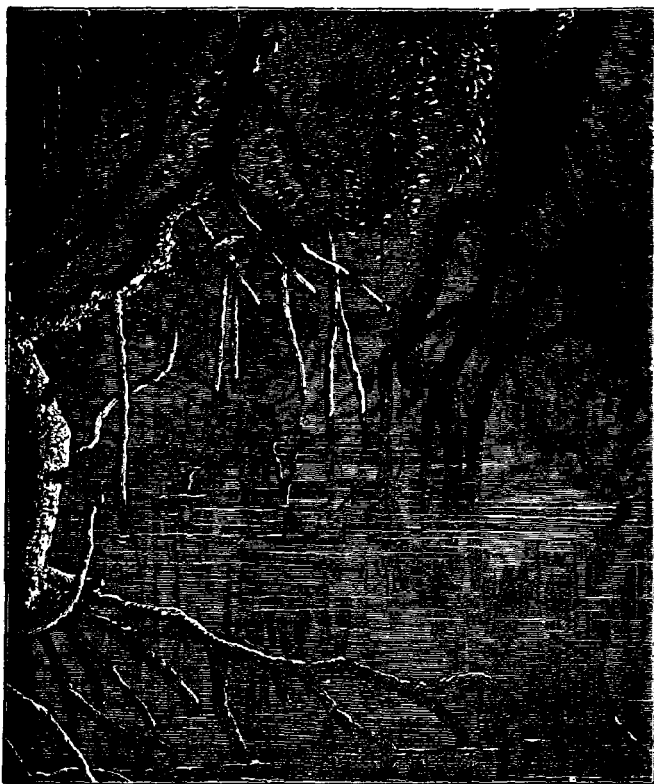
THE WORLDLY MINDED.



IN the forests of India is found a tree of the fig tribe called the Banyan. § All the branches of this tree naturally bend to the earth, and push their way downward. When they are long enough to reach the ground they take root, and soon grow into strong trunks, until in process of time the aged Banyan becomes chained to earth by ten hundred ties.

* John vii. 37. † Revelation xxii. 17. ‡ John iv. 14, 15. § *Ficus indica*.

There is another still more remarkable tree, possessing a similar property, the Mangrove, which frequents the mouths of tropical rivers.* Here, in the slimy mud brought down by such streams, and accumulated in loathsome marshes where they reach the sea, the Mangrove flourishes. Roots are being continually sent down from its branches, for, to use the language of a naturalist's graphic description, "Every bough lowers its own living cord to take fresh



A MANGROVE FOREST.

hold of the foul soil below." The original roots of the tree, which appears as if it were built on so many piles in the water, are constantly exposed in all their web-like ramifications at each low tide, and, together with those let down in countless numbers from the branches, all seem "one horrid complicated trap for the voyager." The odour arising from these roots when thus laid bare causes a ceaseless curse of deadly malaria to haunt the Mangrove forest. And as with these trees, so is it with the natural heart of man. All the sinner's affections and desires tend earthwards, and go out only towards the things of time and sense. If he is not early awakened

* *Rhizophora mangle*.

these take deep root and grow, and late in life his soul is bound by a thousand ties to this perishing world, and nothing short of a miracle



THE BANYAN TREE (*Ficus indica*).

of Divine grace can loose his fetters, or make him cease to wallow in the poisonous mire of earthly pollution.

FRUIT BROUGHT TO PERFECTION.



THE Sycamore, or common fig of Egypt, is a noble tree of wide spreading, giant branches, and no less gigantic roots. Just the tree which, when it over-arches the way, a man could easily climb into, as we are told Zaccheus did, and find there a safe perch of observation; just the tree whose "enormous roots—as thick, as numerous, and as wide-spread into the deep soil below as the branches extend into the air above"—render it the very best type of invincible steadfastness.* As its name implies, it is a *fig-mulberry* tree, partaking of the nature of both these members of the vegetable kingdom. Splendid specimens are to be met with in Palestine, but they are confined to the vales and lowland plains, for this tree must bask in the rays of the warm sun, and a severe frost will kill it.† By far its most remarkable feature, however, is the mode in which its fruit is borne and brought to perfection. It is essentially a "fruitful tree." The natives of Syria say that it bears seven crops a year! Most trees expose their fruit at the end of their branches, where it can be seen by every passer-by, framed and set off by the rich surrounding

* Luke xvii. 6; xix. 4.

† 1 Kings x. 27; Psalm lxxviii. 47.

foliage. Not so the Sycamore. All its small greenish-yellow or purple figs are borne on little leafless stems along the trunk and large branches, hidden below the encircling leafy boughs. But it has a still further peculiarity. At the end of each of its figs a drop of watery fluid is in the habit of forming, which, if it is not removed, entirely prevents the fruit ripening. The cultivation of this tree requires, therefore, that each fig should be lanced, or lacerated, to allow of the escape of this noxious matter. The way in which it is effected is by rubbing and slightly tearing the fruit, shortly before

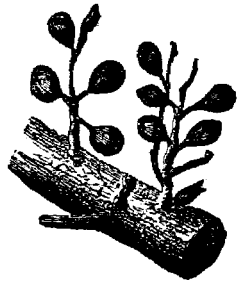


THE SYCAMORE TREE OF PALESTINE (*Ficus Sycamorus*).

the time it should ripen, with an iron comb, when, some four days afterwards, it comes to perfection. The prophet Amos, one of those humble ones whom the Great King delights to honour, was originally a poor peasant engaged in thus tending to the produce of this tree, for he tells us, as it is in the original Hebrew, "I was no prophet, neither was I a prophet's son: but I was a herdman, and a cultivator of Sycamore fruit."*

* Amos vii. 14.

What a striking image we have in this noble tree of those believers who glorify the Father by bearing much fruit, and so proving themselves Christ's disciples.* To the eye of man other trees in the forest of life seem in appearance far more productive than "the trees of righteousness." The good works of the one are all outwardly and ostentatiously displayed, and unlike the hidden "fruits of the Spirit," are such as can be seen and appreciated by every onlooker. While the life of mere professors is in no way injured by the deadly chill of a worldly atmosphere in earth's high places, the others, like "the Sycamore trees that are in the vale," only flourish in lowliness, and need to be constantly warmed by the love of God. And yet again in the ripening of the fruit we have a beautiful figure of the ways of God with man—those ways which are not as our ways, but are deep and wise—"ways past finding out!" How constantly, like "the cultivator of the Sycamore fruit," does He find it necessary to wound us for our highest good! How constantly, as all experience of the Great Husbandman's work teaches, He finds it needful to tear and lacerate our plans and purposes, our pleasures and pursuits, which would otherwise have been mingled with corruption, and could not have ripened aright! The iron comb, as it were, of some painful providence suddenly seems to rend the fruit that looked so fair. But even as we weep over failure, we are permitted to find amidst our tears that it was the great Cultivator's watchful solicitude that dealt the stroke; that even tribulation and loss are amongst the "all things" that work together for our good; and that under the sunlight of His mighty love, felt in trial as it is never felt before, the fruit we longed to offer, purged from impurity, has been truly ripened, not in our way, but in His.



FRUIT OF THE SYCAMORE.

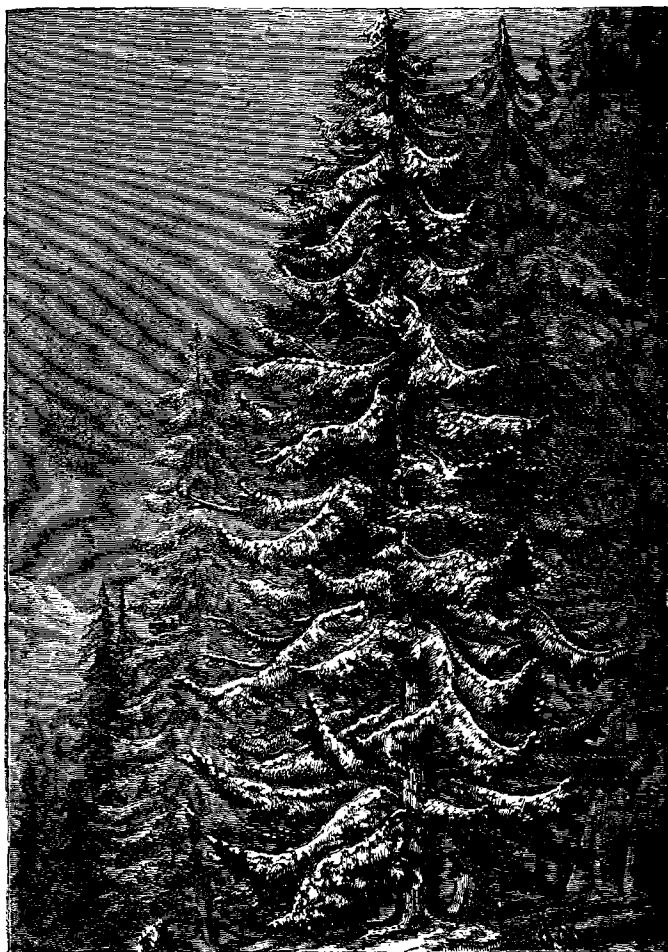
DIVERSITY OF GIFTS.



WE hear of evergreens in the burning tropics, and evergreens amid the snows of the bitter north. The lofty palm is the evergreen of the land of the sun. Its woody stem equally firm and pliant, unencumbered by a single branch, rises like a tall, slender mast, and it is thus enabled to withstand the whirlwinds peculiar to this region. At its summit it spreads out its rich crown of leaves, summer and winter. These form a huge and graceful parasol, by which, not only its own fruit, but also the growth of the ground below is shaded from the fierce rays of the cloudless sun. The grand and sombre fir-tree, on the other hand, which lives in the north amid ice and snow, branches close to the ground, and roof-like drops its boughs

* John xv. 8.

at their extremities, exposing its fruit above to every glimpse of sun, and from its form allowing the ponderous snow, which would otherwise crush it, to glide down off the smooth polished leaves. One has well said, "If the palm were a pyramid like the pine, it would fall before the first storm of the tropics; if the pine were tall



FOREST OF PINES.

and shaped like a broad parasol the snow and ice of the north would break it by their heavy weight. Yet both the burning tropics and the arctic zone have their evergreens. At the south it is the towering palm that protects with its gigantic leaves all that lives against the fierce heat, and lets the ground be covered with green creepers and countless ferns, to keep it fresh and cool. At the north it is the dark pine whose lofty dense pyramid and ample branches

covered with ghastly moss, protect in like manner the ground underneath, so that the reindeer and man may find there abundance of soft dry leaves, and thick layers of downy mosses."

Behold in this illustration how Almighty God makes use of very different agents to carry out the self-same work—namely, that of extending the protecting shelter of Divine redeeming love to a lost world. It may be seen from the very first. Now He sends forth simple fishermen just as they have risen up and left their humble employ; and now, on the same errand, He commissions Saul, the learned and trained rabbi. Matthew, the despised tax-gatherer, and Luke, "the beloved physician," both have their place in the same



PALM GROVE.

work. Bunyan, the rude and illiterate tinker, and Lady Jane Grey, the refined and cultured noble, were equally His instruments to the one great end. And not only do natural parts thus widely differ amongst the true servants of God, but also spiritual gifts. The apostle Paul devotes the whole of the twelfth chapter of the first epistle to the Corinthians to this subject. One, he says, has more especially the word of wisdom, another the word of knowledge, another faith, another gifts of healing, &c. : "But all these worketh that one and the self-same Spirit, dividing to every man severally as He will." This is a deeply important truth. We are all exceedingly apt to misjudge or undervalue those whose gifts or graces differ from our own; and we do well to lay to heart that there are "diversities of gifts, but the same Spirit; and there are differences of ministries, but the same Lord."*

P O M P.



FTEN men of the world appear to make a very favourable show, and seem, to the sad discouragement of some of the Lord's people, to be bright and prosperous. The reason is that sin is abroad, and has wrapped the world in the impenetrable gloom of a long night. On account of this it is hard to distinguish clearly the

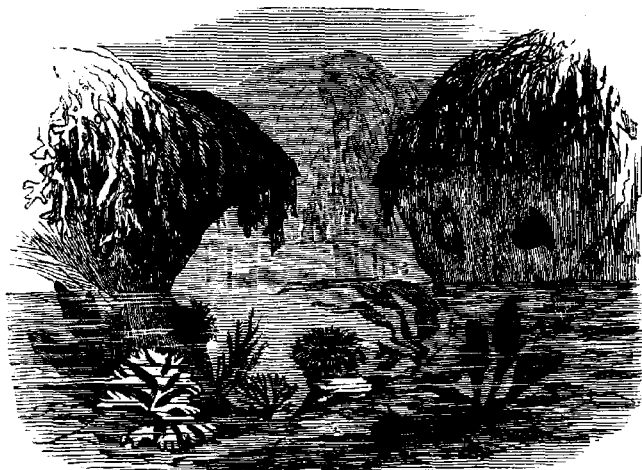
* 1 Cor. xii. 4—18.

true character and position of all that surrounds us. In some dark wine cellars you are lost in admiration of the brilliant shining of a myriad lights of dazzling brightness. The pillars are wreathed with sparkling gems, and rich festoons of starry scintillation hang around the vaulted roof. The light is not strong enough to show the defilements of the place, but sufficient, when one has been for some time buried from the day, to make the whole spot gleam like an enchanted palace. Let in, however, a single ray of the sun, and you see that what you have so much admired is only a foul, unsightly fungus that clings to the mouldy and discoloured wall.* And so with all who seem fair and bright in a world at enmity with God. Like David, in that experience of which he tells, when tempted to be "envious at the foolish," we must bring these gay and careless ones into the light of the sanctuary. In that light we shall behold them in their true colours.†

PIETY UNOSTENTATIOUS.



HOSE who are familiar with the life of the ocean tell us that the plants called sea-weeds, when they live near the surface of the water, are green. Those which are observed in lower beds of the sea assume deeper shades of rich olive. But down in the depths still below, far removed from the glare of day, where no human eye can see, and scarcely a



SURFACE FLOWERS OF THE SEA.

* *Rhizomorpha*. This curious genus of fungi are so called from their having the appearance of a root of a tree. The different species, of which *Rhizomorpha medullaris* is the most common, are found in damp cellars, old walls, mines, and subterranean places generally, where they sometimes, though not always, acquire their phosphorescent, shining state. It is supposed that they have their origin from decaying wood buried in the ground,

† Psalm lxxiii. 2-20.

ray of the sun can reach, the flowers of ocean are clothed with hues of splendour. For there

"The crimson leaf of the dulse* is seen
To blush like a banner bled in slaughter."



THE DULSE AND OTHER SEA-WEEDS OF THE DEEP.

It is thus with the believer. His surface qualities may not be so generally attractive. Gravity, sobriety, and earnestness, often mingling with human defects of character, may seem lacking in beauty. True piety is in its very nature unostentatious, and its fairest features lie deep. Look below; fathom the man; gaze into the clear, tranquil depths of his sincere heart, and you find increasingly richer and brighter traits.

PRESERVATION OF LIFE.



WHILE the design of an all-wise and superintending Personal Will can be traced in the whole order of creation, it appears in nothing more plainly than the means employed for the preservation of plant-life. Amid a countless number of contrivances, let us glance at one or two which may be observed in our own English meadows. Take, for instance, the poppy. Its rich crimson petals, or flower-leaves, are very tender and delicate, and therefore less able than

and some have traced them to tan-pits. So strongly do they resemble the roots of trees with their numerous and branching fibres, that, but for their musty smell and cellular organisation, they might be easily mistaken for the former.

* *Rhodomenia palmata*. *Rhodomenia* comes from two Greek words, the one meaning "red" and the other a "membrane." In shape it resembles the palm of a hand with the leaves growing out from it like so many fingers. It is much eaten as food by the poor classes of the Scotch and Irish, and the Icelanders collect a white powder, which forms on it after it has been dipped in spring water and dried, and which is used by the rich as a kind of flour. So fond are cattle of it that sheep will often lose their life by being caught and washed away by the tide when they have gone far from home to seek it on the shore. Hence it has been called "Sheep's Dulse."

those of many other plants to protect the precious seed vessels that lie enclosed at their foot, and which it is the peculiar office of the petals to nourish and safeguard. While, however, the poppy is growing the flower-head may be invariably observed to hang down. This is occasioned by a rigid curve in the upper part of the stem, which thus keeps the bud in a bowed position, so that no violent rain can penetrate it. But when the head has reached its full size, and is about to open, "the stalk erects itself, for the purpose, it would seem, of presenting the flower, and with the flower the instruments of fructification, to the genial influence of the sun's rays." This property is



LONG PRICKLY-HEADED POPPY
(*Papaver Argemone.*)

rendered the more curious if we consider that the stem is not bent in its earliest stage by the weight of the flower-head, or otherwise it would not straighten itself when the blossom is at its heaviest. It is a most striking provision, in the very constitution of the plant, to promote this principal object in Nature, the maturing and preserving the seed or germ of life.

Take again the Meadow saffron, or Autumn crocus, one of the latest flowers of the year. Dr. Paley tells us:—"I have pitied this poor plant a thousand times. Its blossom rises out of the ground in the most forlorn condition possible; without a sheath, a fence, a calyx, or even a leaf to protect it; and that, not in the spring, not to be visited by summer suns, but under all the disadvantages of the declining year. When we come, however, to look more closely into the structure of this plant, we find that, instead of its being neglected, Nature has gone out of her course to provide for its security, and to make up to

it for all its defects." In other plants the seed-vessels are to be found within the cup formed by the flower petals, or else just below it, but in the Meadow saffron they lie about twelve inches under the surface of the ground, buried within the deep bulbous root. Thus the tube of the blossom, which in most flowers is not more than the third of an inch in length, in this case reaches right down to the root, and is about a foot long. These remarkable features are given for the preservation of the plant's life. It flowers so late in the year that its seeds, if borne in the usual way, could not ripen before the cold would come and destroy them. But being thus laid deep down

below the reach of frosts, as soon as the process of impregnation is over, the seed-germs, instead of being exposed above ground to the cold weather which now sets in, are slowly and artificially ripened in their secure resting-place during the course of winter. Though it may at first sight appear strange that this can take place when the temperature of the air is so low, it must be borne in mind that there is much warmth stored up during summer in the soil at the depth where they lie buried. Another difficulty remains to be overcome. Seeds, though brought to perfection, it is well known cannot vegetate at the depth of some twelve inches underground. An admirable provision meets this need, and raises them to the surface. "The germ grows up *in the spring* upon a fruit-stalk, accompanied with leaves. The seeds now, in common with those of other plants, have the benefit of the summer, and are sown upon the surface. The order of vegetation is this:—the plant produces its flowers in September, its leaves and fruits in the spring following."



MEADOW SAFFRON (*Colchicum autumnale*).

These are only two instances, chosen out of a countless number equally marvellous and beautiful; and, again, to use the words of Paley, "The result is, that out of the many thousands of different plants (they are now estimated at over 100,000), not a single species, perhaps, has been lost since the creation."

Truly "the Lord is good to all; and His tender mercies are over all His works!"* But does God take such care of "the grass of the field," the wild flowers of the meadow? Does He thus wondrously preserve their fragile forms from age to age, and will He leave His people to perish? Away, then, with our unworthy fears! Well may we mark with natural delight the ingenious, the wonderful workmanship of these links in the chain of that life which forms

"A flowery band to bind us to the earth."

But surely we may go further than this, and draw from deeper sources than those of mere earthly pleasure. What child of God can

* Psalm cxlv. 9.

fail to hear afresh the voice of Jesus ringing down the centuries of time with that cheering enquiry, so full of our Heavenly Father's tender solicitude, "Are ye not much better than they?"*

GROWTH IN GRACE.



THE Early purple orchis † of our English meadows may be seen every year to throw out a new bulb, or tubercule, always on the side towards the south, by means of which it changes its position, and little by little constantly advances in that direction. While one tubercule is dying another is being formed, and the stem rises each Spring-time from a point between the two. Thus it may be observed steadily travelling on to the bright home of this family of flowers in the tropics—the cloudless land of the sun. Just so the soul that has heaven for its home patiently grows heavenward, and each year throws out thither, as it were, new roots of holy affections. It grows in grace, growing up "into Him in all things, who is the Head, even Christ." ‡ It journeys slowly, it may be, but steadily onward to the land of its rest, where Jesus, the Sun of Righteousness, shines in unclouded glory.



EARLY PURPLE ORCHIS.

SOARING HEAVENWARD.



HERE is a grass, a kind of millet, the stems of which are seen to shoot up in the tropical forests of India. § They are scarcely thicker than stout straws, and seem but poor, weak, insignificant things among the grand forms and gorgeous beauty of the surrounding growth. But watch them and you will see that with great rapidity and strength they continue to rise up higher and higher. Presently they reach the boughs of vast trees, but pushing their leaves aside they pass

* Matthew vi. 26. † 2 Peter iii. 18; Ephesians iv. 15. § *Panicum arborescens*.
 ‡ *Orchis mascula*. The country folk call it *King finger*. It blossoms in May and June. There are in this country a number of species of the orchis

onward and upward. Now they have mounted over the summit of the highest branches, and there, above all the trees of the forest, they spread their flowers like some rich meadow far in the upper air! Is not this a striking figure of the followers of Christ? Judged by the world's standard they do indeed appear poor and weak in comparison with the pomp and show around them. There is often little of outward beauty or strength to mark their earthly way. Their flowers cannot flourish nor their fruits ripen in the fields below. Truly their "citizenship is in heaven." With wondrous power, despite all obstacles, they pursue their upward way, soaring over the heads of their fellow-men; in affections placed higher, in aims more exalted, and in a loftier moral elevation, and, earth left behind, they rise to enjoy "spiritual blessings in heavenly places in Christ."

AFFLICTION'S GOOD.



WHEN a blade of wheat springs up, and all is promising well, sometimes the wheat-fly pierces it, and lays its eggs within. Then the grubs come out, and devour it all. Now we might suppose that with its only stem thus nipped in the bud the wheat would be destroyed. But not so. The seed-corn possesses an inherent power of recovery, and what at first seems fatal to its fruitfulness proves to be for its greatest good. The plant, by the death of its first shoot, has time for its new side feeders to become more firmly established in the soil; and in the place of the one ear that was destroyed, from its stronger root, now puts forth many.†

It is often thus in the life of the Believer. All his plans and purposes, perhaps even his powers of life, are suddenly undermined. God in mercy sends a worm, as He did to Jonah's gourd; then it withers away in a night, and all seems lost. But not so. He who has "the root of the matter" in his heart, finds that root of faith and love now rendered stronger and firmer by the painful process. Moses was far more fit for his mighty work after forty troubled years of disappointment and humiliation, spent as a humble shepherd in the lonely deserts of Midian, than upon the morning of that day when he first essayed his people's deliverance with all the prestige of Egypt's royalty. David, hunted as a part-ridge on the mountains, and reduced almost to despair, was nearer the throne of honour than when he formerly dwelt at ease, the flattered favourite of Israel's king. Peter indeed thought himself well able to defend his Master on that evening, when, moved by love, zeal, and courage, he uttered the eager resolve, "Though all men shall be

order. All these plants are travellers, and some progress far more rapidly than the Early purple orchis. For instance, the rare Musk orchis (*Hermynium monorchis*), instead of forming its new tuber close to the old one, produces it at the end of a fleshy fibre, at some little distance from the parent plant.

* Eph. i. 3; Phil. iii. 20. † Fully to understand this property of wheat, the mode of its germination, as explained on page 20, should be borne in mind.

offended because of Thee, yet will I never be offended." But the night of failure, shame, and anguish that followed his self-confident cry, and the after-days of darkness left him a wiser, stronger, braver man. The witness he wanted to give to Christ on earth he was able to give to Christ in heaven. He, who had once quailed in the presence of a maidservant, bore a fearless testimony to his Saviour before that very court which had crucified Jesus, and was openly bent on the destruction of His followers. The lives of most of God's eminent servants have been alike trying and eventful. The Divine rule of promotion is, "As many as I love, I rebuke and chasten."* The reason for this is given by the Apostle Paul, and it serves to solve much of the great mystery of pain: "Tribulation worketh patience; and patience, experience; and experience, hope." "No chastening for the present seemeth to be joyous, but grievous: nevertheless, afterward it yieldeth the peaceable fruit of righteousness unto them which are exercised thereby."† In God's good time the blighted purposes and disappointed life prove a tenfold increase of true spiritual fruitfulness, which could not have been otherwise attained.

THE ROUGH MADE SMOOTH.



OST thorns on trees and plants are really buds, which, under higher cultivation, and more favourable circumstances, would have become fruitful branches. Such are the sharp and formidable thorns of the May or

Hawthorn,‡ which, in its wild state, so well fit it for forming a hedge; and also those of the wild plums of our English waysides and copses, the Sloe,§ and the Bullace.|| Under careful culture these thorns all disappear, for proper food and training put an end to the arrested growth, which was the cause of their existence. Even that troublesome little flower, the Rest-harrow, which in wild and uncultivated land is covered with sharp and considerable thorns, when growing in rich corn-fields puts forth larger leaves, and loses all its spines.¶

This affords a striking emblem of the powers of man. Uncultivated, and in their natural state, these are, too often, but barren, wounding thorns. Take one of earth's busy toilers, who is possessed of much natural prudence, energy, and perseverance—germs of a noble character. And yet, when the growth of his soul has been stunted, you shall see him early and late toiling only for gain, till his heart becomes utterly cold and selfish, and the whole manner of

* Rev. iii. 19; Heb. xii. 6.

† Rom. v. 3—5; Heb. xii. 11.

‡ *Crataegus oxyacantha*. § *Prunus spinosa*. || *Prunus insititia*.

¶ *Ononis spinosa*. The name, Rest-harrow, is given because its tough, trailing roots, and numerous rough branches, hinder respectively the progress of plough and harrow. The same peculiarity may be well observed in the cases of the pear tree and the sloe, but best of all in the common hawthorn, whose sharp spines may be constantly observed in every stage of their alteration into branches.

the man sharp, hard, and thorny. But it has been well said, "The love of money is the love of God run wild." Let this man be brought under the power of Divine grace, transplanted from the sterile fields of Mammon into the garden of God, and the wisdom, diligence, and untiring zeal of the worldling find a new and holy



REST-HARROW.

direction. The true man, the ideal man of God-likeness develops, the harsh life becomes gentle, and the hard spirit is softened to sympathising and unselfish love.

THE GAY AND WORLDLY.



DURING Mr. Arnold's travels in the Island of Sumatra, he discovered in the depth of its forests the largest and grandest flower that is yet known, and which now bears his name, the *Rafflesia arnoldi*. When his native servants called his attention to this flower growing in the jungle, close by their path, which they appropriately called the "Wonder-wonder," he beheld a blossom that measured more than three feet in diameter. Its enormous petals were of a bright red colour, and covered with yellow spots. The nectary—in this case a low rim at the base of the petals—formed a cup which would hold twelve pints of water. He might well have supposed that he had found some new gigantic plant, of which this formed the bloom, but, on carefully examining it, to his great surprise, it appeared to possess neither root, stem, branch, nor leaf. It belonged to that rare order of plants, of which a few other species are known,

whose members consist mainly of one organ—a flower springing up as a parasite on the low branches of some forest trees.*

The gay and worldly are just like this seemingly splendid plant. They indeed make a grand display. Judged according to the outward judgment, they are very bright and happy, but look closer, and



THE RAFFLESIA ARNOLDI.

you find that there is nothing real and solid behind. "Surely every man walketh in a vain show." † Take away the careless gaiety, the surface pleasures and pomps, and there is nothing left. Of this utter emptiness, well has the wise man said, "Vanity of vanities, vanity of vanities ; all is vanity." ‡

CHILDREN OF THE LIGHT.



LOWERS, when deprived of the rays of the sun, lose their bright colours, and become pale and dim, for they are "air-woven children of light." This is commonly seen in the sickly, colourless shoots that are put forth by bulbs when kept in a dark cellar, and also in the fact that the night-blowing plants are for the most part pale and unattractive. It is seen, too, in the flowers of Sea-island cotton, § which change their tint three or four times a day, passing from a pale yellow to a pink hue, according to the heat of the sun. It is said to be observed still more remarkably in a tree about the size of a

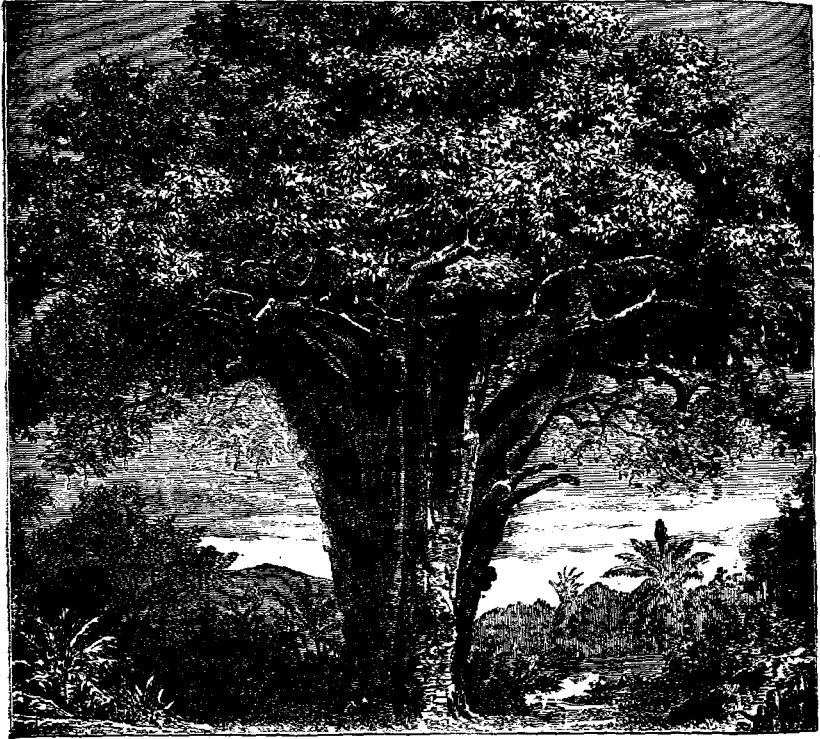
† Psalm xxxix. 6.

‡ Ecclesiastes i. 2.

§ *Gossypium barbadense.*

* Strictly speaking, this plant has a very small root, by which it attaches itself as a parasite to the bark of a large vine (*Cissus*), and also a tiny stem, but both are entirely hidden by and altogether out of proportion to the enormous flower. It belongs to that curious tribe of parasites known as *Rhizogens*;

cherry, growing in the island of Loo-Choo. The red blossoms of this tree, which resemble those of our common rose, are so enamoured of the solar ray that they fade to the whiteness of the lily when exposed for a few hours to the shade. On the other hand, all Nature takes grander and brighter forms in the tropics. To use the words of Humboldt, "The carpet of flowers and of verdure spread over the naked crust of our planet is unequally woven; it is thicker where the sun rises in the ever cloudless heavens, and thinner towards the



THE BAOBAB TREE.

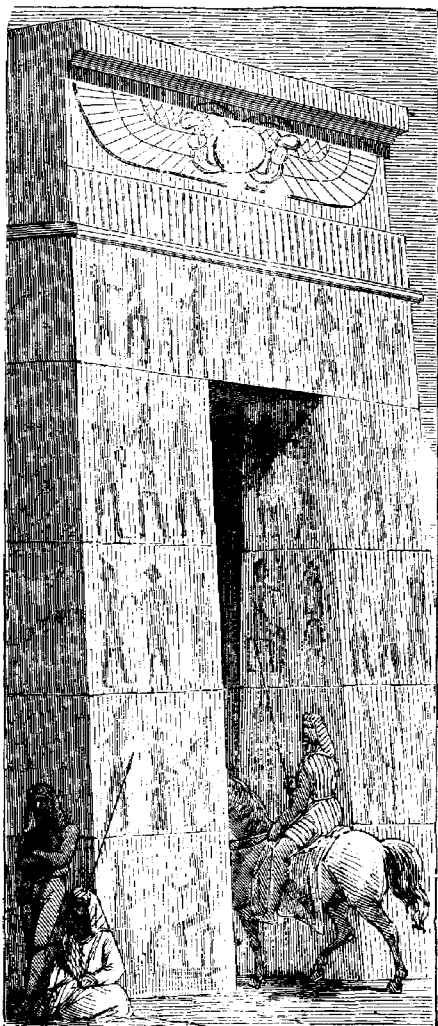
poles." The oak, the monarch of our forests, is dwarfed beside the Baobab of Senegal in West Africa, the largest known tree in the world, whose "huge trunk looms against the sky like a rock; the most massive buttress with which human hands ever sought to strengthen a palatial building is but as a reed when compared with

is entirely confined to the islands of Java and Sumatra; and even there is rarely to be found. It appears only at the end of the rainy season, and takes three months from its earliest appearance to reach maturity. It rises in a crack or hollow of the stem of the *Cissus*, and when it is first seen looks like a round knob. While in this stage it is surrounded by sheaths or bracts, which enfold the infant flower. These, however, quickly wither away, so that when the blossom is fully expanded they have all disappeared.

it." It attains a circumference of over a hundred feet. Its branches are like ordinary forest trees, and spread a thick shade across an enormous area. There the trees do not grow close together in groves of one species, but single specimens of huge proportions occur at wide intervals, interspersed with a mighty impassable net-work of monstrous creepers, while every inch of ground is covered with a tangled and luxuriant undergrowth. The very ferns in the dark depths of these pathless thickets reach a height of forty feet. The leaves of most of the plants are of immense size, and this teeming vegetation is green all the year round. Beside the blossoms which rise below, gorgeous orchids, of more than three thousand varieties, festoon the rotten branches overhead, and form a magnificent aerial garden. Their trailing flower-stems hang down in some instances to a length of twenty feet, covered throughout with such a mass of bloom that they appear like pieces of enormous rainbow-hued cables. In addition to these, numerous climbing plants, such as those described by a great naturalist, "in their haste to reach the light and heat, twist themselves around the tall forest trees so as almost to strangle them, scarcely putting out a leaf till they reach the level greenery of the tree-tops, two hundred feet above the ground, and then they burst forth into such a sea of perfume and colour as cannot be described." Here, too, departing from the uniform habit of the sober trees of temperate climates, the tall denizens of this leafy paradise, like the violet blue-flowered *Paulownia imperialis* and the delicate pink-blossomed Tulip-tree, possess an inflorescence as gorgeous as that of the humbler plants at their feet, and appear magnificently beautiful in contrast with the dark surrounding foliage. Mr. Wallace, it is true, tells us of tropical South America, that for brilliancy of masses of colour there is nothing to vie with the wild flowers of this and other temperate lands. But then he is careful to add, that, in the mighty contest for life that is ever taking place in the region of the Amazon the rule is complete diversity, and the absence of grouping of any kind,—that very grouping which gives such brilliant patches of colour to our English fields and woods. This fact itself is only another evidence of that boundless vitality, producing a ceaseless struggle for existence, with which vegetable life is ever proceeding in the tropics. There the very animals are of greater size and strength, the birds of richer plumage, the trees and flowers are larger and lovelier, grow more luxuriantly, and are laden with a stronger perfume. And all are thus because they enjoy constantly the direct, perpendicular, unclouded rays of the orb of day.

This truth was familiar to the heathen world. Over all the pylons, or gateways, of Egypt's sultry temples, at the summit of the edifice, and reaching across its full width, stands a figure of the sun with outstretched wings, which they worshipped as the source, centre, and sustaining power of all life. At and for some time before the age of Malachi the Jews had settled in large numbers in the land of the Pharaohs, and must have become most familiar with this image of the rising sun and its symbolic meaning. It was no doubt in allusion to this part of Egyptian mythology that the prophet exclaims, "Unto you that fear My name shall the Sun of Righteousness arise

with healing in His wings."* The soul that has found God will wither without the presence and love of Christ. If it is to flourish, it must be ever basking in the healing rays of the Sun of Righteous-



PYLON, OR GATEWAY, OF EGYPTIAN TEMPLE.

goat's-hair tents of Bedawin Arabs, in Christ they are "comely as the curtains of Solomon," the splendid, flower-embroidered hangings of Judah's royal palace. †

But our subject sets before us yet another illustration. It is a well-

ness, full in the cloudless shining of His light, Who is "the true light, which lighteth every man that cometh into the world," and Who says of dying men, "I am come that they might have life, and that they might have it more abundantly." ‡

The whiteness of the sun's light is composed of separate rays of all the tints of the rainbow, as we observe when it is broken up and divided into its brilliant component parts in a glass lustre or prism. Modern science teaches us that the crimson colour of a rose is not in the rose itself, but consists alone in the flower's property of picking out and reflecting back the crimson ray that mingles in the sun's white light. And this applies to all flowers of every hue. Their beauty is not their own; it is wholly due to the colours which emanate from the sun itself. So is it with the people of God. They have no grace in themselves, but all their comeliness, like that of flowers, is drawn from their Sun. Though "black" in self, as the dark, weather-worn,

* Malachi iv. 2.

† John i. 5-9; x. 10.

‡ Song of Solomon i, 5.

ascertained and most important function of leaves to keep up the purity of the atmosphere. A deadly poisonous gas, called carbonic acid gas, is being continually breathed into the air by man and animals, and given off by mineral waters, volcanic fissures in the earth, and all the various processes of combustion. This source of poison would spread death and destruction throughout all animal life, were it not decomposed by the leaves and green parts of plants under the influence of strong light. Carbonic acid gas consists of a combination of carbon and oxygen. Foliage, when the sun shines upon it, is found to absorb the carbon, and liberate and give out the oxygen



A TROPICAL FOREST IN BRAZIL.

gas, the life-giving element of the air necessary for breathing. Now, it has been observed, with regard to this, "that plants of warm climates, with large evergreen leaves, and under the blaze of a tropical sun, contribute to supply the pure air to other regions, where the leaves fade and the light is deficient. Liebig says:—"The proper, constant, and inexhaustible sources of oxygen gas are the tropics and warm climates, where a sky seldom clouded permits the glowing rays of the sun to shine upon an immeasurable luxuriant vegetation. The temperate and cold zones, where artificial warmth must replace the deficient heat of the sun, produce, on the contrary, carbonic acid in super-

abundance, which is expended on the nutrition of tropical plants. It is only during light that leaves have their decomposing power; during the night no such process goes on; and if they are kept long in darkness, leaves lose their green colour, become pale, sickly, and deteriorate the air.*

And thus it is with the children of the Light. When the Sun of Righteousness shines upon them they are strengthened and blessed, that they in turn may be a blessing to the world. That world, which lies in darkness, is full of a poisoned moral atmosphere. Again, to use the words of Professor Balfour: "So long as the people of God are in His light, they are green and vigorous; and they are made the means in His hand of purifying the spiritual air. They make their light shine before men, that others, seeing their good works, may glorify their Father who is in heaven. Their presence on the earth is made by God the reason of His sparing the inhabitants thereof. Ten righteous would have saved Sodom.† How little does the world think of what it owes to the despised people of God! Of themselves, however, they can do nothing: it is only in the light of Christ. If left in darkness they would pollute the atmosphere." It was with a view to impressing upon His people this glorious position amongst their fellow-men, and the solemn responsibility attending the bestowal of His grace, that He declared in His first recorded sermon, "Ye are the salt of the earth." If we walk in the light of God we must of necessity spread abroad His life, and be ceaseless and fruitful sources of purification to the world. Thus light and life are freely given to the saints, in order that they may impart salvation to others.

TIME.



AMIDST the countless varieties displayed by plants, a very interesting feature is the different hours of the day at which their blossoms unfold and close with considerable regularity. The great botanist, Linnæus, appears to have been the first to make use of flowers to form a clock. The reader will find on the next page an attempt to represent this idea in the picture of a floral dial, where each hour is marked by the opening and closing of one of our familiar English wild flowers. Here the morning hours are shown by the Yellow goatsbeard awaking at 3 a.m., the blue Wild chicory at 4 a.m. the yellow Common nipplewort at 5 a.m., the golden Buttercup at 6 a.m., the White water-lily at 7 a.m., the Scarlet Pimpernel and the rarer Proliferous pink at 8 a.m., the golden Lesser celandine at 9 a.m. The Common nipplewort closes at 10 a.m., the white Common star of Bethlehem opens at 11 a.m., and the Yellow goatsbeard closes at 12 a.m. In the afternoon the Proliferous pink closes its petals at 1 p.m., the

* Professor J. H. Balfour's "Botany and Religion," p. 127. † Genesis xviii. 32.

Scarlet pimpernel at 2 p.m., the yellow Rough dandelion at 3 p.m., the Wild chicory at 4 p.m., and the White water-lily at 5 p.m., the white Nottingham catchfly opens, full of fragrance, at 6 p.m., and the elegant yellow Evening primrose at 7 p.m. There is reason to believe that every minute of the day may be thus marked by the opening or closing of some one or other of the 100,000 species of the vegetable kingdom. The times I have given are of course only approximately accurate, but I have followed the most careful student of this subject, Professor Balfour.



A FLORAL DIAL, OR FLOWER CLOCK.*

Very suggestive is this floral record of the flight of time. Surely, gaze where we will upon these "scriptures of the earth,"

"A flower is not a flower alone; a thousand thoughts invest it."

Our floral dial, though ever attractive, breathes forth its sweetest fragrance as it marks the hours of evening and night. † This is in keeping with the lowly and retiring character of most odorous flowers. We observe a similar feature in those that bloom by day. The violet

* The wreath of flowers has been printed thus lightly in order that those who desire to do so may colour it. This will be an interesting exercise for careful young people. The colour of each flower is given in the Appendix, and also the botanical name of each plant, by which it may be looked up and copied from large illustrated works giving all the Wild Flowers of Great Britain, such as Sowerby's *British Wild Flowers*. † See Appendix.

hides its sweet blossoms; and the lily of the valley, the most exquisitely perfumed of all our English wild flowers, is often entirely concealed beneath its leaves. Thus the most fragrant and agreeable characters seek retirement, and least affect the garish light of day. "God giveth grace to the humble."* It is with these the Most High intimately dwells, and they are growing in likeness to the amiable disposition of Him who said, "Learn of Me; for I am meek and lowly."† Life's hours are nowhere marked by sweeter influences than during the gloaming of obscurity and the night of sorrow.

May we not also compare the ever bright succession of bloom on the flower clock to the opening and closing of each new delight that meets us on the path of life. Most men are like children, intoxicated with joy on their first visit to the fields in spring, who seek only to fill both hands, and sit idly down to weave fading garlands, altogether heedless of declining day. But to the wise, pleasures, like the flowers, as they come and go, mark the flight of time, and point to preparation for the evening of life.

APPENDIX.

A FLORAL DIAL.

This representation is that of a Floral Dial, or Flower Clock, composed of English wild Flowers. It is arranged on the well-known principle of the regular rest, or sleep, which is taken by plants every twenty-four hours. A flower in this wreath when shown open opposite to any hour indicates that the flower regularly opens at that time. A flower closed shows that the adjacent hour is that at which it closes. When, as from three o'clock to seven o'clock, there are two flowers placed opposite to each hour, one of the flowers indicates the morning and the other the evening hour. At eight o'clock, however, both Scarlet Pimpernel and Proliferous pink tell by their opening the morning hour. Care has been exercised to choose, where it was possible, the more familiar flowers, and in each instance those which are most regular. A far brighter and more striking group might be given, but, like many an elaborately ornamented timepiece, it would not be so faithful a monitor of the passing moments as the more sober and less decorated dial. The prevailing colours of English native flowers are well shown on this wreath; yellow being most characteristic of the bloom of our islands, and next to yellow, white. Pink, though rarer, is far more common than blue; while scarlet has only two representatives in the whole country—the pimpernel and the poppy. Another characteristic feature of flowers in general is displayed on the dial. The Nottingham catchfly, and the Evening primrose—which are the flowers opening in the evening—are far more sweetly and powerfully perfumed than any of the rest. Most night-blowing flowers like these two are highly fragrant, and in this way attract those insects, which, by bearing the pollen of one blossom to the pistil of another, carry on the process of plant fertilisation. The flowers that bloom by day draw the bees and butterflies by their brilliant hues; while those that open at or after dusk, which are usually pale and colourless, are mainly dependent upon their sweet odours for attracting moths that fly by night.

NAMES OF THE FLOWERS ON THE DIAL.

Yellow Goatsbeard, or Noontide (<i>Tragopogon pratense</i>)	Yellow	Opens at	III. o'clock	a.m.
Wild Succory, or Chicory (<i>Cichorium intybus</i>)	Light Blue	"	IV.	" "
Common Nippewort (<i>Lapsana communis</i>)	Yellow	"	V.	" "
Buttercup (<i>Ranunculus bulbosus</i>)	Bright Yellow	"	VI.	" "
White Water Lilly (<i>Nymphaea alba</i>)	White with Orange Centre	"	VII.	" "
Scarlet Pimpernel (<i>Anagallis arvensis</i>)	Scarlet	"	VIII.	" "
Proliferous Pink (<i>Dianthus proflifer</i>)	Dull Pink	"	VIII.	" "
Lesser Celandine (<i>Ranunculus ficaria</i>)	Bright Yellow	"	IX.	" "
Common Nippewort (<i>Lapsana communis</i>)	Yellow	Closes at	X.	" "
Common Star of Bethlehem, or Lady Eleven O'clock (<i>Ornithogalum umbellatum</i>)	White with Pale Green Stripes	Opens at	XI.	" "
Yellow Goatsbeard (<i>Tragopogon pratense</i>)	Yellow	Closes at	XII.	" "
Proliferous Pink (<i>Dianthus proflifer</i>)	Dull Pink	"	I.	p.m.
Scarlet Pimpernel (<i>Anagallis arvensis</i>)	Scarlet	"	II.	" "
Rough Dandelion (<i>Leontodon hispidum</i>)	Yellow	"	III.	" "
Wild Succory, or Chicory (<i>Cichorium intybus</i>)	Light Blue	"	IV.	" "
White Water Lilly (<i>Nymphaea alba</i>)	White	"	V.	" "
Nottingham Catchfly (<i>Silene nutans</i>)	White	Opens at	VI.	" "
Evening Primrose (<i>Oenothera biennis</i>)	Light Yellow	"	VII.	" "

In the centre of the Clock is a Daisy, White with Yellow centre.

* James iv. 6.

† Isaiah lvii. 15; Matthew xi. 29.