











Palm on Mountain









THE  
PALM TREE.

By

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WITH ILLUSTRATIONS BY THE AUTHOR.



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THERE is a stream whose troubled breast  
Beareth to eternal rest  
Countless vessels on its wave  
Speeding daily to the—grave!  
Varied form and varied size,  
Varied as their destinies.  
Ships of war with stately pride,  
Ponderous colliers float beside,  
Pleasure-yachts and steam-barques trim,  
Hastening to the horizon dim.

'Mid the turmoil and the din  
Softly floats a *green leaf* in  
In business struggle, pleasure race,  
Wishful she may find a place,  
Whispering 'mid each bustling scene  
Of resting places cool and green—  
Quiet spots where birds and flowers  
Gladden the sweet summer hours—  
Where afar from snares and strife  
There may see the *end of Life*.

A whisper too from worlds unseen  
Hath the bright leaf of evergreen  
Of realms beyond the setting sun  
Where, when Life's busy day is done,  
Crown and palm branch shall await  
Each conqueror at Heaven's gate.

*Itá.*







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## Preface.

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THE Contents will show that the writer, in selecting only some of the principal members of the family of Palms, has no idea of placing her little work beside the more complete and scientific histories of palms. She has not ventured to write for the botanical student; her aim has been to interest the general reader.

For those who have not time, or perhaps inclination, to make botany a study, she wishes simply to unfold one *green leaf* from Nature's glorious book, and so tempt them on, perhaps, to explore for themselves the countless wonders of the vegetable world.

While acknowledging her obligations to many authors, whose names are mentioned in her pages, the writer wishes to mention that "The Palm Tree" was begun some years ago, before she was aware that

a "Popular History of Palms," by Dr. Berthold Seeman, had been published the very year before.

Should it seem to any that her enthusiasm for the crowned tree has carried her at times too far, and made her over fanciful, she would plead in excuse that her birthplace was the "region of palms," and that her earliest recollection of the face of nature is of the sea-coast of a West Indian island fringed with Coco-nut Palms. That scene daguerreotyped by the glowing sun upon her infant brain, was revisited in older years, when she became acquainted with some of the most distinguished members of the royal race of palms.

She would also pray her judges to remember that her book is not called a history of palms. It differs from all that have gone before on the same subject, in that it was expressly written to illustrate the psalmist's similitude, and to include all the Scripture notices of palms. It has been the writer's earnest aim throughout to endeavour, by unfolding the countless lovely analogies suggested by her subject, to interest the reader in *The Palm Tree—Servant of God and friend of man*. To do justice to her theme she felt was impossible, but she has striven to do her best.

Her heart's desire is that her *green leaf* may help to impress on others, as it has on herself, the bound-

less love of the Great Creator of all things, as it speaks to us throughout all creation. Oh, would it not be Paradise partly regained while yet upon earth could we, as we walked in garden, forest, and field, hear "the voice of the Lord God" and *not* "be afraid."

Pilgrims and palmers all, the heavenly Zion should be the goal of all baptized in Christ. Type of Jerusalem on earth, Jerusalem above, has her palm branch too.

May God's blessing so rest on her little work that pleasant memories of earthly palms may be suggestive to her readers of the Tree of Life—the Palm of Victory which in the eternal Paradise awaits all who, as conquerors through Christ, pass through its gates of pearl.

CLINTON LODGE, BOURNEMOUTH.

*December 1863.*











## THE PALM TREE.



One only tree can it be said that, given to be man's delight upon earth, it is mentioned by name in the word of God, as hereafter to be given in heaven also. Of this one only tree can it also be said, that encircling the globe for a width of four thousand eight hundred and sixty geographical miles, it is there found in every varied locality—on desert sands—in luxuriant forests—on mountains, fourteen thousand feet high—and on wave-washed coral reefs in the middle of the ocean.

The branches of this tree were the only offering Judea, as a people, ever made to the Messiah.

This tree, devoting to man's service its every part, furnishes him with food, shelter, clothing, and every domestic want.

Must not the palm tree have glorious tales to tell? It was this tree that was chosen by the royal

psalmist as the similitude of the righteous. In the heavenly vision of the disciple whom Jesus loved, it was the branches of this tree that he saw carried as the ensign of victory in the hands of the redeemed. In sacred chronicles the name of this tree occurs, a landmark as it were, in some of the most striking portions of the history of God's ancient people the Jews.

Must not the palm tree be rich in religious associations, in spiritual lessons, in poetical analogies ?

In both hemispheres palm trees are known amongst men as "sacred trees," as "trees of life," for the lives of the people depend on them—they feed, and clothe, and shelter them—they give cradles to infants, and coffins to the dead.

Must not palm trees have stories of interest to relate ? Must they not be eloquent of the goodness of God, of the ingenuity of man ?

The palm tree has been in all ages the poet's theme, the traveller's delight. In all times it has been an object of interest to the learned and scientific, from its apparently illimitable capabilities of usefulness. To practical men of the present day the family of palms have become a necessity from the countless needs they supply.

The palm tree is of royal race. Before the Christian era, in their native East, they were crowned "Kings among grasses," by the Hindu poet and scholar, Amarasinga. In Europe, and in later times, the diadem was confirmed to them by Liu-



næus, who proclaimed them "Princes among vegetation."

Their title is no unmeaning one—they are kings not only in name. Their claim to such distinction rests not alone on chronicles and title-deeds of old. Year by year their honours are awarded to them afresh, by acclamation of the nations among whom they dwell. Each freshly springing leaf bears the very impress of royalty,—weaving itself instinctively into the mighty diadem of green, the weight of which no meaner tree could support. In beauty, strength, and worthiness pre-eminent, the palm tree wears its crown right royally.

Kingly indeed are their attributes; stately and strong, upright and unchangeable,—with majestic grace dispensing, as from an inexhaustible treasury, the richest gifts unsparingly.

Their royalty acknowledged by man, their crowning is from an almighty hand. The unfading leaves that encircle the head of the *upright* tree are its great Creator's gift; and in the inspired word we find peculiar honours assigned to the palm.

The glorious similitude which connects the palm tree with the righteous, who are as "kings" before God, is only one among many Scriptural notices, which show how highly esteemed has ever been, amongst God's people, the tree of which it may truly be said that it is the

In all ages, and amongst all people, has the palm tree been loved and honoured. The heathen, the Mohammedan, and the followers of Christ alike in this, have chosen the palm branch as the emblem of victory. With us the word is synonymous, not only with victory, but with all that is pre-eminent. In the landscape before us, where the sun shines brightest is the "palmy" side; in the story of our lives, the gladdest time we call our "palmy" days.

The heathens of old saw in the circular form of the palm tree's leafy crown a representation of the solar rays;—this idea, combined with the unchanging beauty of the foliage, the longevity of the tree, and its extraordinary fecundity, caused them to select the palm as the emblem of light. A palm branch, a circle, and the number seven, were, as religious emblems, characteristic of Phœnician worship.

Beyond the perfection of its outward form, beyond the value of its useful gifts, the æsthetic Greek, in one of the more hidden properties of the palm tree, perceived another charm. It was the same which, in its exquisite significance when fully understood, illustrates, and with singular completeness connects together the various notices of *palms* which the Christian finds in the word of God.

The upright and uprising palm, which is said to be of more vigorous growth the stronger the downward pressure it has to resist, was chosen in Greece as a type of the true athlete—one never to be cast down.

Not only, therefore, for their graceful form, but for the incomparably higher beauty of the lesson that they taught, were the sculptured columns in temples of old so frequently representations of the palm tree.

In Egyptian temples are yet to be seen the exact resemblance of their slender reed-like stems, their feathery crowns, and hanging clusters of fruit.

In a beautiful cathedral of later days, that of Las Palmas in the Canary Islands, the foundations of which were laid in the time of Ferdinand and Isabella of Spain, the exquisite pillars, characteristic of the city, are representations of palm trees.

But the tall straight stems of the trees themselves in their natural state, furnish fit pillars for houses of God. Both in the east and west travellers constantly notice churches built of palm trees, the pillars are of unwrought palm trunks, their leafy crowns are also there, forming part of the sacred buildings, not in the form of plumed capitals, but roofs and walls are described as made from plaited palm leaves. Amongst many such the little Protestant Church of Jangera in the midst of wide marshy paddi-fields to the south of Calcutta, was noticed in the letters of Bishop Daniel Wilson of Calcutta. Humboldt describes a small Roman Catholic chapel similarly built amidst the magnificent scenery of a granitic chain of mountains in South America, near the great waterfalls of Maypures and Atures.

From the stem of the only palm tree indigenous

to Europe, the fan-leaved *Chamærops humilis*, the architects of old may have learned another secret—that delicate and almost imperceptible swelling toward the centre, which, in the pillars of the Parthenon, perfects their grace. The eye rejoices in their fulness of beauty, unconscious, perhaps, of the hidden but completing charm.\*

Curiously exemplifying how universally the palm tree affords a type of grace, we find in the Hebrew language that one word *Tamar* signifies alike the Date Palm—uprising—and the beautiful effect of a column of smoke rising into the air and expanding in graceful curves.

By various ancient writers is the palm of the East, the Date Palm, spoken of. Herodotus records, as one of the wonders of Babylonia, “the palm producing bread, wine, and honey.” As one of the marvels of India its praise is chronicled by Nearchus, commander of Alexander’s fleet, and by others, companions with him.

In strange accordance, joined by their mutual love and reverence for this tree, we find, in histories of old, the Christian and the heathen continually uniting their homage to the palm.

To it was given, by the Greeks, the name of Phœnix—the wondrous bird with ruby breast and golden wings—because it in truth fulfilled the marvel of the

\* This outline, also observed in Egyptian and Roman columns, is in the former often much exaggerated. The Greek entasis is the most delicate and subtle of all.

fable, when the tree was burned down young plants sprang up from the ashes of the old.

Associated with their sacred flower, the Lotus, the Egyptians have ever revered the palm as the emblem of life after death. Up to the present day it is the custom of their women to break a palm branch over the grave of those they love; the broken branch is left upon the tomb. In Cairo, every Friday, palm branches are carried by the Arabs and laid upon the graves of the household.

The early Christians beheld in the uprising palm the emblem of "the victory that overcometh the world," and therefore a martyr's death was spoken of as "winning the palm." But they also saw in the never-dying tree a type of the resurrection, and therefore a palm branch was laid on the breast of every one who died in the faith. It was buried with them, a pledge, as it were, of their rising again.

The Cathedral at Seville, alternately Moorish Mosque and Christian Church, has for its chief ornament the Tower of the Giralda or weathercock. It is a colossal bronze statue of Faith carrying her palm branch, so delicately poised as to turn with the slightest variation of the wind.

"The righteous shall flourish like the palm tree," were the words of the inspired psalmist.

In the Koran we find that Mahomet, the false prophet of the East, looked also to the noble tree to typify the character of a generous and virtuous man.

“Like the palm tree he stands erect before his Lord, in every action he follows the impulse received from above, and his whole life is devoted to the welfare of his fellow creatures.” They hold a tradition at Medina that to illustrate this saying by the living example of its beauty and fruitfulness a Date Palm in full bearing sprang from the seed on the instant at the voice of Mahomet.

From time immemorial the Date Palm, the “Tree of the Desert,” has been loved and revered beyond all other trees by the children of Hagar. Crowned as a queen by traditions of old, as a mother she is endeared to them by the positive benefits of every day, supplying their almost every want from the cradle to the grave. To the Christian also, and to the Jew, the Date Palm ranks first of her royal race, eloquent as she is of the Holy Land, of Bible histories and sacred scenes of centuries ago, and to her especially as the Syrian palm was the psalmist’s similitude applied.

But the exquisite analogies which are true in her are equally true in her sister palms.

Looking first, therefore, to the East as the dwelling place of the Date Palm, which has been the theme of poets and historians of every nation of old, her history shall be followed by those of other eastern palms, and then we will turn to the western world, which, in proportion to its extent, outnumbered the old in the number and variety of palms indigenous to its soil.

Europe, Asia, Africa, and Australasia, contain three hundred and seven known species, America alone boasts of two hundred and seventy-five, while new ones are constantly being discovered. The Coco-nut Palm alone grows spontaneously in both hemispheres. Although for centuries naturalized in the East, tradition and history both point to the western world as the original home of the Coco Palm.

But though the New World, when discovered, lacked the voices of poet and historian to tell of her glories to far off lands, adventurous travellers and indefatigable men of science have since then been continually going forth to her from Europe, and for many years such inquirers have been springing up amongst her own children. From them we learn the descriptions and histories of her magnificent productions; in many cases the rich things themselves are brought away to delight stayers at home with their foreign beauty. The Crystal Palaces of our own and other European nations contain the crowned captives of South American forests, side by side with those of Indian islands and Arabian deserts. English ears may catch, amid the rustling leaves of imprisoned palms, whispered memories, proud recollections interchanged between the Date Palm of the Arab, the sacred Talipat of the Singhalese, and the beloved Miriti, or Itá Palm, of the South American Indian.

It was from the fruit of this palm (*Mauritia flexuosa*) that a tradition amongst the Tamanaks of

the Orinoco, supposes the world was re-peopled after the "age of water." One man and woman having taken refuge on the high mountain of Tamanacu on the banks of the Asiveru, they are said to have thrown over their heads the fruits of the *Mauritia* Palm, from the kernels of which sprung men and women who re-peopled the earth.

This wondrous tale of the Indians of the Brazils, with many another wild fable, cherished both in the East and West, are significant to the lovers of the palm tree.

As in the old sagas of the north, we smile at the incredible achievements of their vikings, but we feel that the groundwork of those dazzling romances was in truth the mighty deeds of those who had won for themselves a place in the hearts of their people.

And we who are love-blinded every hour—in the home scenes of every day—can we wonder that for the Arab's Date Tree and the Indian's *Miriti*, centuries of love and gratitude should have evolved some golden mists of imagery about the objects of their reverence?

It is of this *Mauritia* Palm, a native of the Brazils and Guyana, that Humboldt exclaims, "Strange spectacle to behold, in the lowest stage of human civilization, the existence of a whole race depending upon a single species of palm, in a similar degree with those insects which subsist but on one species of flower." More than two centuries ago Sir Walter Raleigh's admiration and wonder burst forth in this enthusias-



tic tribute, "This tree alone giveth unto man whatsoever his life beggeth at nature's hand."

Can we wonder that by the poor ignorant Indians this palm tree was almost worshipped, and that the name of "Arbol de la Vida," the "*Tree of Life*," was bestowed on it by Padre Gumilla, one of the early Jesuit missionaries.

Linnæus paid his homage to the whole race in declaring "that the human race should be classed as *palmivorous*, as those whose birthplace was the land of palms." "Man dwells naturally within the tropics," he exclaimed, "and lives on the fruit of the palm tree; he *exists* in other parts of the world, and there makes shift to feed on corn and flesh."

In their strong affection for the palm the Arabs liken it to a human being; some of the resemblances are over fanciful. One striking peculiarity there is: unlike all other trees, if the head of the palm is cut off it dies. But the tie of gratitude which binds the Arab to his beloved tree rests not on fancied similarities or beautiful analogies discovered in it; most real are the benefits which they and ourselves derive from almost every individual of this noble race.

Of the Date Palm the Arabs reckon as many uses as there are days in the year. Without taking all their grateful enumeration now into account, we may at once refer to a few of the gifts which we receive from the kingly treasury of palms.

Is it not like one of the Arabian genii tales to tell

of a tree which produces bread and wine, milk, honey, and oil?

Yet is this strictly true—with, more, much more, beside.

The sago or *bread* of the Papuas is abundantly supplied by two species of *Metroxylon*, and by many other palms of the East and West.

The palm wine of past and present times is produced by many species of palms. Humboldt, in his travels in South America, speaks of “the *vine* of the country,” *Palma dulce* (*cocos butyracea*). In the valley of the Magdalena it is called the Wine Palm.

To every traveller on the sea-coasts of tropical regions is known the delicious *milk* of the coco nut (*Cocos nucifera*).

The *honey* of the Date Palm (*Phœnix dactylifera*), has been used from time immemorial.\* A superior kind, obtained from *Jubæ spectabilis*, called “Miel de Palma,” is in domestic use in Chili, and also forms an article of commerce.

*Oil* to burn, or to be used in cookery, is afforded by the coco nut, and many American palms, *Attalea cohune*, and others.

The orange-coloured unctuous mass called palm oil, the produce of an African palm, *Elæis guineensis*, is

\* The Hebrew word which is rendered honey throughout our Scriptures, many commentators suppose, in some instances, to mean the sweet sap of palms or the juice, of their fruit, the word being *albe* or *dipse*, which last word is still used in Barbary to express the sweet juice of dates. Rabbins affirm that honey from dates, and dates themselves, were offered to the Lord as the first fruits of honey.

used in the manufacture of candles and soap, and for other purposes. It is an article increasing in importance every day. In Liverpool alone, no less than twenty thousand tons of shipping are employed in importing this one article into England.

These invaluable gifts are not obtained from one species only, but from many; in some instances two and three of these distinct products are afforded by the same tree.

But bread, wine, milk, honey, and oil, are by no means the only treasures palm trees bestow on man. Products the most singular and diverse are numbered amongst their gifts: wax, ivory, sugar, salt, and vinegar, medicines, vegetables and fruits of infinite variety, with all kinds of articles for domestic comfort. Not only do they afford fibre from which cloth as well as cordage is manufactured, but some trees bestow cloth ready made. Men and women are clothed by them, houses are built and furnished by them, and the kindly trees will also cradle the infant and coffin the dead.

The first popular account of palms was given to the world about fifty years ago, by Alexander von Humboldt.

A poet and a philosopher, a scientific, literary, and accomplished man, his matchless sketches glow with a vivid reality. Not only had his subjects been studied with the careful exactitude of a learned writer, but as a traveller he had looked upon them in their native

homes, and thus inspired by their living beauty, palm trees, the glory of the tropics, are brought before us, by him, in all the rich colouring of an enthusiastic painter.\*

In his work entitled "Ansichten der Natur," the chapter "Physiognomy of Plants," was commenced by Humboldt with a notice of palms. "We will begin," he says, "with palms, the loftiest and noblest of all vegetable forms, that to which the prize of beauty has been assigned by the concurrent voice of nations in all ages.

He proceeds to show that next to coniferæ (cone-bearers or pines), and a species of eucalyptus, (gum-trees of Australia) belonging to the family of myrtaceæ or myrtle-blooms, examples of the greatest loftiness of stature attained by any of the members of the vegetable kingdom are to be found in the kingly race of palms.

The stems of the Cabbage Palm, (*Areca oleracea*), a native of the West India Islands and Guayana,—known in the Mauritius as the "Chou Palmiste,"—have reached from one hundred and sixty to one hundred and seventy, and even two hundred feet.

The Wax Palm of the Andes (*Ceroxylon andicola*), so named by Humboldt, by whom it was discovered, attains the height of from one hundred and seventy to one hundred and ninety-two feet. The prostrate

\* Since this was written Humboldt has died. The aged philosopher, the pride of Prussia, was carried to his grave in all the pomp of a public funeral; the students of Berlin most appropriately carried palm branches on either side of the coffin.

trunk of one of these majestic trees lying in the mountain forest, was measured with exactness by Humboldt.

To give an impression of their height he speaks of some that rise to more than twice the height of the palace at Berlin.

But there are greater giants still. The recorded length of the Rattan or Cane Palm (*Calamus*) almost exceed credibility. In the hottest parts of the East Indies where heat and moisture combined promote the growth of vegetation in an extraordinary degree, these climbing palms tower above the tallest trees of the forest. Rumphius speaks of *Calamus extensus* reaching to six hundred feet, and he states that another kind has been known to reach double that height!

The loftiness and uprightness of their stature is indeed one of the especial boasts of the palm tree. Yet carrying out in a singularly complete manner the analogies which, it will be seen, are perfect throughout, this race of giants will also show some fairy-like specimens of comparatively miniature loveliness.

We have seen the lofty *Calamus* lifting its crown high over the stately forests that clothe the base of the Himalayas, let us now look to South America which, Humboldt declares, "excels the rest of the tropical world in the number and beauty of her species of palms."

In the depths of the virgin forest of the Upper Rio Negro, overshadowed by other trees, we shall find one of those lovely little palms (*Lepidocaryum tenue*), described by Wallace in his palms of the Amazon.

It is a fan-leaved palm; its dark, green glossy leaves, growing on long and slender stalks, have narrow, drooping leaflets; its reed-like stem, not thicker than a finger, seldom exceeds six feet in height, and its fruits are about the size of hazel nuts.

Similar contrasts will continually meet us, yet ere we proceed, compare, I pray you with this tiny fruit, the double coco nut, the produce of another palm (*Lodoicea sechellarum*), which has a circumference of three feet, and weighs from forty to fifty pounds.

In these striking contrasts, in the extraordinary variety afforded by this great family, consists one of their principal sources of interest, especially when they are regarded as illustrating the perfectness of the sacred similitude.

Equally illustrated is it on the other hand by certain distinctive characteristics which every member of the palm-tree family will be found to possess, however dissimilar they may be in other respects.

Their generally tall and slender stems are sometimes perfectly smooth, sometimes they are ringed, scaly, or armed with formidable spines.

The stem or shaft is almost always simple and undivided. In extremely rare exceptions it divides into branches, as with the Doom Palm or Gingerbread Tree of Egypt (*Hyphaene thebaica*).\*

In some cases the roots spring from the stem at a

Double stems are occasionally met with amongst trees usually single-stemmed, such as palmyras and coco nuts, but they are very uncommon.

foot or more from the ground, surrounding it with thick buttresses, or more singularly still, raising the stem as it were on a scaffolding. In the Iriartean Palms of the Brazil, this strange scaffolding afforded by the air roots is sufficiently high for a man to walk erect beneath, a tree seventy feet high growing immediately above his head.\*

In the shape of the leaves of palms there is considerable uniformity. Out of five hundred and eighty-two known species, four hundred and ninety-one have the same feathery leaves as the date, which is the universally received type of the palm branch.

The palm branch or palm leaf, resembling a feather, is divided into numerous narrow leaflets. This form of leaf is described as *pinnate*.

The remaining ninety-one species have fan-shaped leaves, they are called *palmate*, from a fanciful resemblance of the divided leaf to the outspread fingers of the hand.

Of this kind is the magnificent Talipat of the East Indies, its leaves are palmate, but a giant's hand alone could they be thought to resemble. Its leaflets, or segments of a leaf, are from ninety-five to one hundred in number, the breadth of its leaves is from thirteen to fourteen feet, and their length, exclusive of the foot stalk, vary from six to eighteen feet.

Whether the palm tree's leaves are feathery or fan-shaped, they in all cases encircle its head, and are

\* "Palms of the Amazon,"—Wallace.

disposed in that crown-like form which is one of its peculiar and most beautiful distinctions.

All palm trees wear the crown, but in the manner of their wearing it characteristic differences appear.

Some are of stately form; they stand erect, and on their upright bows carry their diadems with imperial grace. Such are the Date Palm in its youth, the Cabbage Palm, the Jagua (a species of *Maximiliana*) a palm of the Orinoco, and the Peach Palm (*Guilielma speciosa*) a native of the Amazon, Guyana, and Venezuela. These have "aspiring heavenwards pointing branches, rising almost vertically into the air, the extremities of the leaves curled like plumes."\*

Very beautiful are the Wild Date and the fan-leaved *Livistonia inermis* palms of the East, but with drooping heads they bow beneath the weight of their crowns. So also does *Mauritia gracilis* in the West.

The Coco Palm, on the lonely shore, as she listens intent to the voice of the beloved sea, tosses with careless grace her feathery plumes from her brow, almost unconscious, it would seem, in that wild solitude that she is a crowned tree.

The colouring of palm leaves is various too. The Date is of a dull and ashy hue, the *Mauritia* palms are of a dark and shining colour, the Coco Palms are generally of a vivid green, but they sometimes admit autumnal tints of russet and gold, while the stately

\* Humboldt.



plumes of the Cabbage Palm (*Areca oleracea*) are uniformly of the rich deep shade of the myrtle's leaves. The Wax Palm of the Andes, and the slender Fan Palm of Cuba (*Corypha miraguama*), have their leaves lined on the under side with silvery white. On the Rio Atabasso, Bonpland, the travelling companion of Humboldt, discovered a thorny *Mauritia* whose palmate leaves were ornamented in the middle with concentric yellowish and bluish stripes like a peacock's tail.

But it is in the form, colour, and nature of the fruits of palms that there is most cause to marvel at their variety.

The egg-shaped fruits of the *Mauritia flexuosa* are brown and scaly on the outside. Brought to England by Sir Walter Raleigh they were likened by him to fir cones. In the inside they are of a dry and floury nature, something like a plantain before they are fully ripe; like it also, they become sweeter and more pulpy as they come to maturity.

The fruits of the Peach Palm are mealy too, but they are beautiful in appearance, of a golden colour partly overspread with crimson.

A delicious draught is contained in the rough, hard shell of young coco nuts; they are lined inside with a transparent white jelly of delicate flavour. When fully ripe this jelly is converted into a nutty substance, which is prepared as food in various ways by the natives of tropical regions.

What a contrast is afforded here to a cluster of luscious dates whose soft fleshy pulp is on the outside of their small seeds.

Almost exclusively tropical plants, yet in the varied localities of those regions in which we find the different members of this family, we discover another source of wonder and interest.

The home of the coco nut is on the sea-shore. They grow inland, but never attain their full perfection there. The salt spray of the ocean is their natural atmosphere, and coral reefs scarcely merged from the waves are quickly crowned with groves of the sea-loving Coco Palms.

In the dense forests that clothe the foot of the Himalayas we have already seen the giant Calami or Cane Palms.

On the Himalayas—"abode of snow" as their Sanscrit name signifies—we shall find, at an elevation of eight thousand feet, a species of *Chamærops*. These hardy fan-palms are themselves, in winter, covered with snow.

More elevated still, on the tops of mountains fourteen thousand feet high in the immediate neighbourhood of perpetual snows, the Wax Palm of the Andes rears its stately form.

On the sandy desert dwells the Arab's date; beneath its shadow he takes refuge from the heat of the burning sun.

The Indian of South America sits amongst the

branches of the Miriti, and looks down on a world of waters at his feet.

In Mexico the diminutive Palmetto is carefully cultivated and planted in regular rows.

In Honduras, vast woods untrodden by the foot of man, are formed by the congregating of the *Attalea Cohune* palms, arched aisles of exquisite beauty and almost interminable length, being made by their interlacing branches.

The queenly *Areca*, the *Una* of the forest, flourishes in the great forests of Guyana in kindly fellowship with other plants, or planted by man they form stately avenues, the pride of old family dwelling places in Demerara and the West India Islands.

How many species of palms are scattered over the face of the globe is said to be still an open question.

It was thought by Von Martius that the whole number existing on our earth may amount to about one thousand species, but of these we are only acquainted with about six hundred species.

Of the fossil flora, of which it is assumed there are four thousand species, palms constitute an eighty-fourth part.

Beautiful specimens of fossil palms are found in Antigua, and are considered of great value. One of great beauty was obtained there some years ago; it was presented to Lady Combermere, the wife of the then governor of the Windward Islands. The

sheathing of the leaves was distinctly traceable on the outside.

In the "Testimony of the Rocks" it is mentioned that "Mr. Bowerbank found in London clay of the the Island of Sheppey alone, the fruits of no fewer than thirteen different species of palms." It is also said that "among the trap beds of Mull, palms survive in thirty-one different species."

In Von Martius's splendid work on palms beautiful drawings are given of sections of palms, displaying their endogenous structure.

In this distinctive mark by which is determined the systematic division in the vegetable kingdom, to which the family of palms belong, we find the suggestion of an analogy which seems to perfect the type which the palm tree affords of the righteous.

Palm trees are endogens—their growth is *endogenous*.

It may be simply explained as the central or *internal* deposition of woody fibre, in contradistinction to the growth of oaks and elms, and most forest trees of temperate regions. They are exogenous, or increase in size by *external* deposition of their woody fibre next to the bark. This taking place annually, the age of most exogens can be determined, as is well known, by counting the number of concentric rings.

In other words, whilst oaks and elms have an *outward growth*, palm trees have an *inward growth*.

A beautiful lesson has been drawn from contemplating the outward growth of the elm :—

“ How shall the mangled stump teach proud man a lesson ;  
 How can we from that elm-tree’s sap distil the wine of truth,  
 Heed ye those hundred rings concentric from the core,  
 Eddying in various waves to the red bark’s shore-like rim,  
 These be the gatherings of yesterdays, present all to-day.  
 This is the tree’s judgment, self-history that cannot be gainsaid :  
 Seven years ago there was a drought,—and the seventh ring is  
     narrowed,  
 The fifth from hence was half a deluge—the fifth is cellular and  
     broad—  
 Thus then thou art a result—the growth of many yesterdays  
 That stamp thy secret soul with marks of weal or woe,  
 Thou art an almanac of self, the living record of thy deeds.”

*Proverbial Philosophy.*

Each varied page in nature’s book hath its lesson for us. The elm speaks in the eloquent words of Tupper ; a feebler voice would strive to repeat what again and again the palm tree whispers to her :—

An *inward growth*, from the heart’s crystal fount  
 Pure thoughts, like pearl-like drops, still welling forth  
 Unseen themselves yet swelling the amount  
 Of outward graces and intrinsic worth.  
 Flourishing as the palm—the crowned tree,  
 Uprising in whatever lot assigned,  
 Bearing the promise branch of victory,  
 Servant of God and friend to all mankind.\*

\* As it has been already said this work professes only to give the history of some of the most interesting members of the palm family. For a complete classification of them the reader is referred to an interesting work by Dr. Berthold Seemann entitled “History of Palms.” Wallace gives in his “Palms of the Amazon” and “Travels on the Amazon,” most interesting notices of many new palms discovered by him. Von Martius’s splendid work on palms is in Latin.

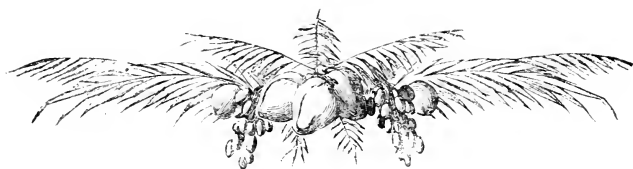












## The Date Palm.

(*Phoenix dactylifera*.—LINN.)



THE Date Palm as the palm tree of Scripture claims precedence of all her sisters. Her genealogy dates far higher than theirs. The glory of eastern lands, she was loved, and honoured, and sung, before the very continent which gives birth to her kindred of the West itself was known.

From time immemorial the Date Palm has been known to be indigenous to Asia and Africa, and for many centuries it has been cultivated in the South of Europe.

The derivation of the name *Phoenix*, as given by the Greeks to the palm which they earliest knew, has already been mentioned,—the upspringing of the young plant from the parent stem when burned or cut down. It is one amongst the many suggestive themes with which the study of palms is enriched. To this property inherent in the race, allusion is made in the motto chosen by Von Martius, which accompanies his fine portrait in the copy of his work at the British Museum.

The name of Phœnix is confined to a few species.

Dactylifera is derived from *dactylus* a finger, the stalks of the dates being likened to the fingers of the hand.

*Palma* was the name given by the Romans to the dwarf fan palm, (*Chamærops humilis*) which grows on the shores of the Mediterranean, from a similar resemblance of their divided leaves to the hand itself. The name has long been extended to the whole race, including those whose leaves are altogether differently shaped.

Phœnicia is said by some to have derived her name from this tree,—called by the Greeks the “Land of Palms” as from there they obtained their dates. To it also the renowned city of Palmyra owed her name. Rising as she did in an oasis of the Syrian desert, much of her beauty was owing to the presence of these graceful trees. The Hebrew name of the city Tadmor had the same derivation from Tamar, a palm.

Rich, indeed, in historical as well as scriptural interest is the Date Palm, the inexhaustible theme of poets in its own and amid stranger lands, and the never-ceasing object of delight to every traveller. But far exceeding all other is the deep and grateful affection it obtains in its native home, amongst its own people.

We have already seen that the Arabs count that its gifts are as numerous as the days of the year.

It is said that in their language the palm tree has three hundred names, but they are applied to different parts of the tree, and to these parts at different ages.

Still as of old is the Date Palm "the pride of the desert." The "shrub" under which the heart-sick Arabian mother laid her boy that he might die out of her sight, was doubtless one of those stunted shaggy palms which travellers describe as common in those parts. Such a supposition connects itself with the tradition preserved amongst the wild sons of Ishmael, that Allah had bestowed all the Date Palms of the world upon them as a mark of peculiar favour, and that they had accordingly conquered every country where they are to be found. In this we find one of the many traditionary prophecies encouraging them to attempt the reconquest of India.

To the tree believed to have been the one that sheltered their great progenitor, the children of Hagar assign the glad office of the angel sent by God to point out the hidden well—the well-spring of joy to the mother, the well-spring of life to the child.

To the sons of the desert the rustling of palms is as a voice beckoning them to cool waters, for the "diamonds of the desert" are ever at their feet.

When in 1801, our British troops resisted the French in Egypt, lacking water in the sultry desert, their leader Sir Sydney Smith taught by the Arabs revealed to them the date tree's precious secret.

Digging near its roots beneath the burning sand a mine of silver water was always found.

The Date Palm is not amongst the most majestic of its race; it averages sixty feet in height, and sometimes attains the age of two hundred and three hundred years; the Barbary palm seldom outlives the second century. They are of slow growth, about one foot in five years. The faithful Moslem is promised that he shall in paradise attain the height of the palm.

The rings which mark the outside of the trunk or stem are the remains of successive growths of leaves, they become nearly obliterated near the root. The bottoms of the leaves are enveloped in membranous sheaths.

Date Palms have pinnate or feathery shaped leaves, each leaf being composed of a number of long narrow leaflets which grow alternate. When young they are of a bright lively green, but grow dull with age. Near the base of the leaf these leaflets are often three feet long, but they are not more than an inch in breadth. They do not open flat, but remain with a ridge in the middle, something like the keel of a boat. The main stems of the leaves are from eight to twelve feet in length, firm, shining, and tapering, towards the end; it embraces at its insertion a considerable part of the trunk. The mid rib is in almost every species of palm turned to an infinity of purposes.

The Date Palm continues bearing about seventy years, producing three hundred, four hundred, and

even six hundred pounds of fruit annually. A single spathe contains twelve thousand male flowers. On the Nubian Nile the finest trees produce dates measuring three inches long.

Dates are well known in England as a delicious dried fruit, but we must transport ourselves in idea to the East before we can form any computation of their inestimable value.

So cared for are they there, and so extensively cultivated that we read, at the siege of Suchna in 1829, Abd-el-Gelil cut down not less than forty-three thousand date trees to force the surrender of the town, and yet there remained seventy-three thousand.

From Lane's "Modern Egyptians," we learn that the tax upon palm trees has been calculated to amount to about £100,000 annually. The trees are rated according to their qualities, generally at a piastre and a half each. The Egyptian piastre is equivalent to the fifth of a shilling.

At Moursouk, Central Africa, a tax of a dollar is levied on every two hundred date trees.

In Syria the trees in the palm groves at Tor are all registered. Property in them is capital. Marriage portions are paid in dates.

In Egypt the Date Palm not only furnishes a great part of their food, but is also literally the roof-tree of the wretched peasantry, the Fellabs or Fellahin.

The walls of their huts are of mud and straw, their only feature of beauty and grace is the Date

Palm which springs up in the centre of the dwelling, the roof consisting of its branching leaves. Two or three of these friendly palms cluster outside of the squalid home, seeming as if they would conceal something of its wretchedness.

These good genii, like the slaves of the lamp, bear on their plumed heads for their humble master dainties which monarchs in the far north sigh in vain to taste in their delicious freshness.

The taste of fresh dates is said by Bernardin de St. Pierre, to taste of sugar and cream flavoured with orange flowers. Some who behold in the oases of palms in the deserts of North Africa the fabled gardens of the Hesperides imagine, that in the delicious tawny coloured dates they also see the original of the golden apples which were only to be obtained by overcoming the dragon that guarded them; in other words, the danger that besets on all sides the traveller in these inhospitable regions.

Dates form the principal food of a considerable number of the inhabitants of Egypt and Barbary, Arabia, Persia, and India, both men and beasts—horses, camels, dogs, all eat dates. Even the stones and stalks when softened by being soaked in water feed cattle, and when ground in hand mills are given to camels.

The harvest of dates is as much a cause of anxiety, and when favourable, of rejoicing in the East, as the

corn harvest is with us, and the vintage in the south of Europe.

The Date Palm is to the Arab and the North African, what bread-corn is to the people of colder climes.

Biledulgered or Bled-el-jerrede, the "*land of dates*," is a vast territory extending from the south declivity of Atlas to the great desert of Sahara, with which it almost insensibly mingles. As its name implies, its chief boast is the great luxuriance of its groves of Date Palms. By them alone is it redeemed from the curse of sterility. The palm tree and the Arab's tent are the only signs of life. Springs of water at the foot of the palms, and clusters of dates from the trees themselves, are all that vast region affords to the wandering hordes that continually traverse it to and fro! From the western part of this country of palms where Mount Atlas divides it from the kingdom of Morocco, come the Tafilet dates which are superior to all other kinds brought to England. But the dates of Fezzan in Morocco itself are said to be the largest and best in the word. Syrian dates are now sold in the shops of this country.\*

We read that the first question a Bedouin asks a traveller he meets on the road is, "The price of dates at Mecca or Medina?"

The harvest time is June. The fruit keeps fresh

\* Not long since the writer met with flourishing young Date Palms about two feet high in a shop of a country town in England, the price being only half-a-crown each.

for two months ; during that time it constitutes the principal and favourite food, in many cases the sole food of the Arabs. To prepare their provision for the remaining ten months of the year, the ripe dates are pressed into a solid paste. This paste is called *Adjonc*; cakes of it are made weighing two hundred-weight ; it is sold in the markets by the pound. Large quantities of it are exported to Hindustan, the Mohammedan race wherever they may be, retaining their predilection for the fruit of the Date Palm. *Adjonc* of a very superior kind is also imported into Arabia from the Persian Gulf.

A lump of these pressed dates is all that an Arab asks on setting out on a journey. He both eats dates and drinks dates. A small piece of *adjonc* dissolved in water is said to make a pleasant beverage.

Another favourite compound is made by mixing dates, and the flour of *dbourrah* or millet, with butter into a kind of paste.

From Burekhardt we learn that in the valley of the Hedjaz there are more than a hundred different kinds of dates. Each is considered to have some peculiar virtue, and each is peculiar to some district where they form the sole agriculture and only article of trade and commerce. Mohammedans declare that all date-trees have derived their origin from those of the Hedjaz—El Hedjaz bordering the Red Sea, the Land of Pilgrimage, the land of their prophet's birth.



Unlike all other trees their shade is said not to be injurious, so that grain can be sown in their immediate vicinity. The trees themselves may be planted within eight feet of each other.

Dates, as we have seen, take the first place amongst the fruits possessed by the Arabs. The favourite fruits of their prophet were dates and water-melons, which he liked to eat together.

“Honour,” said he, “your paternal aunt, the date, for she was created of the earth of which Adam was formed.”

Mahomet also declared that when Adam fell from paradise, three gifts were especially bestowed on him.

The myrtle, chief of all sweet-scented flowers in the world.

An ear of wheat, chief of all kinds of food.

And pressed dates, chief of all fruits.

Dates may be preserved for eighteen months by being dried in the sun and then buried. A delicate and nutritious flour is prepared from dried dates. A rich syrup resembling honey is expressed from the fresh fruit with which the fruit itself is preserved. Dates prepared with sugar make a delicious conserve and a most useful medicine in chest complaints.

In Egypt, it is said, that a good housewife can vary for a month her preparation of dates.

From the ripe fruit is obtained a sort of treacle used for making leather pipes and bags air-tight.

The seeds when burned are used in the composition of Indian ink.

Dates with water afford by distillation a good ardent spirit. Not coming within the prohibition of the Koran against wine, it is much used in Mohammedan countries.

A thick sweet fluid is collected by cutting out the heart of the leaves. It is at first very refreshing, but in a few hours it begins to ferment, becomes acid, and is very intoxicating. A species of "Aruk" or arrack, the spirituous liquor of all oriental nations, is obtained from this syrup. The blossoms of the date tree contain a sweet liquid, said by travellers to be absolute nectar.

The so-called wine of the palm, in Egypt called *lagbi*, is procured from the sap of the trees, such as are unproductive being chosen for that purpose. The top of the tree being cut off and a hollow scooped out in the stem, the sap as it ascends lodges there. Three or four quarts of sap may be obtained daily from a single tree for ten days, after which it lessens, till at the end of six weeks or two months the supply is exhausted, and the dried-up stem is burned for firewood.

It was of this wine of the palm that Herodotus spoke in ancient days as one of the principal articles of the commerce of Babylonia.

Palm wine which was drunk at the luxurious banquets of Greece and Rome was also used by the

celebrated Egyptian embalmers; with it they washed the bodies of the dead before covering them over with pounded aromatics.

Next to food, we reckon clothes as amongst the most necessary requirements of man. We shall find the kindly date has also furnished these. The legend of St. Paul of Thebes, the first anchorite, tells how a date tree overshadowing the solitary cavern in which he dwelt in a desert east of the Nile, for ninety-eight years supplied the hermit with food and clothes, the only garment which he wore being a rough mat of plaited palm leaves. But history relates how at the time of the discovery of the Canary Isles, in the reign of Alfonso IV. of Portugal, the principal garment worn by the natives was made of the leaves of the Date Palm, thence called Tamarco from Tamar the palm. Palm-leaf garments are, as we shall see, in use in many parts of the world at the present day, but a garment almost identical with the tamarco is said to be still worn by the natives of the Bissagos, islands on the western coast of Africa.

In the old times of independence in the Canary Islands, the natives obtained from their beloved palms not only fruit and clothes, but also wine, vinegar, honey, and sugar.

The wood of the date tree is used for garden fences, pillars, posts, ceilings, and innumerable other purposes. Whole dwellings are made of it when not required to be of great size. In ancient times,

Egyptian bows were made from the palm. The *djereed* or lance which the Arab darts, as he gallops like lightning past, are thick palm sticks. Similar sticks are used in many of the modern Egyptian games. Of palm wood also is the wand of the serpent charmers of Egypt, by means of which, accompanied by muttered adjurations, they profess to dislodge reptiles from their hiding places in the walls of houses.

The fibres of the outside of the stem where the leaves spring from the tree are of a very strong texture; twisted together they form the ropes still commonly used by the Nile boats, and by vessels navigating the Red Sea.

A soft white part of the inner fibres is used in Egyptian baths as a sponge. The most esteemed kind is obtained from the palms of the Hedjaz, and is called "leef."

Even the stalks and strings from which the dates hang are made available; wickerwork cages for poultry are made with them.

But the leaves of the Date Palm rival its fruit in the estimation in which they are held; theirs is a strangely varied destiny. In the tombs of Thebes palm-leaf baskets have been found in age varying from eighteen to eleven centuries before the year of our Lord. In the present day some in their own lands, and by their own people, are woven into couches, carpets, sleeping mats, bags, baskets, brooms,

and brushes; others, perhaps from the same parent tree, are exported to foreign countries, to perform a principal part in the solemn festivals of the Roman Catholic Church.

Strange fact and full of poetry, the wonder-working wand of commerce gives to the feathery plumes that crown the "Tree of the Desert,"—the wreathing of pillared aisles in some gorgeous cathedral of the west,—the wild Arab's darling is reverently borne aloft in the hands of Christian priests attired in vestments of the greatest magnificence.

The rosaries that hang from the neck of the priests, or the girdle of the monk, may be of kindred origin; they too may be the offspring of the palm, for the stones of dates are in Barbary and elsewhere carved into handsome beads for paternosters. In Algiers they are there fashioned by monks of La Trappe.

Such rosaries are also made from the hard seeds of a smaller palm, *Chamærops Ritchiana*, growing in Affghanistan; and likewise from the kernels of the fruit of the Doom Palm or Ginger-bread tree of Africa (*Hyphæne thebaïca*).

In Panama the leaves of another kind of palm are used for religious ceremonies, Cohune, there called Palma real. In the city of Barra, on the Rio Negro, the branches of the Jara-miri (*Leopoldinia pulchra*) of peculiarly bright green and glossy foliage, are formed into avenues along the streets, and little

altars before the houses, on the great festival days of the Roman Catholic Church.

In a little church in Barbadoes, devoted to the simply beautiful services of the Church of England, coco-nut palm leaves wreath pillar and arch with significant beauty on the glad day commemorative of the nativity of our Lord. In the same island they are sought after by the Jews for their feast of tabernacles.

Thus from east to west in many a varied clime, and in varying forms of worship, we behold the different species of palms chosen to adorn houses of God on days of rejoicing.

Date Palms are planted on large tracts of land along the Gulf of Genoa. They are too far north to ripen their fruit, but it is for the sake of their leaves alone that they are cultivated. This is also the case in Madeira. They find ready sale, in the spring of the year to the Christian for Palm Sunday, in the following autumn to the Jew for his feast of tabernacles.

Strange sight and food for solemn thought, a spectacle that mingles the piteous with the sublime may every year be seen in dingy smoke-begrimed alleys of our own dark city of London.

The Jew, distinguished and separate amongst all people, far from his fair Jerusalem whose living beauty perhaps he may never have beheld, yet in the stranger's land wherever it may be, as with the instincts of a race, builds up, even as his fore-

fathers did of old, his tabernacle wherein to hold his feast, obedient to a law which a better covenant has annulled.

Still doth he take "boughs of goodly trees, branches of palm-trees, boughs of thick trees, and willows of the brook, to rejoice before the Lord his God."

Still doth he keep the *feast of the harvest*, though no harvest is his; no smiling fields of ripe corn call him master; in that narrow dusky chamber his garnering is but—of gold.

Alas! not yet does he know the true Lord of the harvest, who, with angels for his reapers, shall come again to "gather the wheat into his garner," and "burn up the chaff with fire unquenchable."

Two of the great Jewish feasts have found their fulfilment, and are commemorated by the Christian Church. The feast of the passover, and the "feast of weeks of the *first-fruits* of wheat harvest." The "feast of *ingatherings at the year's end*" is yet to come.

Will not the feast of *ingatherings*, the feast of *tabernacles*, the *festival of palms*, find its fulfilment only when the great multitude of the redeemed, "with white robes and *palms* in their hands," shall cry with a loud voice, "Thanksgiving," "Amen?"

But the Jew still keeps the feast of tabernacles—the remembrance and rejoicing of having passed through Egypt and the wilderness into the Promised Land.

More than Egyptian darkness is around him yet—the veil is on his heart. A pilgrim and a stranger everywhere, all lands are as a wilderness to him, an exile from his fair Judea—the infidel reigns in the holy city.

The Jew still keeps the feast of tabernacles—the tabernacle as of old—of Moses the lawgiver of the old covenant, the “example and shadow of heavenly things.”

He sees not, he knows not the Mediator of a better covenant—Christ, an high priest of good things to come, by a greater and more perfect tabernacle not made with hands, “eternal in the heavens.”

Sorrowful sight! The aged Jew beating his breast, with straining eyes looking for, with strong crying and tears calling upon the Deliverer of his people—while, lo! centuries past, the Messiah has gone by never to come again in visible form till He cometh in the clouds of heaven to judge the quick and the dead.

Sorrowful words peculiar to that people, “wailing place” and “wailing day.” Their “wailing place,” Jerusalem—place of the Lord’s sepulchre. Their “wailing day,” Friday in every week; that day which once a year Christians keep holy, commemorating His death whose blood was invoked on the heads of the children of Israel.

Poor Jew! contrasting with the beauteous tabernacles of old in their sunny Eastern lands, we weep



to see the meagre substitute painfully got together in the dark narrow London home. Ere another harvest comes, may "the Sun of Righteousness have arisen" upon thee "with healing on His wings."

Has this been a digression? So linked together is the Jew with the emblem of Judea!

That land—

"Where the feathery palm trees rise,  
And the date grows ripe under sunny skies."

To return to the Date Palms of Southern Europe.

In the gardens of Naples and Palermo, this tree, like an Eastern queen, fixes all eyes with her matchless beauty and grace. Looking upon her we think of Zenobia the captive queen of Palmyra, in the Roman conqueror's train, the unwilling lode-star of all eyes. We sorrow for her as for an exile from a brighter home.

In Valencia, the south-eastern part of Spain, there are forests of Date Palms. They are also grown in the south of France,—at Toulon there are two majestic specimens, but they do not ripen their fruit.

The Date Palm with the Pomegranate was carried from Barbary into Spain in the middle of the eighth century by Abd-el-Rahman, surnamed the Conqueror. An exquisite little poem exists which was addressed by him to this cherished tree, an exile like himself from its native land. The conqueror, in the midst of his glory, pined for the ungrateful country which he had been forced to leave.

In the neighbourhood of Nice, San Remo, and Genoa, date trees flourish abundantly. Bordighiera, a small town on the Sardinian coast, in the territory of Genoa, is especially celebrated for its palms.

An interesting account is given in a tale of Modern Italy \* of the way in which a family in San Remo of the name of Bresca obtained, some centuries ago, the privilege of furnishing to the household of the Pope the palm-leaves required for religious festivals.

In 1584, in the pontificate of Sixtus V., an obelisk of great beauty lay half-buried in the earth in the Piazza San Pietro in Rome.

Domenico Fontano, an architect of great renown, undertook to raise it and transfer it to the spot selected for its site. He bound himself that his engagement should be fulfilled at the expiration of a year.

The undertaking proceeded prosperously. The stupendous column was transported to the appointed spot. The day was arrived on which it was to be raised upright. An immense crowd gathered in eager expectation.

The importance of the event agitated and almost unnerved the hitherto successful Fontano. He trembled lest the noise and tumult of the excited multitude should confuse and bewilder his workmen.

One hasty exclamation, one unexpected move-

\* Dr. Antonio.

ment amongst that darkly-heaving mass might endanger the execution of his plans. He appealed to Sixtus, who instantly issued an edict that whoever should utter a word during the erection of the mighty obelisk should suffer death!

Fontano invoked the rites of the Church, made his confession, received the sacrament, and the benediction of the Pope.

He mounted the scaffolding. Coloured flags and bells had been arranged so as to signify his orders to the workmen that were out of hearing of his voice—*his voice*, the only one which was to be heard.

Pope Sixtus, from his lofty seat, looked down with breathless interest upon the scene.

The countless multitude below, with upturned faces and eager eyes, were silent and motionless.

Fontano rapidly waves his coloured flags. The Pope bends forward in irrepressible eagerness, the multitude are breathless with intense excitement.

A minute more, and the obelisk would have stood erect; when, hark! an ominous crack—the slowly arising column remains motionless—and then—it begins to sink—the ropes no longer bear upon it.

The Pope frowns—the eager upturned faces of the multitude grow pale—Fontano's presence of mind forsakes him.

The silence is broken—a voice from below shouts, “Water! water!—wet the ropes!”

It is done. The slackened hemp contracts again. The re-inspired workmen with a fresh spirit bend to their task. The majestic column is upreared.

But what said the edict ?

Death to whoever uttered a word !

Who is the doomed one ?

What, doomed to death ! while every lip gasps forth a blessing upon him, the skilful and the brave.

Who is he ?

A captain of a small trading vessel, Bresca by name, and a native of San Remo. His sailor life had made him familiar with the management of ropes. It had also made his brave heart utterly forgetful of self when there was any service he could render to others.

Must *he* die ?

Pope Sixtus V. was known to be severe and cruel, there could be no hope of pardon !

Amidst the passionate exclamations of the women, the angry murmurs of the men, the offender, unconscious of his offence, is seized.

The agitated crowd sway restlessly to and fro, while the Swiss Guard drag the saviour of so many lives before the pope.

No pardon is there ; but thanks, praise, and honour, are awarded to the brave sailor !

He is desired to ask some favour, whatever it be it shall be bestowed. Astonished to hear he was a criminal, the simple mariner is no less astonished to

find himself looked upon as a hero. Bresca, whom no peril could daunt, becomes confused by this undreamed-of graciousness. He kneels to ask first the blessing of his holiness—he hesitates—and then murmurs his request that to him and his descendants may be accorded the privilege of furnishing the palm leaves required for religious ceremonies by the Pope and his household.

The boon was instantly bestowed, and the brief confirming it is still in the possession of the family of Bresca.

To the fortunate sailor was also graciously awarded the honour of carrying the papal flag at the mast of his little vessel. He was also given the rank of captain in the pontifical army.

Few monopolies, we should imagine, can boast so well-merited and interesting an origin.

In Syria, a family of Christian Arabs dwelling at Gaza possess a similar privilege of supplying the palm leaves used at Jerusalem in the ceremonies of the Holy Week. These green branches, after a solemn benediction has been pronounced over them by the Patriarch of Jerusalem, are given away to the clergy present, and to any distinguished visitors.





## The Wild Date of India.—Khujoor.

(*Phoenix sylvestris*.—ROXBURGH).



THIS palm is common over all India. It is considered by most writers to be identical with the true date (*Phoenix dactylifera*). Some state that not the smallest difference can be detected; but in Von Martius's drawing, the Wild Date is very differently represented—a beautiful palm with very drooping branches.

As to its height there are conflicting statements. Griffiths gives it from thirty-four to forty feet only, but Dr. Joseph Hooker, in his Himalayan Journal, describes them “as so lofty that the climbers (toddy-drawers) as they paused in their ascent, resembled monkeys rather than men.”

Dr. Hooker states that the *Phoenix sylvestris*, or “toddy palm,” or Khujoor, by which name it is generally known in India, though sometimes called by Mohammedans Linda, was never seen by him growing wild, though it was supposed to be so in north-western India. He adds, “It is still a doubt-

ful point whether it is the same as the African species."

However this may be, one point there is which, from Dr. Hooker's account, is not doubtful. A sorrowful confession though it is to make respecting a member of a family so irreproachable in character as that of the kingly palm.

Speaking of Monghyr, Hooker says, "The inhabitants are reported to be sad drunkards, and the abundance of Toddy Palms was quite remarkable."

The inference is but too plain.

It is indeed for this mischievous produce that this unworthy scion of an illustrious race is chiefly valued, as its undignified name of "*Toddy Palm*" sufficiently proves. The distressing act is still more painfully impressed upon us by a description of them as "each having a pot hung under the crown!"

We must for the moment try to overcome our dissatisfaction while we listen to the account of the mode of obtaining the "tarri," toddy, or palm wine, from its "aerial cellar." It is very ingenious.\*

Detailed and interesting accounts are given by different writers in histories of various palms, particularly the date (*Phœnix*); coco nut (*Cocos nucifera*); and Palmyra (*Borussus flabelliformis*).

\* Toddy—the produce of a tree of the tropics—has given its name to the compound of a land in the far north; in Scotland whisky and water with sugar is commonly called toddy. The Scotch returning from India thus preserve a recollection of the palm wine of the East.

A sketch of the process, which is very similar in each, will suffice for all.

The toddy-drawer first selects a piece of tough jungle-vine, or a strip of the stalk of a young Palmyra or Coco-nut, this he converts into a kind of loop sufficiently large to allow him to insert his feet between it and the tree. He then commences the ascent, by means of his loop, and by alternately stretching himself at full length to clasp the trunk above him, and then, drawing his feet close up to his arms, he quickly reaches the summit of the tree.

Leaving a few of the leaves as a support to his body, he cuts away the remainder of the lower ones, and also their sheaths. He then makes a notch in the stem of the tree, near the top. The juice, issuing from it, is conducted by means of a small funnel made from a bit of Palmyra leaf, into the pot suspended below to receive it.

Tarri or toddy is not injurious when drank fresh. When left to ferment, it gives out on distillation a large portion of ardent spirit. On the coast of Coromandel this is called "Paria aruk."

Both there and in Bengal this juice is also extensively used for boiling into sugar. It was calculated by Dr. Roxburgh many years ago, that in Bengal alone one million pounds of palm-sugar were made annually.

At the time the toddy is drawn during the months of November, December, January, and February, each tree is reckoned to yield from one hundred and



twenty to two hundred and forty pints of juice. Every twelve pints are boiled down to one pound of "goor," "jaguari," or "jagghery;" four pounds of jagghery will yield one pound of good powdered sugar. So that, if converted into sugar, the produce of each tree averages seven or eight pounds of sugar annually. It is less esteemed than cane-sugar, and in India sells for one-fourth less.

The trees begin to yield this juice at seven years of age, when only four feet high. They continue productive for twenty or twenty-five years.

The operation of toddy-drawing spoils the fruit, which, though eatable, is small and very inferior to the dates of Africa and Arabia.

Hooker mentions "a grove of these trees which were curiously distorted, the trunks growing zig-zag from the practice of yearly tapping the alternate side for toddy."

Strange analogy! Mischievous produce leads to the loss of the *upright stature* which is one of the glories of the palm tree. The fruit also—how deteriorated it is!

The leaves are made into baskets and mats. In Ceylon very pretty baskets are made from these leaves cut into fine strips; dyed in various colours, principally red and yellow; and plaited in various designs. In England they are called "Caltura baskets," from the district in which they are made.

Livingstone, in his travels in South Africa, repeat-

edly mentions the Wild Date. In the Makololo country, these palms grow in abundance, but are not allowed to live long. As soon as their first fruits are ripe, the trees are cut down by the lazy natives to save the trouble of climbing for them.

At Tete, a Portuguese settlement on the eastern coast of Africa, amongst other fibrous tissues experimented upon for making paper, were those obtained from the roots of Wild Dates.

(*Phoenix farinifera*.—ROXBURGH.)

This dwarf palm is a native of dry and barren grounds, and sandy hills not far from the sea. It is common throughout India, and abundant on the coasts of Coromandel.

In appearance it resembles a leafy rush, never reaching more than two feet in height. Its leaves are much narrower and are of a much darker green than the Date Palm. Its berries, of a shining black, about the size of kidney beans, are sweet and mealy.

It derives its distinctive name from the useful farina which the pith of its stem affords. From its bitter flavour it is far less palatable than sago, but it is boiled into a kind of gruel, which is eaten by the natives, and called by them "kanja."

It has been of incalculable service in times of famine.

The leaflets are woven into sleeping-mats; the petioles or foot-stalks of the leaves are split into three or four strips, and plaited into baskets.

(*Phoenix paludosa*.—ROXBURGH.)

In Hooker's Indian journal we read of this palm as a slender stemmed Date Palm from six to eight feet high, forming the prevalent feature in the swampy islands of the Sunderbunds, "covering the whole landscape with a carpet of feathery fronds of the liveliest green."

It is, he says, a species "eminently gregarious; more so than any other Indian palm. It presents so dense a mass of foliage that when seen from above the stems are wholly hidden."

The natives use the smaller stems for walking-sticks, as they have an idea that snakes get out of the way of any person who carries such a stick.

Like those of all other palms, its leaves are used for thatch.





## The Dwarf Fan Palm.

(*Chamærops humilis*.—LINNÆUS.)



THE Date Palm, queen of the *Phœnix* tribe or genera, carried in her train such of her family as seemed to require notice.

Next in precedence to her (counting still by genealogy), comes the Dwarf Fan Palm, which has, besides, a peculiar interest as the only palm tree indigenous to Europe.

It is met with in all the countries that border the Mediterranean—southern Europe, northern Africa, and western Asia. Its northernmost limit is the neighbourhood of Nice. It flourishes in Spain. In Algeria it covers all wild and uncultivated land as the golden blossoming furze covers our English commons.

The palm was known to the Romans, and by them it was named Palma, from the resemblance of its fan-shaped leaves to the human hand. It has been honoured by giving its name to the whole of its royal race.

As sometimes happens with human beings, this

individual with a proud name and a long pedigree a little disappoints us in its personal appearance.

In hot-houses it has attained the height of fifteen feet, but in its natural state in Spain and Barbary, it is not more than four or five feet high. In Italy it is dwarfer still; its palmate leaves are there described as fit for a lady's fan.

A miniature indeed of the great Fan Palm, or Talipat of India, one leaf of which is sufficient to shelter twenty men from the rain.

But though deficient in stateliness, it is by no means devoid of beauty; and though for some time little regarded in Europe, its usefulness is now becoming known.

The Arabs had long made use of its firm, elastic fibres, which resemble horse-hair, for making ropes; tent-covers were also manufactured by them, by mixing those fibres with camels' hair. The French in Algeria had, therefore, their attention directed to its capabilities, and large quantities of the fibre were imported into France.

Since then, French ingenuity has made from it carpets and sailcloth of an excellent quality, and from the extreme divisibility of the fibre, thread as fine as flax has been obtained from it.

The leaves, used by the Algerian Arabs in making baskets, have also been experimented upon, and from them paper has been made. Since 1854, four kinds of manufactures—paper, sailcloth, carpets,

and thread—have thus been furnished by this plant. The paper and paste-board were exhibited in the Crystal Palace of 1851. Desfontaines considered that the young roots and the underground parts of the stem were eatable.

In the mountain of Khasia, Dr. Joseph Hooker found another species of *chamærops*, named by him *Chamærops Khasiana*. It rises out of naked rocks on the edge of a plateau, overlooking a lovely valley four thousand feet below. A similar species, or identical with it, in the western Himalaya, reaches an elevation of eight thousand feet, where it is annually covered with snow.

Another of this hardy species of palms, *Chamærops Ritchiana*, inhabits the barren hills leading up to the table-land of Affghanistan. Their dried trunks and foliage are of much value as fuel, where the scarcity of wood is so great. It is said of them that “the scurf, with the addition of saltpetre, is ready tinder for the matchlock.”

The leaves called “phurra,” are carried in large quantities into Scinde, where they are made into baskets, fans, brushes, sieves, platters, pouches, and sandals. Ropes for the water-wheels, so universally required there for the purposes of irrigation, are also manufactured from them.

The leaf-bud, the young inflorescence, and the flesh of the fruit are commonly eaten. The hard seeds are made into rosaries; and in strange contrast to

their use as beads of prayer, they are also used as bullets.

A chinese species of chamærops, *Chamærops excelsa*, is spoken of by Fortune as much valued by the Chinese for many domestic purposes. From its strong brown fibre, ropes and cables are made; bed-bottoms are also wrought from it. From the leaves hats are manufactured, and a garment called "So-e," adapted for wet weather, commonly worn by the agricultural labourers of northern China.

This palm has been recommended in our gardeners' journals as a hardy plant, growing out of doors in the neighbourhood of London, unhurt as yet by our winter's frosts.

Fortune speaks of the Hemp Palm occupying a prominent place on the sides of the mountains which surround the Snowy Valley. It is said by him to be a tree of great commercial importance to the Chinese, on account of the "curious and valuable sheets of fibre yearly produced on its stem."\*

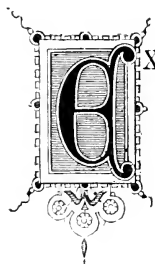
\* Fortune's Residence in China from 1853 to 1856.





## The Rattan or Cane Palm.

(*Calamus*.—LINNÆUS.)



EXCEPTING the Date Palm, the *Phoenix* of the Greeks, and the Dwarf Fan Palm, *Palma*, the name-child of the Romans, we have amongst the Palms of the East no proved pedigrees to guide us as to their precedence.

In default, therefore, of "Herald's Visitations," other palms may be grouped as they naturally suggest themselves—either from some tie of neighbourhood, some similarity of appearance, or of produce, or from striking and effective contrast.

Contrary as the two last reasons appear, they may serve by turns to effect the same desired purpose—that of leaving on the mind of the reader a complete picture, as it were, of the royal family of palms.

In grouping a family picture an artist is guided by either or both—assimilation or contrast.

We may see two lovely sisters, twin-like in their appearance, stand side by side, while at a little



distance the little one of the family stretches out its tiny arms to some tall majestic figure.

Let us return to the mountain and valley in the far East of which we had but a hasty glimpse, and one of the *Chamærops* species, a "little one" of the palm-tree family, shall point out to us the tallest of its race.

To the mountains of Khasia, in eastern Bengal, at the head of the great delta of two holy rivers, the Ganges and the Burrampooter (or Brahmaputra), we return, under the guidance of Dr. Joseph Hooker.

On the cliffs near Mamloo (a name signifying "stone of salt," eating salt from a sword's point being the Khasian form of oath), *Chamærops Khasiana*, bending forwards from out of naked rocks, looked over the edge of a plateau.

Let us also look over these cliffs.

The views are described as magnificent. Valleys four thousand feet below "are carpeted as with green velvet, from which rise tree ferns with spreading crowns, and tall Rattan Palms, their pointed heads surrounded with feathery foliage, like ostrich plumes, shooting far above the great trees.

"Beyond are the jheels (swampy treeless lands, intersected by innumerable canal-like streams), looking like a broad shallow sea, with the tide half out, bounded in the blue distance by the low hills of Tipperah. To the right and the left are scarped red rocks and roaring waterfalls, shooting out far over

the cliffs, arching their necks as they expand in feathery foam, over which rainbows float, forming and dissolving as the wind sways the curtains of spray from side to side."

A magnificent picture. Such a description of their home fittingly ushers in this giant tribe.

Though Cane Palms are also natives of Cochin China, the Malayan peninsula, and the islands of the Indian Archipelago, it is only in the East Indies, and only there where extremes of heat and moisture are combined, that they attain the wondrous heights which are recorded of them.

It is to Rumphius's "Herbarium Amboinense," Vol V., under the head of "Palmijuncus," that writers on palms refer for the marvellous lengths they are said to reach.

*Calamus verus*, one hundred feet; *Calamus oblongus*, three hundred to four hundred; *Calamus extensus*, six hundred feet. Another kind, the name not given, Rumphius speaks of as reaching one thousand and one thousand two hundred feet.

But there is much to interest us in the Calameæ besides their enormous height.

A beautiful picture of *Calamus equestris*, in Von Martius's work, shows us the characteristics of the tribe. A smooth bamboo-looking stem, extremely slender in proportion to its immense height, supporting evenly poised a magnificent crown of feathery

leaves. A tree one inch in diameter, being two hundred and fifty feet or more in height.

Excepting the smooth stem, and its fruit, every other part of this tree is armed with prickles. Its pinnated leaves terminate in long, long spines, hooked backwards, enabling them to attain their giddy height by raising themselves on the shoulders and heads of their companions in the forest.

But this almost dizzy elevation does not cause the lofty Calameæ to forget their mission as true palms; each one, as a *servant of God*, is a *friend of man*, and affords him innumerable benefits.

*Calamus draco* produces a resinous substance, once considered a valuable medicine; Dragon's-blood\* has been from ancient times an important article of commerce. It still retains its value as a drug amongst the Chinese, who import it in large quantities.

With us it is now principally used as a red colouring matter for varnishes and paints; dissolved in spirits of wine it is employed in staining marble. It also enters into the composition of tinctures and tooth-powders.

The ruby-coloured gum or resin is the outer covering of the ripe fruit.

But the especial value of the Calameæ are the rattans or canes obtained from various species, especially *Calamus rotang*.

\* A similar substance is obtained from the Dragon tree (*Dracena draco*) and from other plants.

The uses of canes are illimitable. They are universally appreciated. Few, even amongst palms, boast a wider field of utility than the Rattan, or Cane Palm.

The amusing introduction to Seemann's "History of Palms," turns on his early antipathy to canes. Like him, every school-boy objects to, and would wish to annihilate the species when raised aloft in the master's hand; but the same pretty brown or yellow cane assumes a different aspect when, as his own property, and as one of the earliest assumptions of manhood, it accompanies him in his walks.

His plaything then, how unceasingly does he switch it to and fro, mercilessly dealing destruction to every hapless wild-flower in his path.

But how attempt to enumerate the uses of cane?

Our list, beginning with the school-boy's walking-stick, must pass through every gradation of utility, till we see it flinging itself across a raging torrent to make a pathway for man. A fragile-looking but enduring bridge!

In the Himalayan journal already referred to, we read of such a bridge. Cane bridges somewhat similar are described by many travellers in India and Ceylon; the Maha-welli-ganga is crossed by one.

The Rattan Palm is called by the natives of Ceylon "Waywel."

A visit to the cane bridge over the Great Runjct

River is a favourite excursion from Dorjiling, a hill-station of Sikkim.

In a wild and beautiful spot this exquisitely simple fairy-like bridge, eighty yards in length, is seen spanning the foaming waters of the Runjeet, rocking to and fro forty feet above the roaring torrent. The canes with which it is constructed are the thickness of a finger; they are twenty or thirty feet long. The requisite length is obtained by joining them together with strips of the same plant; they are then stretched across the stream, a beautiful fig tree forming a pier on one side. From these parallel canes others hang in loops, the fastenings in all cases being strips of the same cane. The flooring is composed of bamboos, which are laid transversely in these swinging loops.

This apparently fragile but really secure bridge is crossed without hesitation by natives and Europeans. The motion is great, but barefooted Lepchas carry across it burdens of one hundred and forty pounds weight.

Tables and bedsteads are in a few minutes constructed by the natives, their only materials a few sticks, some split pieces of bamboo, and strips of Rattan Palm, by means of which the work is secured without a nail or screw.\*

In the islands of the Indian Archipelago, the Rattan Palm is considered one of their most useful

\* Himalayan Journal, Dr. Joseph Hooker.

indigenous plants. Their forests afford an abundant supply of numerous varieties ; some are the size of a goose quill, others are several inches in diameter. They are made available for innumerable domestic purposes, and also form one of their principal articles of exportation.

The finest rattans are said to be produced in Sumatra.

Crawford, in his "History of the Indian Archipelago," tells us that the Chinese, who import immense quantities for the purposes of cordage, used to obtain them in Borneo at the low rate of five cents for a hundred. Four and five millions of these canes are in some years shipped from the territories of the East India Company.

Four millions are said to be annually imported into England.

They supply us with the material required for the beautiful plaited cane-work used for carriages and chairs. From them, too, we receive our walking-sticks, fishing-rods, umbrella and parasol sticks.

Dyed black to imitate whalebone, they are employed for the frames of umbrellas and parasols, for stiffening of bonnets, and for making brushes and brooms.

A beautiful walking-stick called "Malacca Cane" is said to be from *Calamus scipionum*, a native of Sumatra. Some are mottled or clouded, and some brown from having been smoked. Malacca canes

are also worn in the gigantic petticoats of the present day by some who object to steel.

Another well-known stick is from a miniature Palm of Penang, which seldom exceeds four or five feet in height. These are more carefully prepared, being scraped with glass, straightened by fire, and then polished.

But in the East the Calameæ are yet more highly prized than with us. The vessels of eastern seas are supplied with cables plaited and twisted with these canes. Cane-ropes, as considered the strongest, are used for binding the wild elephants. All kinds of cordage are made from them, the slender fibres being used as twine.

In England we are familiar with the exquisitely beautiful baskets brought, through Holland, from Japan; they are plaited from finely split cane. Cabinets with drawers are made from the same material; very durable mats, also, and coarser baskets for packing.

Beautiful specimens of plaiting from the Rattan Palm are to be seen in the "Old Museum" at Kew. An exquisite Cheroot-case, finely plaited with strips of Cane Palm dyed red, and intermixed with silver; a curious girdle worn by the Dyak women at Borneo, also stained red, are amongst these curiosities. There are also hats and skull caps of this plaited cane. In the Philippine Islands, this fine plaiting of cane-work is carried to great perfection, and employs

multitudes of the women. Even on the spot some of the articles are very costly; "a cigar-case is sometimes valued at an ounce of gold."\*

In their native land the young shoots of Cane Palms are eaten either boiled or roasted; chopped fine and seasoned with pepper and gravy. Their small insipid fruit is prepared as a sweetmeat. One variety affords a better kind of fruit, mealy and of an acid flavour; it is much liked by the natives, who cultivate it in their gardens.

As perhaps the only palm easily procurable in England, the Cane Palm may be made most interesting by allowing it to exemplify one of the grand characteristics of its family—their endogenous structure.

That such was the manner of growth in palms was known so far back as B.C. 288. Theophrastus, the scholar of Plato, and the friend of Aristotle, distinctly noted the difference between endogenous and exogenous. But many centuries passed before the discoveries of the French naturalists Daubenton and Desfontaines showed to what a considerable part of the vegetable kingdom this peculiarity extended.

Simply cutting a cane across will show the difference. In the endogenous structure the centre part or pith (which in most species of Palms affords such valuable food), is as it were blended together with

\* Bowring's Philippine Islands.



the more woody part, and the bark, or outside of the stem.

In the exogenous the three are distinct.

The endogenous, or inward growth, is suggestive of many beautiful analogies.

May not young and old learn something beyond the bare fact, from the curious circumstance noticed by travellers?

Trees of this structure are found to be scarcely, if at all, injured by the creeping and climbing plants which so abound in tropical forests.

It is painful to read of, and yet more painful to see the strong-limbed *Ceiba* (or silk-cotton tree) strangled in the deadly embrace of its parasite, the wild fig.

Now look on our palms.

In the West, behold the *Leopoldinia*, entwined with brilliant *Orchidææ*; in the East, the Betel Palm, garlanded with a climbing fern—uninjured both. The Palmyra, sometimes encircled with a pink Orchid, has at other times her stem entirely hidden, surrounded as it is with the Banyan's ærial roots—but still she flourishes; her evergreen crown is joyously lifted on high.

And so it is with all other palms, they are unharmed by evil companionship.

The garlanding of ferns and orchidææ, which are as flattery's wiles in the days of prosperity, hurts not the *uprising* tree. The grasp of the wild fig is as the cloak of adversity, or as envy's malignant

attack—it may for a time conceal, but it cannot destroy the beauty and the joy which is not of outward growth.

We are told by Lord Bacon, “As hieroglyphics preceded letters, so parables were more ancient than arguments.”

An Eastern fable may be appropriate here :—

A gourd had climbed the tall stem of a palm ; having reached the summit, it mockingly questioned the royal tree,—

“How long have you taken to reach this height ?”

“A hundred years,” replied the palm.

“What think you then of me ?” said the gourd ; “in a few days I have reached the same height that you have required so many years to accomplish.”

“I think nothing of that,” responded the palm, “for every year of my life I have seen a gourd wind itself about my stem, as proud and self-confident as thou art, and as short-lived as thou wilt be.”

In the rustling of palms there is ever a voice.

When the stately *Calamus* speaks, we seem to hear the word “*excelsior!*”

Uprising, never cast down, the firmly rooted tree is enabled, slowly but surely, day by day, to increase its majestic stature, and to it a superb crown is given, one that fadeth not quickly away.

Away, then, dear boy-readers, with all unpleasant,

unworthy associations with Cane Palms, determine to have none such yourselves.

The cane may lie on the master's desk, but give to it in your minds a nobler voice.

It comes of a kingly race; let it speak to you of crowns!

There are crowns to be won, dear boys!

In every station of life honour and distinction may be gained.

The boy of to-day may be in days to come a benefactor to mankind; in many ways this may be.

A learned botanist, an adventurous traveller in distant regions, he may discover precious plants to add to the great families of the vegetable kingdom—the splendid catalogue of palms may be enriched by him.

A man of industry and observation, he may in his own land search out new products, or materially improve those already known. He may be as the palm tree—Servant of God, and Friend of Man.

As a statesman, a soldier, a sailor, he may win the palm.

Already has the crowned tree suggested proud distinctions to some whom a grateful country has delighted to honour.

Nelson's shield was emblazoned with a ship of war, a palm tree, and the words "Palman qui meruit ferat."

May it ever be so. *Let him who has won bear the palm.* But hear what the statesman, Lord Liverpool's motto says, "*Palma non sine pulvere.*" Ah, *Not without labour can the palm be won.*

From the school-room and the play-ground to the senate and the battle-field—he who would win must labour. The boy who would be a great man must learn that "in trying strength comes."

Trouble and toil must come before triumph. The palm tree, that will not be cast down, is the type of the true athlete—the contender for victory.

There are crowns to be won, dear boys, more glorious even than these !

The earliest crowns that ever were worn, were worn by those consecrated to God's service. Priests were the earliest wearers of crowns ; and princes wore them, because the kings of ancient times were also priests.

The earliest form of a crown was radiated—a crown of rays or of light. Even as in ancient days the palm tree, with its leaves radiating from the centre, was called the "crowned tree," and was chosen as the emblem of light.

There are crowns of light for which the dullest in intellect, the weakest in body, may strive.

There are palm branches for the pure in heart, for the strong in faith, to bear.

They are promised to those who "overcome."

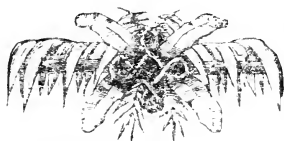
In the battle of life how much there is to over-

come! Evils and temptations of many kinds within and without! Evil influences without; evil dispositions within!

Who can be strong enough to overcome all these?

None in themselves; but in God's strength the weakest shall be strong. Wearing the whole armour of God, striving in God's name, to the children of God victory is assured.

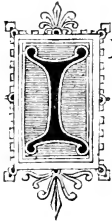
For such conquerors palm branches wait at heaven's gate.





## The Betel-Nut Palm.

(*Areca catechu*.—WILDENOW.)



IN the same "luxuriant green jungle of palms" where we found the aspiring Calameæ, we shall also find tall Betel Palms clothed with "elegant draperies of climbing ferns."

Areca Palms are amongst the loveliest of their race. *Areca catechu* was considered by Dr. Roxburgh as the most beautiful palm in India.

It reaches from forty to sixty feet in height. In Ceylon they sometimes measure seventy-five feet. Its stem is very erect and perfectly smooth, of a dark green colour, changing to gray as it becomes older. This slender shaft, seldom exceeding eighteen inches in circumference, is surmounted by a rich tuft of dark green feathery leaves.

By Hindu poets the Betel Palm is aptly described as "an arrow shot down from heaven."

At three years old it begins to bear long bunches of orange-coloured fruit, which, contrasting with the

deep rich hue of the leaves, adds the charm of colour to that of gracefulness of form.

The fruit, though very astringent, is eaten ; but the nut which is enclosed within it is the peculiar boast of the tree ; so much so, that the proper name of the tree itself is lost in that given to its produce. *Areca* Palms are best known throughout India as *Betel* Palms.

It is not only for its beauty that the Eastern poets speak of this tree as an arrow shot from heaven.

It supplies that which, throughout the East, is valued far more than food.

The *Betel Nut's* hold on the affections of the natives in every part of Asia where it is procurable, exceeds even that obtained by tobacco in the West.

But the *Betel Nut* has higher claims to regard than the mischievous weed.

From it the world obtains a valuable medicine. The drug called *catechu* (signifying the juice of a tree), formerly known as *Terra japonica*, is procured from a decoction of the nuts of *Areca catechu*, as well as from the leaves of *Acacia catechu*. *Areca* nuts contain a large quantity of tannin, causing them to be employed in some parts of India for dyeing cotton cloths. *Catechu* is not only used by us medicinally ; it is also employed in tanning and dyeing. Calico printers consume large quantities of it.

But from time immemorial this graceful tree has been cultivated in the East for the sake of its nuts. In some of the languages of the Indian archipelago the Areca nut has a name signifying ‘*the fruit.*’

The practice of chewing the Betel Nut had long been common throughout Hindustan, when Arabians and Persians, visiting there in the eighth and ninth centuries, quickly adopted the habit, and carried it back to their own lands. Manuscripts of the fifth century speak of palm trees that bear the small aromatic Indian nut. In books of old European travellers we find it said, speaking of the Indian islanders—“They are always chewing *Areca*, a certain fruit rolled up in leaves, of a tree called *bettre*, or *vetell*. They say they do it to comfort the heart, nor could live without it.”

Strange as they may appear at first sight, almost every long-established custom will be found to have originated in some instinctive sense of their needfulness.

Sir J. I. Tennent, in his comprehensive work on Ceylon, gives us an explanation of the need supplied by the Betel Nut.

He describes “every Singhalese as carrying in his waistcloth an ornamented box of silver or brass; inside of which is a smaller one to hold the *chunam* (a lime obtained by the calcination of shells); whilst the larger one contains the *Areca* nuts, and a few



fresh leaves of the Betel pepper ; this last growing on a vine."

Continually, through the day, the Singhalese "scrapes down the nut which abounds in catechu, rolling it up with a little of the lime in a betel leaf. The whole is chewed, and finally swallowed."

In this combination of anti-acid, tonic, and carminative substances, contained respectively in the lime, the pepper, and the nut, exists a corrective for the defective qualities of the vegetable food, particularly rice, which is so universal in the East.

Unconsciously, the chewer of the Betel Nut administers to himself a most useful medicine.

This time-honoured practice is universal among men and women, from the poorest to the highest in rank.

Side by side with the wanton luxury of Cleopatra dissolving pearls in her wine cup, we may place that of some of the native princes of India, who import small pearls from a lake in Ceylon, for the purpose of burning them into a species of lime, which they use with the Betel Nut.

In Khasia the natives measure distances by the number of mouthfuls of Betel Nut chewed on the road.

Like the cacao seeds in Mexico, and the tobacco currency in the early days of the colonization of Virginia, betel is used as money in some parts of Ceylon. In the fifth century B.C. betel leaves

were sent as a present from a princess to her lover.

In many Eastern countries the nuts are given for good luck. At the occasion of launching a vessel at Bombay, they are presented to the spectators, including Europeans, to ensure good luck to the vessel.

Amongst the Malays, the betrothment gift, or pledge of the lover's faith, is a handful of prepared areca, or "penang," which gives its name to the ceremony. The Island of Penang, in the Strait of Malacca, derives its name from its Betel-nut Palms. In that country, even its disgusting effects of blackening the lips and reddening the teeth is considered a beauty. A Malayan poet compares the mouth of his lady-love to an open pomegranate fully ripe; the blackened lips to the dark rind; the stained teeth to the crimson seeds within.

White teeth are, consequently, in great disfavour. A chief's son, who had been educated in Calcutta, on returning to his native country, visited the sovereign of Samarang. The youth in all respects made a favourable impression on the king, except that he was pitied because his teeth were so white.

It is said that though it discolours it preserves the teeth. This idea has led to Europeans preparing tooth powder from areca-nut charcoal.

In China the nuts are much used as medicine both for men and horses. The quantity imported by the Chinese, exclusive of that obtained from Cochin

China, is said to amount to upwards of forty-five piculs annually; one picul being one hundred and thirty-three and a half pounds English.

Eighty thousand piculs are produced on the coast of Sumatra.

In the Philippine Islands the consumption of Betel Nut is said by Sir J. Bowring to be "incredibly great"—an article of necessity even more urgent to the inhabitants of those islands than "the rice they eat, or the water they drink." Out of the eight hundred and ninety-eight warehouses and shops in the city of Manilla, he informs us that "four hundred and thirty-nine are devoted to the sale of prepared betel, or to the materials of which it is composed. In three hundred and eight of these shops the nut is sold for immediate use, mixed with shell lime, and served with 'buyo' or leaf of the betel pepper."

The fruit, about the size of a hen's egg, usually produces one nut each; but sometimes double and triple nuts are found.

These nuts are also used in the Philippine Islands for making black ink. In some parts of India cotton cloths are dyed with them.

A sort of inebriating lozenge is made from the sap of the tree.

At Pedoi, in Sumatra, a game called *mein-achu*, is played with areca nuts. It is described as somewhat resembling our English game of marbles.

A curious fact is mentioned by Bennett in his

“Wanderings in New South Wales, China, &c.” A cargo of these nuts is said to generate so much heat in the hold of a vessel, that from the quantity of steam which arises the crew are not allowed to sleep between decks. So excessive was the heat, that some wood, which it was necessary to bend, being placed amongst the nuts, it was in a few minutes sufficiently steamed for the purpose.

The flowers of *areca catechu* are deliciously fragrant. They are used on all festive occasions. They are also highly valued in the East as ingredients in medicine, and as charms for healing the sick.

The leaf-bud or cabbage is eaten as a vegetable.

In Sumatra many of the common drinking and baking utensils, and vessels for holding water and carrying fish, are made from the spathe. It is also nailed at the bottom of some of the native boats. The boatmen both there and at Java carry small bunches of the abortive fruit as ornaments at the stern and bows of their boats.

In the Philippine Islands the lower part of the petiole, which is white and flexible, is called “*Talupac*.” It is used by the natives as a kind of paper or cloth to wrap up articles, and is sold by them for such purposes.

In the Museum at Kew a singular walking-stick is to be seen, composed of a succession of rings cut from betel nuts.





Palm of the Plain



## The Palmyra.

(*Borassus flabelliformis*.—LINNÆUS.)



HIS magnificent palm is said by Sir William Jones to be justly considered "the king of its order," called by the Hindus, "grass-trees."

With us, palms properly distinguished from grasses, form a separate family.

The Palmyra, or "Talá," is a sacred tree in the East. It is dedicated to one of the Hindu gods, and is looked upon as the Kalpa tree, or "Tree of Life" of their paradise.

In Ceylon, where it is most especially loved and honoured, an ancient Tamil poem, "*Tala Vilasam*," composed in honour of it, is still preserved. Its eight hundred and one uses are there enumerated, and an account given of its supposed creation separately from all other trees, or rather of its being transplanted from heaven to earth, as an especial gift of their gods.

According to this tradition,\* the world, as origi-

\* See a complete history of the Palmyra, by William Ferguson, Colombo.

nally created by Brahma, was found insufficient for the wants of man. One substance was still wanting; one that should at the same time feed and enrich the people, and have the gift of healing the sick. In their great need the human race besought the assistance of Vishnu, who angrily summoned Brahma to account for his neglect. Brahma, described in the poem standing like a chidden child, "his finger below his under lip," declares himself unequal to supply this want, having already exerted his powers to the utmost in perfecting the earth.

From Paradise, itself, therefore, could mankind only procure what they wanted; and from Paradise the Kalpa tree, or "Tree of Life," was transplanted to earth, to be there known as the "Talá," or "Tari."

In the western world we shall find in another palm another so-called "Tree of Life"—the Miriti, or Itá Palm—which supplies to the Indian tribes of the Orinoco their every need, even as the Palmyra or Talá does to the Tamils in the northern part of Ceylon.

In appreciation of its admirable qualities, the Portuguese, during their possession of Ceylon, bestowed on the noble tree the name of "Palmeira brava," from which our English name for it is derived.

By the Malays it is called "Lontar."

Throughout the East it is known by many names;



for, next to the date and the coco nut, the Palmyra has the widest geographical distribution of all palms.

It is said to be found in about one fourth part of the circumference of the globe.

Palmyras flourish on both sides of the Persian Gulf, to the east and the west of Hindustan, including the northern part of Ceylon. From Madras they extend along the coast to Ava, the capital of Burmah. Immense groves of the Palmyra cover the banks of the Irawaddy. Southward they extend through the Malayan peninsula to New Guinea, including Sumatra, Borneo, and all the islands of the Indian archipelago.

The great "topes," or forests, formed by these palms, are described as most beautiful.

The magnificent tree towers to the height of seventy and eighty feet, without the smallest deviation in its perfect uprightness. Erect and stately it wears a superb crown, the weight of which it is enabled, by the hardness of its timber, to carry most evenly poised.

In rare instances the Palmyra has a divided trunk, like the Doom Palm of Egypt. In such cases each stem is surmounted by leaves, and the tree wears a double crown.

The crown which is worn with such queen-like grace, is composed of about forty fan-shaped leaves arranged round the head in a circular form. The leaves measure about four feet in length, the foot

stalk being of equal length. Each leaf is divided into seventy or eighty leaflets, which, diverging in rays from the stalk, form in their turn a series of almost complete circles.

When the tree arrives at a mature age, the lower leaves detach themselves from the stem, which then wears the appearance of a spiral plaiting surrounding it from the base to the summit. Beautiful as this effect is in itself, it derives additional beauty from the wreathings of lovely vines of various kinds, which seem to show a peculiar preference for Palmyra stems. The stately tree is frequently garlanded with the betel pepper vine, sometimes with an orchid, with tassels of pink blossoms, and sometimes festooned with the beautiful flowers of *Ipomeas* and *Convolvuli*.

The fruit of the Palmyra is the size of an ostrich's egg. They grow together in huge clusters. Their rich brown colour changes towards the base to a bright golden hue. One cluster is a load for a coolie.

This palm is found in the mountains of Ceylon, at an elevation of one thousand six hundred and eighty and two thousand four hundred and fifty feet; but the localities it loves best are low sandy plains scarcely above the level of the sea, exposed to the full heat of the burning sun of the tropics.

Their growth is luxuriant. It has been estimated by Mr. Ferguson, that in an area of about seven

hundred acres, which includes the Jathia peninsula and the adjacent islands, there are close upon seven millions of these trees. They supply one-fourth of the food required by two hundred and twenty thousand inhabitants of the country.

The Palmyra is also reckoned on as the chief support of six millions of the people of India and other parts of Asia. In times of famine, consequent on the failure of rice crops in seasons of drought, the poorer classes find in the preserved fruits of the Palmyra their only resource. Without them, hundreds of thousands must die by the lingering death of hunger. Can we wonder that the grateful natives call it the Tree of Life, and look upon it as a gift from the very hands of a god.

The sugar yielded by this tree forms the chief subsistence of the inhabitants of Timor and others of the Sunda Islands. In dry seasons they depend entirely on it for food.

To its fruit and sugar must be added an excellent flour obtained from the young plants, and the toddy or wine yielded by its sap.

What the potato is to the Irish, oatmeal to the Scotch, the sugar cane to the West Indian, and the grape vine to the south of Europe, the Palmyra is in herself, combining them all to the people of the East.

The in-gathering of her fruits in what are called the "Palmyra regions" (the southern part of our

Indian empire), is to the children of the soil what our wheat harvests are to us. It is the great event of the year. It attracts labourers from other countries, and those belonging to the place who may have emigrated, if not too distant from their home, hasten to return, to be present at this great domestic operation.

The fruit is said to vary in different trees in form, colour, smell, and taste. They are classed by the natives, each variety bearing its distinct name.

The first ripening of the fruit in July or August is made the occasion of a feast. Men, women, and children gather under some neighbouring tree; a fire is lighted, by which the fruit is roasted. It is then eagerly devoured. It is sometimes eaten raw, but the taste is rank and oily.

To this feast of the first-fruits succeeds the making of "*punatoo*," or preserved fruit, which, like the *adjonc* made from dates, is to last the people for food, with only the addition of rice, till the season for ripe fruit returns.

Mats made of Palmyra leaves are spread upon stages about four or five feet from the ground. The ripe fruits having been torn asunder, are put with a little water into baskets made of palm leaves. They are then squeezed till the pulp, mixing with the water, becomes a jelly. Successive layers of this jelly are spread upon the mats, to the thickness of half an inch, protected from rain and dew. It is

left for about eighteen days to be dried by the sun. Sometimes it is smoke-dried inside of their houses.

A mat containing the pulp of a thousand fruits sells for from three to four shillings.

Ferguson, the historian of the Palmyra, does not describe this punatoo, so beloved by the Singhalese, as attractive to Europeans. In the ancient Tamil poem before mentioned, the taste of it is likened to honey, milk, and sugar. It enters largely into the composition of most of their dishes. Preserved with palm sugar, it is considered a peculiar delicacy.

When Ceylon was possessed by the Dutch, they used to send this preserve as presents to Java and Holland.

With this "*punatoo*" is often eaten "*putoo*," a preparation made from kelingoos, or young plants of the Palmyra.

These are obtained by planting the seeds or kernels of the fruit. In the first stage of their growth, as soon as they have produced the germ of the future tree, they are taken up. When shelled, the inside kernels, resembling parsnips in shape and size, but of a firmer consistency, are cut into slices and roasted or boiled. They are eaten as a vegetable, sometimes with the addition of a little coco-nut.

These kernels are also dried in the sun and ground into meal. From this is prepared the favourite "*cool*," or gruel, of the Singhalese.

This very delicate kind of flour was much prized at one time by the Dutch.

Kelingoos are esteemed a great delicacy. They are exported in large quantities from Point Pedro to Colombo and all parts of Ceylon.

But besides fruit, vegetables, and flour, the Palmyra gives sugar, wine, oil, and many miscellaneous articles.

Oil is expressed from the ripe fruit. The wine or toddy is procured in much the same manner as from the Wild Date.

The clear, sweet liquor, obtained from the crushed inflorescence, has attractions for many creatures besides man.

Innumerable flies are allured by it ; and the combined attractions of toddy and insect prey causes immense numbers of birds to congregate in the trees. Some regular frequenters of these places of entertainment are known by the name of toddy-birds.

Travellers give amusing descriptions of the chatter and noise which goes on at these drinking parties amongst the half-intoxicated birds. But such unseemly merriment is not with them of longer duration than it is with human beings. In both cases insidious enemies are sure to be close at hand. Hid amongst the leaves, the sleek palm cat peers about with cruel eyes, watching for the right moment to make her deadly spring.

A fatal chain of temptations ! Toddy beguiles the

flies; toddy and flies allure the birds; toddy and birds attract the cat—for she too, it is said, drinks from the dangerous bowl.

Alas for this mischievous liquor! It causes the Wild Date's distorted growth, and is the occasion of evil even at the summit of the lofty Palmyra.

The opinions of Europeans differ as to the taste of this too-fascinating toddy. Sir William Jones compared it to champagne; an American writer Malcolm, to cider; and Johnson, an Abyssinian traveller, likened it to ginger beer!

Toddy is used as yeast by the bakers in Ceylon. It is also converted into vinegar.

As other writers have observed, it would be well if this liquor, from which the still more pernicious arrack is distilled, were all converted into that which a portion of it is made to produce—sugar.

The process of making the inferior kind of sugar called *jagghery* is very simple. A little wine is added to the sap, and the liquor is boiled to the consistency of syrup. It is then thrown into baskets made of palm leaves. It becomes, when cool, partially crystallized. In this unfinished state, with molasses still in it, jagghery is sent to the market, where it sells for three farthings a pound.

We learn from Sir J. I. Tennent that three quarts of Palmyra toddy will yield one pound of jagghery—the produce of Jaffna, about ten thousand hundredweights, being annually exported to the opposite

coast of India, where it undergoes the process of refining. The granulation is said to surpass that of cane sugar.

Considerable quantities of palm sugar are yearly exported to Europe from various parts of India; from Madras alone these exports amount to nine thousand tons, of which the greatest part is from the Palmyra, which is said to contain more of the saccharine principle than any other palm.

Palm sugar has been manufactured in India from a very ancient date.

“The reed which in India yields honey without bees,” mentioned by Nearchus three centuries before the year of our Lord, was most probably the sugar-cane; but old Singhalese chronicles of the following century speak of palm sugar (from Palmyra or Kit-tool), as distinguished from cane sugar. We are told that “in the first century B.C., a sugar-mill existed in Ceylon on the very spot where, fifteen hundred years after, a Dutch governor attempted to restore the cultivation of sugar.”\*

From the great merchant-carriers of olden time, the Arabians, who brought to Europe the luxuries of the East, were adopted in most instances the names by which they are still known amongst us.

The Arabic sukhir is easily traced in English sugar, French sucre, Italian zucchero, German zucher, Spanish azucar, Russian sachar. Sanskrit scholars

\* Tennent's "Ceylon."



claim for that language the earliest form of the word. Some derive it from sarkara. Jagara or jagghery is the name by which palm sugar in the present day is known throughout the East. Others suggest that the Arabic word so widely adopted originated from *goor*, sweet; *se-goor*, sweetest.

Precious indeed are the fruit and the sap of the Palmyra; but that is not all—its leaf is the wishing-cap of the Singhalese.

In the tree itself is his wine-cellar and his orchard; his preserves, his sugar, and his oil, come from there; and his flour from the kernels of young plants, the shells of which when charred surpass all other fuel in the glowing heat which they give out. Almost everything else required for domestic purposes he finds in the leaves!

Simply dried in their natural state, they take the form of a sloping roof, and quickly thatch his house. They make the fences for his rice-field and garden. Cut into strips, they are woven into his sleeping mat, and mats of every kind; bags and baskets that will hold water; hats, caps, and innumerable other articles, including a material for fastening, which obviates the necessity of nails or screws. Is he too hot? In them he finds a ready-made punkah or fan. Does it rain? Behold his umbrella!

They even supply the material for letters and books!

Books in Ceylon\* are made in the present day, even as they were centuries ago, from olas or strips of palm leaves. The Sibylline books of ancient Rome are said to have been written on palm leaves.

The most valuable records and the most ancient of the Singhalese chronicles are written on leaves of the Talipat Palm, as they are considered the most durable. We will therefore wait for the Great Fan Palm to give us an account of these marvellous books. To the story of the Palmyra, however, properly belongs a notice of these palm-leaved books found in an Arabian MS. of the tenth century. The tree was spoken of as the "Tary"—Tari being one of the Tamil names for the Palmyra—and its fruit was said to be eatable, which that of the Talipat is not.

Palmyra leaves are prepared and used in the same way as those of the Talipat, and are employed for ordinary purposes. The material for writing upon, of which a Hindu author spoke about four thousand years ago, now passes through our English post-offices in India. Letters are written on olas, rolled, and fastened with gum lac.

In Timor water-pails and drinking-cups are made from these leaves, and also a favourite musical in-

\* These palm-leaf books, sometimes called Malabar books, are common throughout the East. The writer has some *leaves* of a book before her now, brought from Burmah. They measure upwards of twenty inches in length, and are above two and a half in width. A margin of about two inches is left at either end, nine lines of close writing filling up the interior. A margin is also left round the two holes towards the centre, through which passes the yellow silk cord on which the leaves are strung. The edges are gilt, and the leaves are written on both sides.

strument. The leaf being bent, retains the curve; three strings are fastened at each end; and a rude sort of violin is produced.

The timber of this tree is extremely valuable. It is so hard and durable, that a Tamil proverb says, "The Palmyra lives for a lac of years when planted, and lasts for a lac of years when felled." Its horny fibres are said to resist the attacks of white ants, which especially recommends it for roofing throughout Ceylon and India. The exports from Jaffna in rafters and laths consume annually between seventy thousand and eighty thousand palmyras. Besides these rafters of great durability, this tree furnishes pillars and posts for verandahs, well-sweeps and gutterings, bulwarks, rails, decks and roofs for native vessels. Bows are also made from this wood.

The trees should have reached a considerable age before they are felled for timber. At a hundred years old they are said to be good, but when older the wood becomes harder and blacker. The Singhalese have an idea that the side of the tree looking south is superior to the other. The female are three times the value of the male. The wood is susceptible of a very high polish.

Palmyra wood is brought to Europe, where it is manufactured into various fancy articles,—umbrella handles, walking-sticks, paper-rulers, wafer-stamps, boxes, and other things of the kind.

The natives use artifice to make young wood

appear old. They steep it in salt water, which makes it heavier and darkens the colour.

But there is yet another interesting particular relating to the Palmyra,—its union with the Banyan (*Ficus Indicus*).

The “marriage,” as it is called by the Hindus, of two of their sacred trees, is looked upon by them with religious veneration. They regard it as an especial act of Providence, and call it a “holy marriage.”

This singular union is by no means uncommon throughout India and Ceylon. In their living beauty these loving couples have been seen and described by travellers in the East, and, united even in death, they have been brought to England. A Palmyra stem embraced by the Banyan is mentioned by Tennent as now in the Museum of Belfast, and another at Kew.

This union is simply explained by birds dropping the Banyan's seeds into moist cavities of the Palmyra's stem, occasioned by detached leaves. The Banyan's aerial roots falling on all sides, soon encircle the Palm, so that nothing of her is seen but her magnificent crown uplifted on high above her bearded lord. An exquisite illustration of the words of Solomon: “A virtuous woman is as a crown to her husband.”

In the lofty Calamus man may behold the type of the conqueror; in the beautiful Palmyra woman may see the representation of a perfect wife.

In her loving modesty, she is willingly eclipsed by the superior greatness of her lord; yet still she preserves her pure and healthful individuality. Abounding in good works, the influence of her sweet presence is felt, and though partially, it is not entirely concealed. Her crown, which fadeth not away, is seen on high, a witness and example to all. Crowned herself, she is as a crown to her husband also.

The hold on the thoughts and affections of the natives of Ceylon which this invaluable tree has for centuries retained is evidenced by the numerous Tamil proverbs in daily use which have reference to her various characteristics.

The Palmyra is in Ceylon a "household word."

The lovely island, beautiful itself as an Eastern queen, wears a double diadem of palm-leaves and pearls.

Compare the two crowns.

The most ancient of all, the radiated crown—that which was placed on the statues of gods, and which was worn by priests while offering sacrifices to them.

It is represented by the ray-like circle of the leaves of the palm.

In later days men adopted the fillet of pearls.

In real value does not the leaf surpass the gem?

God's gift, how lavishly is it bestowed! Palm leaves wave joyously in the sunny air. Under their shadow cheerful industry and contentment

make their home, where simple food and domestic comfort is supplied.

Far down in the depths of the troubled sea gleams forth the coveted gem. In peril of life and limb, the anxious treasure-seeker must go down into these dark waters to fetch it forth. He snatches at his prize in fear, and when it is gained he is watched on all sides by suspicious eyes. Sometimes the jewel is won at the sacrifice of life.

Say, does not the palm-leaf crown outshine the fillet of pearls?





## The Great Fan Palm—Talipat.

(*Corypha umbraculifera*.—LINNÆUS.)



THE Talipat closely resembles the Palmyra. An artist might almost suppose them twin-sisters, but the botanist classes them differently.

The Talipat is the most majestic of the two. It is the Great Fan Palm of the family. Its choice of locality is different too to that of the sister palm.

Natives alike of Ceylon, Malabar, and the Malay coast, the Talipat loves best the mountain heights and rocky grounds of these regions, while the Palmyra delights to clothe with beauty their low and sandy plains.

The Talipat attains sixty, seventy, and sometimes a hundred feet in height. Its peculiar boast is the size and usefulness of its superb leaves. When they first appear they are folded together in plaits like a lady's fan, but as they expand they form a magnificent circle of ray-like leaflets.

The length of the petiole or foot-stalk is said by

some writers to be seven feet, and that of the leaf six feet, measuring thirteen feet in breadth; the segments of the leaf, or leaflets, being from ninety-five to a hundred in number.

Others describe the leaves as fourteen feet broad, and eighteen feet long, exclusive of the stalk; the whole forming a superb crown of about forty feet in diameter.

Each leaf is said by Tennent, when laid upon the ground, to form a semi-circle of sixteen feet in diameter, and cover an area of nearly two hundred superficial feet.

Knox, twenty years a prisoner to the King of Ceylon, thus describes, in his book of the seventeenth century, the Talipat tree:—

“It is as big and tall as a ship’s mast, and very straight, bearing only leaves, which are of great use and benefit to this people—one single leaf being so broad and large that it will cover some fifteen or twenty men, and keep them dry when it rains. The leaf being dried is very strong and limber, and most wonderfully made for man’s convenience to carry along with him; for though this leaf be thus broad when it is open, yet it will fold close like a lady’s fan, and then it is no bigger than a man’s arm. It is wonderfully light. They cut them into pieces, and carry them in their hands. The whole leaf spread is round, almost like a circle; but being cut in pieces for use, are near like unto a triangle.



They lay them upon their heads as they travel, with the peaked end foremost, which is convenient to make their way through the boughs and thickets. When the sun is vehement hot, they use them to shade themselves from the heat. Soldiers all carry them; for besides the benefit of keeping them dry in case it rain upon the march, these leaves make their tents to lie under in the night. A marvellous mercy which Almighty God hath bestowed upon this poor and naked people in this rainy country.”

So infinitely useful were these magnificent leaves that we wonder not to read that they were held in especial honour. On the same principle, it would seem, as the wool-sack is made the seat of honour in England's House of Peers, in Ceylon, under their native rulers, the leaves of the Talipat, folded together as a fan, were carried before the great man of the island as a sign of distinction. The number of leaves was determined by his rank. Elaborately ornamented fans, formed from a single leaf of the Talipat, are still so used on occasions of ceremony.

Their value to the poorer people continues to this day. Travellers describe as a curious spectacle one of these enormous leaves resting against a wall, propped up by a stick, affording shelter from the rain to fifteen or twenty men.

Immense fans are made by the Singhalese from these leaves, portable tents, and roofs for houses. The foot-stalks, from seven to ten feet long, are used as oars.

But it is as forming the "Malabar books," and as containing the sacred records of the Singhalese, that the leaves of the Talipat especially claim our attention.

It would seem beyond a doubt that in India these leaves and those of the Palmyra supplied the most ancient of all materials for writing upon. An incidental proof of this may be seen in the fact that, up to the present day in the East, tablets of copper which are to be engraved upon are made in the shape of the "olas," or palm-leaves. These tablets are sometimes bordered with silver or gold.

The earliest grants of land in Ceylon were written on palm-leaves; but a royal edict of the year 1200 A.D., inscribed on a rock in the island, directs that all future grants should be engraved on copper, lest, if written on leaves, they should be destroyed by white ants. The preservation of their sacred books is attributed by the natives to the aromatic oil with which the leaves were prepared. Some of these books are believed to date back to 1172 A.D.

The preparation of olas, as described by various writers, is alike, whether from the Palmyra, the Talipat, or the Coco-nut, from which they are also occasionally made.

The leaves, taken while still tender, are separated from the central ribs. They are then cut into strips two or three inches wide, and from one to three feet long. After being boiled in spring water, and

steeped in milk, they are dried, first in the shade, and then in the sun. Rolls of these leaves, called in Ceylon "Karokola," are kept in store, or sent to market, to be used for ordinary purposes. But to render them fit for writing upon, they undergo a smoothing process. The Singhalese mode is said by Tennent to consist in drawing the damp ola (to one end of which a weight is attached) backwards and forwards over a smooth log of Areca palm. It takes from fifteen to twenty minutes to smooth a single ola.

Before the invention of printing, monks were our book-writers and book-binders. In Buddhist monasteries, with these two arts they combine a third—that of the paper-maker. It is from these monasteries that the finest specimens of olas are to be procured.

When intended for books, the leaves are pierced with two holes, through which cords are passed to string them together.

One of the sacred books of the Singhalese—a copy of the Discourses of Buddha—fills two thousand of these olas, each twenty-nine inches in length, and nine lines of writing on each side of the leaf.

These books have sometimes richly ornamented covers of lacquered wood.

It is by means of a sharp-pointed instrument, or style, held upright in the fingers, that characters are traced on these leaves. A mixture of charcoal and fragrant oil is rubbed over the letters to make them more distinct.

Some very perfect copies of the sacred books of Budhoo, written on leaves of the Talipat, and supposed to be five or six hundred years old, were presented to the Library of the Royal Asiatic Society by Sir A. Johnston. While President of Her Majesty's Council in Ceylon some years ago, he was allowed by the priests to have copies made of ancient books dispersed amongst the temples of the island. This work, embracing the whole moral and religious code of the Buddhist, he also presented to the Society, as well as a beautifully lacquered and gilded specimen of the royal library at Ava. This book, also on Buddhism, was a present to him from the King of Burmah.

These sacred books, or "bana," are held in great reverence in Ceylon. Though mostly written in the ancient language, Pali, and therefore not understood by the poorer people, it is considered a religious duty to listen to them while they are read aloud.

Natives assemble under a shed of coco-nut leaves, and chew betel-nut while they await the coming of the Buddhist priest, who, followed by a boy holding over him an umbrella made of the leaves of the Talipat, carries reverently himself the "bana," written on leaves of the same tree.

These leaves, so precious in a land where paper is expensive, are devoted now to a worthier service. In the Wesleyan missionary schools, where their funds are limited, native children are taught to write

—in the ancient fashion of their race, on the leaves of their country—the good tidings of great joy that Christ's followers have brought them from afar.

We may confidently suppose that the Holy Scriptures themselves have been written upon the leaves of the palm.

In "The Book and its Story" we read, in a chapter on the Syrian Church, that so great was once the desire amongst the Malayim Christians to have the Bible in their native language, that the elders of fifty-five churches engaged that, on a standard book being sent to them, each man would make a copy for his own family on olas.

This was many years ago, when paper in India was an enormous price. In 1811, a small edition of only a thousand copies of the New Testament, i. printed in India, would have cost £1000.

In Government offices in Ceylon these olas are kept, duly stamped, to be used as parchment for deeds and legal documents.

The pith of the tree, like the Palmyra, when young, furnishes a flour from which a kind of bread is made.

The fruit is round, the size of a cherry, hard, and not eatable.

The flowers, white as ivory, have a strong, oppressive smell.

The tree flowers only once. The bursting of the

seed-vessel is accompanied by a sudden loud noise. As soon as its seed is shed, the Talipat dies.

(*Corypha Talicra*.—ROXBURGH.)

The "Tallier" of Bengal resembles the Palmyra still more closely than the Talipat, in that its leaves are rounder and not quite so large as those of the chieftain of its race. They are employed for the same useful purposes.

Roxburgh describes as a peculiar feature of this tree its superb inflorescence, twenty feet in height, issuing, in the month of February, from the centre of the leaves at the apex of the tree.

(*Corypha Gebanga*.—BLUME.)

The Gebang palms employ, in Java, thousands of boys and girls, converting their leaves into baskets and bags. Broad-brimmed hats are also made from them, and houses are thatched with them.

Fishing-nets and a material for shirts are woven from its fibres.

Ropes are manufactured from the twisted leaf-stalks.

Flour is furnished by the pith of the tree, and its root is much esteemed for medicinal purposes.



## Sago Palms.

(*Metroxylon*, or *Sagus Rumphii*.—WILLD. *Metroxylon laeve*.—  
MARTIUS. *Arenga Saccharifera*.—LA BILL. *Saguerus*  
*Rumphii*.—ROXBURGH.)



WE have seen in various palms representations as it were of some of the most interesting relations of life. Types of human beings fulfilling the several works appointed for them to do—  
“to every man his work.”

The palm tree, servant of God and friend of man, in her varieties of form and products, lovelily sets before us pictures of some of these states of life wherein men and women may glorify their Maker.

The Date Palm as a queen, the Calamus as a conqueror, the Areca as a physician, the Palmyra as a loving wife,—in the Sago Palm we behold a devoted mother.

Her children look to her for bread; she gives it to them even at the expense of her life. Had she a thousand lives she would give them all; but as it is her infinite usefulness has caused her to be en-

dowed by the Giver of all good with extraordinary vitality.

The Sago Palm does literally give more than one life to man. After it has been cut down it springs up again, willing to afford once more at the same price her nourishment to mankind.

The fruit of the Sago Palm is of a peculiar kind : it can only be procured by her death. Unlike the queenly Date and beautiful Palmyra, who, year by year, showering their rich fruits into grateful hands, live in an atmosphere of rejoicing and gladness. The life of the Sago Palm (comparing it to that of a human being) is one of self-sacrifice and sorrowful anticipation,—she lives only to die. The bread or flour which she yields is obtained from the heart or pith of the tree, which must therefore be cut down before it can be procured. At this toiling mother's death the labour of her life forcibly set forth does good,—“ She being dead yet speaketh.”

We may be sure that in the eyes of the natives of countless islands in the Pacific and Indian Oceans the Libley tree and the Gomuti are the fairest amongst trees. None are so truly lastingly fair in the eyes of those amongst whom they dwell as those who live in their hearts. The loved are lovely in their own homes.

But if as a painter one looks on the *Metroxylon* (as the representation of her class who are similar to herself in most respects), she cannot be said to possess



the beauty, grace, or majesty, which are the usual characteristics of palms.

The Sago Palm seldom exceeds thirty feet in height; nor is hers a slender stem. She is born to a life of hardship. And well is it for those who depend on her for support that she is not so fragile looking as some of her fair sisters. But though she lacks much of their outward dignity of form, her aspect is not unbecoming her royal race,—though roughly garbed the daughter of princes forgets not to wear her crown.

Palm oil, palm sugar, palm wine, are things commonly talked about. Our village school children in England know that dates are the fruit of that tree, over whose triumphal branches the Lord of glory passed on that road which, ere the week closed, he traversed again to the Cross of Calvary!

Coco-nuts are pretty generally known as the fruit of a palm; but there may be some who forget that the pearl-like grains called sago are also the produce of one of that royal family.

This sago, or sager (in the Papuan\* language signifying bread), is the actual staff of life of the Polynesian tribes,—their chief, sometimes their only article of food.

In the Moluccas the Sago Palm (*Metroxylon*, or *Sagus Rumphii*) is called the Libley tree. The

\* The negro race of the Indian Archipelago.

Malays give it the name of Rumbiya; but each tribe has besides its own peculiar name for the tree and its produce.

The geographical distribution of this palm is said to be co-extensive with that of the clove and nutmeg trees. It is most abundant in all the islands where these spices are found.

With us the costly spices far exceed the sago in value; but it is not so in the islands where both are natives. There the tree which affords the simple daily food is far more highly prized than those which yield the aromatic condiments of luxury.

Sago Palms form extensive forests; they grow spontaneously, and need no culture. This valuable flour is obtained with such facility, that none can fail to recognise the loving-kindness of a Father in the good providence which has thus placed an abundance of simple food, where from lack of energy to overcome difficulties the children of the soil must otherwise have experienced great suffering.

To protect the children's bread this tree, until it attains the height of five or six feet, is furnished by its Maker with sharp spines, which keep off wild hogs and other animals, who would otherwise rip open the stem to get at its farina. When the outer wood is sufficiently hardened with age the spines, no longer needed for protection, drop off.

This valuable farina being, in fact, the starch produced by the tree for the formation of its flowers,

is most abundant just before the appearance of the terminal flower spathe; this is shown by a whitish dust exuding through the leaves. There is no fixed season for extracting the pith; it is taken as each individual tree becomes ripe.

The tree when felled is cut into lengths of five or six feet; part of the hard outside wood being sliced away, the remainder forms a trough, into which the pulpy interior part is put back. It is mixed with water, and beaten with a piece of wood; the fibres separate and float at the top; the flour sinks. After being cleared by successive waters, the floury pulp is put into cylindrical baskets made of the leaves of the tree.\*

This raw sago meal, if preserved from the air, will keep a long time. A considerable quantity is consumed by the natives in the form of gruel, or eaten with fish soup.

The meal is also made into cakes or loaves. Those of Amboyna are six inches long, and three or four inches broad; those of Ceram are much larger, and extremely hard.†

Sago is principally consumed by the natives in the form of these cakes; they are sold in the market, several strung together on a filament of cane.

The granulated form in which it comes to England is called pearl sago. The meal, while moist, is

\* Forrest's "Voyage to the Moluccas."

† Crawford's "History of the Indian Archipelago."

passed through a sieve made of the mid rib of the leaf of a Coco Palm. The grains are then held over a fire in a very shallow iron pot. Sago so prepared, having been thus half-baked, will keep for a length of time. The process is said to be a Chinese invention.

Raw sago is imported into Singapore wrapped in leaves of the Pandanus (Screw Pine). Native boats bring it at all times of the year from Sumatra to Singapore; fleets of ten boats or more carrying twenty thousand packages, or tampings. These cone-shaped packages generally weigh twenty pounds each.\*

It is said to be scarcely possible to speak with precision as to the quantity of nutritive matter afforded by the Sago Palm; but "that it is certainly prodigious, and far exceeds all other plants." † Crawford calculated that five hundred and six hundred pounds was no unusual produce for one tree. It was estimated by him that the produce of an English acre containing four hundred and thirty-five of these palms would be (allowing for perishing and unproductive plants) one hundred and twenty thousand five hundred pounds of meal annually.

A single spathe of the *Metrocydon Rumphii* has

\* Bennett's "Wanderings in New South Wales," &c.

† We must except as *annual* producers the Plantain (*Musa sapientum*) and the Banana (*Musa paradisiaca*). Humboldt estimated their produce as exceeding that of wheat, as one hundred and thirty-three to one. Their branches of one hundred and sixty or one hundred and eighty fruits weigh from sixty-six to eighty-eight pounds.

been computed to have not less than two hundred and eight thousand flowers, or six hundred and forty thousand upon a single tree.

At fifteen years of age the Sago Palm yields this abundant produce. When cut down the power of vegetation remains in the root, which puts forth leaves; the stem springs up again, again to be cut down and yield its precious fruit.

Every part of the tree is made available for useful purposes; the trunk itself, as we have seen, supplies the trough for the preparation of its meal; and the baskets into which it is afterwards put are made from the leaves.

The hard wood of the tree is used for building, and for the construction of bridges. In Siam and the Malayan peninsula drums are made from it, as the tam-tam of India is made from the wood of the Coco-nut Palm.

Other parts of the sago tree are applied to various house purposes, palings for gardens and other enclosures. The leaves form the universal thatch.

The refuse of the pith is used for feeding hogs. From these refuse heaps, if left to decay, an edible mushroom of very delicate quality springs up. Both there, and also in the decaying wood, a white worm with a brown head, resembling the palmer worm, is generated.

Like the ancient Romans, who considered wood-

worms great delicacies, the people of the East and West hold these worms in great estimation.

It is in their larva state that these *calandra palmarum* (so called from their living on the pith of palm) are eaten in South America under the name of "ver palmiste," or groe-groe worm. Under the latter appellation they are sold as dainties in the markets of Surinam. They are the produce of the Cabbage Palm (*Areca oleracea*). Sago has afforded a new material for the preparation of starch. Glenfield patent starch is made from sago.

*Arenga saccharifera*, another of the sago palms, also a native of the islands of the Indian Archipelago, and much prized by the natives, demands attention from the variety of its products.

Its farina is inferior to that of *Metroxylon*, or *Sagus Rumphii*; but in Java and some other islands it is the only kind procurable by the natives.

Crawford speaks of toddy as one of its chief products. It is obtained from the tree in a similar manner to that described in the Palmyra.

The Gomuti yields toddy at nine or ten years of age, and continues to yield it for two years at an average of three quarts a day.

Of this a large proportion is boiled into sugar, which, though described "of a dark colour, greasy consistency, and peculiar flavour," is the only sugar used by the native population of the islands where

it is made. *Arenga saccharifera* is known as the "sugar tree" of the Moluccas.

The wine of this palm is employed by the Chinese in the preparation of the Batavian arrack.

When the produce of toddy diminishes the tree is made to yield sago. One tree will afford from one hundred and fifty to two hundred pounds weight.

But the peculiar boast of the Gomuti, or Aren Palm, is a material resembling black horse-hair, which is found between the trunk and the branches covering the lower part of the stalks of the leaves. The fibres of this singular substance, though less pliant, are stronger and even more durable than those of the coco nut. It needs no preparation for making it into ropes; it is simply spun and twisted in its natural state. It is not affected by alternations of heat and moisture; and, like all fibrous materials from palms, does not require the pitching and tarring indispensable to hempen cordage.

Gomuti is now considered a valuable article of commerce; the best comes from Amboyna and the other Spice Islands.

It is said "to furnish the entire cordage of native shipping; and in the East the largest European vessels find the advantage of using cables made from it."

Marsden in his "Sumatra" adds his testimony to

that of Crawford as to the excellence and value of this material. He says, "The Eजू (or Gomuti) is of all vegetable substances the least prone to decay; roofs on which it was bound as thatch are so durable as never to need renewal. Ends of timber and posts which are to be fixed in the ground are wrapped round with it as a means of preservation."

Bennet in his "Wanderings" corroborates these opinions, and also Low in his "Borneo." The natives there plait these fibres into ornaments for the neck, arms, and legs. Low observes, "That bracelets and necklaces of this neat horse-hair-looking material are infinitely more pleasing to European eyes than the tawdry beads and brass buttons with which most savages delight to adorn themselves."

Mixed with this curious fibre are long hard woody spines, also black. They are used as arrows, poisoned or not, to discharge from blow-pipes and arrow tubes. Pens are also made from them, or, more properly, the styles with which throughout the East characters are traced upon prepared palm leaves.

In some of the islands these pens are called "Pansuri;" on the Pedir coast of Sumatra they are known as "Puri-eju."

Under the name of "Eजू," or "Anace," this palm is highly esteemed by the Sumatrans, more particularly on account of this valuable fibre.

Bennet describes the largest seines as being made



from it, ropes of all sizes, and the cordage of all their vessels.

The Spaniards call it "Cabo negro," and procure it from Manilla for the manufacture of ropes.

Sharp and strong bristles, somewhat similar to the spines of the Gomuti are found amongst the fibres of *Sagus filaris*, a Malay plant; they are dried and used as needles to sow with.

Under the Gomuti fibre is found a soft gossamer-like material called "Baru." It is applied as oakum in caulking the seams of ships, also as tinder for kindling fires; for this last purpose it is imported into China in large quantities.

In its wild uncultured state the Arenga Palm comes to maturity in ten years, and is productive for two. During that time it affords three quarts of toddy daily; besides eight pounds of the tinder material, eighteen pounds of gomuti, and finally from one hundred and fifty to two hundred pounds of sago.

Were any attention bestowed in the cultivation of these trees, it is thought that the production of each of these substances might be considerably increased.

Uncared for, except to be despoiled of its treasures, the *Arenga*, or Gomuti, like the *Metroxylon*, or true sago, has not the stately bearing of palms in general. It is described as low in stature, and almost of a wild and shaggy appearance.

These two good little sisters, Libley and Gomuti (as they are called by their own people), unlike the beautiful twins Palmyra and Talliera, are born to a hard life. It would seem as if they knew it, and, prematurely old, cared not to braid and curl their tresses like other young things.

The haunting picture of the over-worked needle-woman in "unwomanly rags" was drawn by a master's hand.

But be of good cheer, little unkempt palms in the far islands of the Indian seas, and ye too (typified by them) sisters in human homes of poverty and toil. Far happier are ye so—lowly but upright, self-sacrificing but beloved—than to be as the Khujoor (Wild Date) with natural gifts misapplied. A youth of beauty admired and caressed—followed by an old age of deformity mocked at and accursed.

The fruits of the *Arenga* are about the size of a medlar; they hang on long strings and stalks, and are brought forth in such abundance that those depending from a single shoot are more than a load for a man. The fruit branches are from six to ten feet in length.

The juice of the outer covering of the fruit, if applied to the skin, occasions great pain and inflammation. The natives of the Moluccas used it when defending their posts against the Dutch, who gave it the name of "Hell-water."

Freed from this noxious covering, the inside of

the fruit is extensively prepared as a sweetmeat by the Chinese ; it is much liked by them.

There is yet another "Sago Palm," so called by Dr. Joseph Hooker in his "Himalayan Journal," a native of Sikkim, *Cycas pectinata*, with a stem ten feet high, and a beautiful crown of foliage ; but the farina obtained from this and *Cycas circinalis* is considered very inferior, and is less abundant than that afforded by the true Sago Palm.

Some of the species of these elegant plants are grown as ornamental shrubs in gardens in the West Indies.

*Cycas revoluta*, a native of Japan, affords sago of a superior quality. Thunberg mentions that soldiers can be supported for a long time on a very small quantity of it. It is contrary to the laws of Japan to take any of these trees out of the country. The nuts are also eatable.

These cycadaceæ have a peculiar interest, as the link between palms and the next most beautiful creation in the vegetable kingdom—the ferns. A cycadacious stem, partaking in structure of some of the peculiarities of both exogens and endogens,—resembling ferns in the manner of developing their leaves, and in their terminal single bud, and according with palms in their mode of growth and other characteristics.

Another species of *Metroxylon*, although its

product is of a different kind, may be here noticed.

(*Metroxylon*, or *Sagus Ruffia*.—SPR.)

This palm is described by travellers as "singularly rich and stately." It is a native of Madagascar, where it is called the Rofia tree. It is so abundant in some parts of the island that its graceful character is imparted to the whole landscape.

Mr. Ellis\* speaks of it as of incomparable value to the natives. A strong and durable cloth manufactured from the fibres of its young leaves, and called "Rofia cloth," constitutes almost the only clothing of the labouring classes, and also forms an article of exportation.

The process of weaving it, though simple, is laborious and slow. It is carried on at their own homes. The people of the villages are seen outside their houses arranging the flat untwisted filaments for the warp. By joining these fibres pieces of cloth are woven three and four yards in length. The threads are dyed in various colours. In the finer kinds of cloth these are arranged in checks of rich deep colours, selected with infinite taste. The general colouring is nankeen yellow, with stripes of blue prepared from native indigo.

The dyes are fast; Mr. Ellis saw in Madagascar and the Mauritius specimens of Rofia cloth per-

\* Ellis's "Visit to Madagascar."

fectly fresh in colour, though they had been long made.

In both islands cloaks, coats, jackets, and waist-coats, are seen in common use made of Rofia cloth.

*Metroxylon filara* also produces a valuable fibre.

In the interesting museum at Kew specimens may be seen of this really beautiful Malagasy cloth made from the Rofia Palm. One of them, a check of brown and buff, resembles chulé.

Sago cakes from the Moluccas are also displayed, four of which are said to be sufficient for a day's food; the cost of them being ten shillings for one thousand cakes.

In Seemann's mission to Viti (Fiji Islands) he gives an interesting account of many new kinds of Sago Palms abounding in those islands, but as yet little regarded.





## Caryota Urens;

OR, THE GREAT WINE PALM OF THE EAST, OR SUGAR PALM  
OF CEYLON.



HIS palm, indigenous to all the islands of the Indian Archipelago, excepting Java, is known in each of them by a different name. By the Malays it is called *Nebung*; by the people of Macassar, *Ramisa*; by those of Amboyna, *Palun*.

As *Evimpannak*, *Bonkhejur*, and other appellations, it is greatly prized in various parts of India, Malabar, Bengal, and Assam. In Ceylon, as the *Kitool* or *Kittul* tree, it is especially valued.

It delights in mountainous countries. Wherever it is found, this slender stemmed palm, sixty feet high, perfectly straight, surmounted by its magnificent crown of leaves (each measuring from eighteen to twenty feet in length, and from ten to twelve in breadth), with clusters of large dark red berries hanging below, forms a beautiful object.

“The form of the leaf of *Caryota*,” says Humboldt, “is as singular among palms as that of the *Gingko*

tree amongst Coniferæ." This peculiarity consists in the leaflets, or segments of its *pinnatisect* (or feather-shaped) leaf being themselves divided—*bi pinnatisect*—the end of their leaflets "resembling in shape the fin or tail of a fish."

The tree flowers only once; the mass of drooping blossoms is sometimes sixteen feet long.

This palm yields toddy in great abundance. Roxburgh speaks of one hundred pints yielded in twenty-four hours from one tree; it is principally converted into sugar.

In Ceylon, where sugar is made almost entirely from palms, *Caryota Urens* is especially distinguished as the "Jaggery Palm." It employs a whole caste, men and women, in the manufacture of its sap into the coarse brown sugar called, Jaggery. From it the caste derives its name of "Jaggeraros."

It is considered a high caste; as are also the toddy-drawers.

Lady Falkland tells us that at Bombay these last claim for their ancestors the "Kshetrigas," or the warrior class. As descendants of the ancient rulers of the Concan, the toddy-drawers claimed, and till lately exercised, the privilege of preceding, with horns and native music, the Sheriff of Bombay, when, with the Judges, he went to open the Supreme Court.\*

The sap of young Kitool palms thus yielding sugar, from the pith of their trunks, when older, an

\* Lady Falkland's "Chow-chow."

excellent flour is obtained, said to be equal to the best sago procured from the Malay countries.

It is highly nutritious, and is either made into bread, or boiled into a thick gruel. In times of famine, when deprived of their accustomed rice, the Singhalese look anxiously to this flour as an addition to the preserved fruits of the Palmyra.

Tennent speaks of a single Kitool tree having been pointed out to him as the only means of support on which depended a Kandeian, his wife, and children. It is in the Kandeian hills that these trees are chiefly cultivated.

The leaf-bud, or cabbage, is of peculiar excellence. The fruit, which is the size of a plum, is not eatable; its acrid juice burns the lips, whence its distinctive name, "urens," is derived.

The black fibres of the leaves have a high commercial value; from them ropes of great strength are manufactured, and also brushes and brooms. From the leaves, baskets, caps, and other articles are made. An excellent fishing-rod is supplied by simply stripping the leaflets from the leaf-stalk, which is long and tapering to a point.

The wood is so hard as to be cut with difficulty; this hardness occasions it to be of much value.

In the Indian Islands the excavated trunks are used for water channels and gutters, and the wood for pillars, posts, palings, and various building purposes.



In the Palm House at Kew, *Caryota Urens* is one of the finest representatives of the royal race; the great Wine Palm of the East shoots high into the air, its branches (or leaves), with their singular triangular-shaped leaflets, being on a level with the top of the long spiral staircase which ascends to the gallery.

(*Nipa fructicons*.—THUNBERG.)

This palm is noticed by Hooker as a distinguishing feature in the Sunderbunds. It attracts the attention of the European traveller as he approaches the City of Palaces, possessing, independently of its tropical form, a peculiar individual interest.

It is thus described by Hooker:—

“*Nipa fructicons*, throwing up pale yellow green tufts of feathery leaves from a short thick creeping stem, and bearing at the base of the leaves its great head of nuts, of which millions were floating in the water, and vegetating in the mud.” “Thus growing in the tidal waters of the Indian Ocean, it has a deep interest to the geologist, from the nuts of a similar plant abounding in the tertiary formation at the mouth of the Thames, having floated about there in as great profusion as here, till buried deep in the silt and mud that now forms the island of Sheppey.”

It has strong claims, also, on the botanist's attention, as seeming to form one of those ever-interesting links between two families—princely palms and

palm-like screw pines (*pandanaceæ*). In Lindley's "Vegetable Kingdom" *Nipa fructicans* is mentioned under both orders.

We read of it always as covering thousands and thousands of acres of the salt marshes of the coasts and islands of the Indian Ocean.

By the many tribes amongst whom it is so widely disseminated it is known under various names.

In the Philippine Islands it is cultivated principally for its wine.

Its pinnated leaves, often more than twenty feet long, make admirable thatch. The specific name given to its leaf, *atap*, is the Malay word for thatch, it being the only material used by them for that purpose. Coarse mats are also made from them.

If burned, a supply of salt is obtained from them; when pounded fresh, they are applied to the bites of centipedes with advantage; a decoction from them has a most healing effect in wounds.

In strange contrast to this service rendered by them is the use to which, at a different stage of their growth, those Nipa leaves are applied.

Captain Sherard Osborne mentions that before the young plants have expanded their feathery leaves, they are plucked by the Malays to serve as spears, "forming one solid green triangular-shaped stick, ranging in length from four to six feet, and having a point as hard and sharp as a bayonet." Thrown

like a dart, these formidable lances "will pierce the tough under cuticle of an alligator."

In the "sweltering heat of the jungle" they are said to grow with almost inconceivable rapidity. The native interpreter attached to the gun-boat *Emerald*, assured Mr. Osborne that "he had often known a sprout to shoot up an inch and a half in a single night."

The inside of the fruit, which is produced in such abundance, is edible, like that of the Coco Palm; the nuts are described as large as a man's head.

This palm is known in Ceylon as the Water Coco Nut. In all recently formed lands there it is said to form an important feature.

Like those adventurous spirits that, penetrating unknown lands, become the advanced guards of civilization, this brave little palm, pioneer of the vegetable kingdom, pushes its way through the watery mud which, collecting at the mouths of rivers, becomes in time a valuable acquisition of fertile soil.

*Nipa fructicans* is one of the "sacred trees" of the Singhalese, having been selected by one of the Buddhas as his Bo-tree.



## The African Oil Palm.

(*Elaeis guineensis*.—LINNÆUS.)



THE vegetable world is full of wonder and interest; the hand of the Creator is stamped on each leaf and flower. Whether our eyes are turned to the slow and silent increase of life on wave-washed coral reefs, or to the indescribably gorgeous luxuriance of tropical forests, or to the homely cheerfulness of hedges and wayside ditches in our native land, tangled with wild flowers, overgrown with spear-like rushes and broad-leaved water plants, in all places tales of Wisdom and Love unfold themselves. We can but wonder and adore.

The mineral kingdom yields not to the vegetable world in the marvels it contains. Deep down in the dark bosom of the earth precious gems echo back the lessoning of pebbles at our feet. "The stones cry out" to man of the wisdom and love of the Maker of us all.

The industrial world of science and art combines, as it were, both of those worlds. Men's inventive

brains and skilful hands—themselves God's gifts—working out from God's other gifts such an infinity of marvels, day by day multiply our comforts and our luxuries.

In that world of incessant movement how much is there also of wonder and interest!

Beloved at all times of poetry is the face of Nature; lovely in calm repose, beautiful in her wild and agitated moods. But dearer still to her is the face of human nature.

Poetry is about us, and around us on all sides. Poetry in its spiritualizing power, its wide sympathies, its lofty aims, its earnestness of purpose. In various garbs *this* poetry companions us everywhere,—on the misty mountain, on the shimmering sea, also in the workshop, the counting-house, the docks.

For earnest eyes wide-opened by love there are pictures without number in ledger books, pictures that glow with life side by side with dry skeleton figures of pounds, shillings, and pence.

For ears made keen by kindly sympathy there are voices without number in the busy mart, eloquent voices whispering tales of thrilling interest.

There are fairies still in our every-day walks.

See, where a fairy beckons to us now—it is to a landing-stage at Liverpool!

Is she a fairy?

Her face though beautiful is grave; her smile is sweet; she has earnest eyes. She carries in her

right hand the model of a ship, with sails as white as snow. From its mainmast flies old England's flag, the red cross banner, mistress of the seas. Her left hand holds a palm branch. She speaks ; her voice is as music, and the words she breathes are "Freedom and Peace,"—the freedom of the followers of Christ, the peace of the children of God.

Bearing the palm branch and the cross, and speaking those holy words, that bright vision is more than a fairy. Is she not an angel ? God grant she *may* be so !

Let us see what the radiant figure points us to.

There is one species of merchandise which at least to-day seems in excess of all others.

Immense casks. They are ranged in endless rows, they are piled together in huge heaps, and men are rolling them along in ceaseless succession from boats unloading at the pier. Here and there of one of those casks part of a stave has been knocked in, so that the contents are partly visible, something oozes too out of the sides and the tops of these casks.

It is an orange-coloured unctuous mass, with a fragrant smell of violets.

It is palm oil, the product of *Elæis guineensis*, an oil-bearing tree. Its name is derived from the Greek *elaia*—olive tree ; significant name :

It is a native of Guinea, and is common along the greater part of the western coast of Africa.

To the north of the Cape de Verd the African coast, low, arid, and sandy, is repellent to the eye, but at this green point it suddenly assumes a pleasing aspect. The line of shore is broken and varied. Through picturesque ravines are seen sunny slopes clothed with fair forests that seem to spread far back into the interior.

These forests are for the most part composed of what is commonly called the African Oil Palm. But hope sees in it *the Negro's Friend*.

On higher ground than that of personal beauty, or even than that of the intrinsic value of her produce, the Oil Palm, or Maba (its African name) claims our interest. To her has been appointed a mission of infinite importance. Wise and thoughtful men see in her the benefactress of the African race. Many look for the time when under God's blessing it may be given to her to work as great a change in the moral as she already does in the physical aspect of Africa's western coasts.

That such may indeed be the effect of the palm-oil trade, if conducted in an honourable Christian-like spirit, is beyond all doubt. It is no visionary scheme, it is the opinion of far-seeing business men. It has already made some way ; the good work has begun.

Voices of wise and good men in our own land

echo back the cry that negro tongues on African shores long since proclaimed the Oil Palm to be the "*Friend*" of their race.

This tree has been proved to be a more powerful opponent to the slave trade than even the unconquerable navy of Great Britain, in that through her it becomes the interest of the chiefs to put this hateful traffic down. The cultivation of these Palms, and the manufacture of their oil, opening out a more lucrative\* trade to be carried on by means of the people, makes it more profitable for these tyrants of their own race to keep them at home.

Captain Forbes, R.N., tells us, in his "Dahomey and the Dahomans,"—"The inhabitants of a vast extent of coast have been led to give up the slave trade. And why? Because they have been taught the immensely superior and ever increasing value of the palm-oil trade over that of slaves. The taste for British goods runs high, and, *if they could not be purchased with slaves*, palm oil would be manufactured to obtain them. Africans are by nature great traders. All the higher articles of trade are to be found on board some of the largest ships in the world, in the Bonny and its neighbouring rivers, to be exchanged for palm oil."

In one instance a house, valued at £1000, was

\* Dr. Livingstone mentions having himself seen a boy sold for twelve shillings, the same price which would have been given for two pounds of ivory or two pairs of boots. Livingstone carried with him and distributed, where it was not already known, the seeds of this precious Palm.



paid for in palm oil by the chief of one of these black tribes.

Dr. Kehoe confirms this opinion, adding that this trade "would in every way promote civilization and increase the happiness of the natives, as it will be found to be to their interest to have as many hands at home as possible to be employed in the preparation of this valuable article."

About three years ago it was announced in Parliament by the Minister for Foreign Affairs "that this legitimate and prosperous trade had within the last few years sprung up on the coasts of Africa in almost every locality in which the slave trade had been carried on, and by it the natives of Africa were greatly benefited."

At the same time Lord Clarendon stated "that the trade at Lagos had increased fifty per cent., and then amounted to upwards of £2,000,000 a year."

It is a significant fact that as an article of commerce, palm oil took its rise at the very time of the abolition of the slave trade, since which time it has been steadily rising in importance. In 1818 from one hundred to two hundred tons only were imported into England. In 1855 Liverpool alone imported thirty thousand five hundred tons.

When the Russian war seriously affected the supply of tallow to our markets, our palm-oil trade happily supplied a substitute.

In 1857 the imports of palm oil into the United

Kingdom amounted to forty-two thousand seven hundred and thirty-nine tons, eleven hundredweight. In the following year, though still at a high figure, they had diminished to thirty-eight thousand nine hundred and eleven tons, one hundredweight. The annual export of palm oil from the west coast of Africa amounts to fifty thousand tons. For this quantity ten millions of bushels of fruit are required. The oil is valued at £3,000,000, and the refuse or oil-cake is worth £500,000 as food for cattle. An additional value now exists in the kernels of the fruit, formerly thrown away, but now discovered to yield a more delicate kind of oil, resembling coconut oil.

If we consider the variety of its uses and the importance of some of them, we may rest assured the palm-oil trade rests on a secure foundation. It was in England that the various capabilities of this oil were first discovered, and hitherto it has been prepared almost exclusively for the English market.

Besides being extensively used in the composition of candles, it enters largely also into the manufacture of soap, of which at Liverpool such extensive manufactories are carried on that some of them have been known to produce throughout the year a weekly supply of one hundred and twenty thousand pounds of soap. It is said that a better and cheaper soap can be made from this than from any other article.

It possesses also a peculiar property, appreciable by all voyagers, of dissolving in sea water.\*

On account of its fragrant smell, palm oil is much esteemed for articles of perfumery, and the same emollient properties for which it is so prized by its negro friends recommends it also to our pharmacopœia for sprains and bruises, and other medicinal purposes.

As grease for the wheels of railway carriages it is also consumed in immense quantities.

Such wide fields opening out for its consumption, we gladly learn that its supply may be looked upon as illimitable.

Some precious benefits of the vegetable kingdom, such as quinine, gutta percha, and others, involve the destruction of the tree, necessarily rendering their production more and more rare, the forethought of providing against such a result by increased propagation being in most instances unhappily disregarded.

But the valuable gift of the Oil Palm makes not the giver poor. Only the fruit being required, the beneficent seasons as they roll by replenish the almost inexhaustible treasury. Year by year the grateful negro returns to his "Friend" to gather the golden harvest she affords.

When we think of the numerous coast-tribes of Africa, and the people of the vast unknown regions in the interior, who "walk in darkness and have no

\* This is also the case with soap prepared from cocoa-nut oil.

light," it would seem as if a special blessing might fitly rest upon this tree, through whose produce the blessing of material light is every day more widely diffused amongst ourselves.

We read in books of but a few years back how hard a thing it was for the very poor to be able to enjoy the luxury of light. What a tempting contrast to the dim hovel, where a farthing rushlight shed its sickly gleam, must then have been afforded by the glittering saloons of gin palaces! To many alas! those ante-chambers of hell are alluring still, but the excuse no longer exists; cheerful light is now brought within the means of almost the very poorest.

While superior "composite candles" are manufactured for general use, the labouring man gets his candles better and far cheaper than before. And this general improvement is principally owing to the introduction of palm oil.

We have quoted from travellers; let us hear also what a scientific man in England says on the uses of palm oil at home, and the mighty influence it has abroad. In an interesting account of candle-making,\* by Dr. Wynter, he says,—

"Noticing the other day the extraordinary piles of casks encumbering the wharf of Messrs. Price & Co., Patent Candle Company, at Battersea, we could not help looking upon them as so many dumb mission-

\* "Once a Week," July 1859.

aries ever circulating between England and the Gold Coast of Africa, spreading civilization and religion over the latter hitherto benighted region."

A far greater benefit this oil is to us and to them, than the dazzling metal which gave its name to their land.

Dr. Wynter says:—"The light of other days sprang directly out of the domestic grease pot. Its manufacture was a rude, not to say disgusting handicraft; and if any one had been bold enough to say that one day a new light would arise that would materially affect the destinies of a whole people, Bedlam would have been thought his proper destination. Yet this seeming dream of delirium has come to pass, and the production by negro free labour of palm oil, now so largely used in the manufacture of soap and candles, has greatly assisted in giving a check to the slave trade."

The two establishments of Price's Patent Candle Company are known as Belmont at Vauxhall, and Sherwood at Battersea. "At the latter place the works cover twelve acres of ground, six of which are under cover. The raw materials principally used in this manufactory are palm oil, coco-nut oil, and petroleum. The first, however, is used in by far the largest quantities."

The last is a natural product of the kingdom of Burmah, resembling naphtha, and like it welling up from the ground.

“*Composite* candles” are made from palm oil and coco-nut oil; the “hard stearic acid” of the latter constituting “the true candle material from its high melting point.”\*

To the African himself palm oil affords an addition to every meal. It is used as butter to fry his fish, and mix with his rice and peppers. A soup is made by boiling the young nuts. The oil anoints his body and hair, and is used as an emollient for affections of the joints, and what the negroes call “bone-ache.” In an old English translation of a still older Italian work, the record of a Signor Lopez of Portugal’s Travels in Congo, we read of a strange competitor for the African’s favourite oil. “Wolves love the oyle of palmes above all measure. They will smell this oyle afarre off, and steale it in the night time out of the negroe’s houses of straw, and sometimes from those that carrie it by the way, whiles the poor soules doe rest themselves and sleepe. The oyle is made of the palm tree, thicke and hard like butter. It is a marvell to see how these wolves take a bottle that is full of this liquor between their teeth, and soe cast it on their shoulders and runne away withall, as our wolves here doe with a sheepe.”

Africans eat the Oil Palm’s vermilion and gold-coloured fruit, prepared in many ways. A kind of wine is made from their juice.

\* In connection with Price’s establishment are schools for the boys employed in them—spreading still wider the Oil Palm’s influence for good.

We have seen how the wine of the Date Palm was used by Egyptian embalmers of old in preparing dead bodies that were to be preserved. Some of the tribes of West Africa make a still stranger use of the wine of their palms. On the naming-day of a child a bowl of palm wine is suspended over the infant, some drops are allowed to fall on its face, and a name is chosen which most resembles in sound the cry uttered by the babe. These African babies thus possessing the singular privilege of naming themselves.

Indian islanders use palm wine in their religious rites; during their worship of the moon and stars, palm wine is sprinkled upon the worshippers.

Their "mimbo," or palm wine, is a favourite beverage amongst African tribes.

Native huts are made of the wood of the Oil Palm, and thatched with its leaves. Their fibres supply fishing lines and are woven into baskets. The kernels, if not used for the preparation of the more delicate oil yielded by them, are burnt, and fanciful beads, rings, and brooches are made from them, worn as ornaments by the native women. Some of those may be seen at the museum at Kew, where also there are polished specimens of the beautiful wood of the tree, finely spotted with rich dark brown. The nut and the candle made from it are together, and in the same compartment a singular head-dress made from the leaves of the tree. Adorned with parrot feathers, such head-

dresses are worn on state occasions by the natives of Fernando Po. Well may the negro call the Oil Palm his "Friend."

The oil is prepared by the natives themselves. The process is extremely simple. The fleshy part of the fruit is removed from the seed. It is then bruised and mixed into a paste with boiling water. When cool, the orange-coloured oil concretes at the top. This is skimmed off into calabashes and gourds, and in that simple form is brought to be sold at the English factories. A gallon of fruit will yield a quart of oil.

Like the good little sister palms of the Indian Isles, the Maba is described as "rather a wild and shaggy-looking individual." She is neither tall nor graceful; but she wears the matchless crown. If England's hopes be realized, another circlet of honour shall be added to that crown.

As the weeds of the Western world came forth on the ocean waves to greet and to beckon onwards the nobly-adventurous Columbus, the waifs so often cast on our northern shores—casks of palm oil, known to have twice traversed the breadth of the Atlantic—would seem to have for us a message that, in their eagerness, they come even to our threshold to deliver.

The divine parables are for the teaching of nations, as well as for individuals.

To England it may please God to assign the Good Samaritan's part. Africa, indeed, has long been as



the man "who fell among thieves." May it be ours, by means of her own crowned tree, to "pour oil into her wounds."

Let us encourage her in the cultivation of these trees, and the manufacture of this precious oil, and the pursuits of industry shall be blessed to her; her sores shall be healed—the plague-spot of slavery disappear. In African villages then, as in our own happy land, shall boys and girls play fearlessly in the streets. Then, too, in their children's merriment, shall be forgotten those terrible sounds of old, following in the accursed man-stealer's track—the cry of the bereaved mother, the wail of the desolate wife.

O that this auspicious trade may indeed prosper! May it be carried on in such a spirit that God's blessing may rest upon it! So shall it bestow not only the blessings of freedom, peace, and civilization, but linked with them the immeasurable joys of the gospel of Christ.

Honour to the crowned tree, namesake of the olive-tree of peace. The African Oil Palm has a glorious mission. In her native land, fair forests and smiling villages. On the wide sea, ships innumerable bearing her rich freight. In England, prosperous establishments, useful schools—benefits of endless variety.

It is evening time. A cheery light shines out from the labourer's cottage; an open Bible is spread

before the poor man and his wife ; they lift their thankful eyes to the Giver of all Good, and they pray that light may arise in all the dark places of the earth. They pray that England may advance the cross along the coasts, and into the heart of Africa.

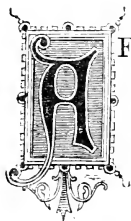
NOTE.—Chaillu speaks of beautifully fine and soft "grass cloths" of palm fibre woven and worn by the Ashira and Assingi tribes, but he does not mention the species of palm.





## The Dour Palm of Egypt—Gingerbread Tree.

(*Hyphæni Thebaica*—MARTIUS.)



AFRICA possesses in abundance the invaluable Oil Palm, the precious Date, and the useful Dwarf Fan Palm; but beyond these, it would seem that she has none to rival the palms of Asia and America.

Our knowledge of her inland countries, however, progresses so slowly, that it yet remains to be learned how many varieties of this royal race she really does possess.

In Dr. Livingstone's travels we find that the Wild Date and the Palmyra are met with in Africa. He also mentions some new species.

Amongst these there is one resembling Palmyra, but with larger fruit—its soft yellow pulp like that of the wild mango; and another called the Makolane Palm, tall and slender, with a graceful spherical crown of leaves. It appears that their various uses have not as yet been as fully developed as in other parts of the world.

No particular attraction exists in other African

palms, if we except the singularly-shaped Doum Palm, almost unique in its race, its branching form assimilating it more to the Pandanus or Screw Pine.

The Doum Palm is neither so majestic or so graceful as the erect and queenly Date. But its wild and singular beauty has a character which renders it an object strikingly appropriate to the classic localities it loves to haunt—the cataracts of the Upper Nile, and the immediate neighbourhood of Thebes.

The Doum Palm stands amidst the desolate grandeur of the ruined city with the hundred gates. The ground is strewn with colossal limbs. There giant kings, as if still strangely conscious in their stony sleep, frown down upon the pigmy travellers who dare profane with idle jests the majesty-encircled grave of a mighty empire.

Far better fitted for the presence of such grand grief is the strong-limbed Doum Palm, than the femininely graceful Date.

The tree seems strangely to partake of the impressive sadness of the fallen city of Osiris, flinging out its huge arms as a strong man might do in sudden agony brought into the presence of the beloved dead.

It is hard to define the geographical limits of this singular palm, so much of Africa is *terra incognita*. In the works of adventurous travellers who have dared to penetrate its wilds, we meet with the men-

tion of a tree apparently identical with it, though not as yet, we believe, positively classed with it.

Andersen\* describes a palm exactly similar, of a branching form, with fan-shaped leaves, and producing a fruit in look and taste resembling gingerbread.

The same kind of palm was found near Natal, the kernel of the fruit like ivory. Out of these ivory looking seeds, snuff boxes were made by the Bechuanas, who are great lovers of snuff. They wore them round their necks, or fastened to their arms above the elbow.

Andersen describes it as a welcome sight when first he met those palms in Damara. As he proceeded northwards they increased in stature till they reached fifty and sixty feet in height, the branches spreading over a space of ground that measured four hundred and thirty-two feet in circumference.

Seemann gives only thirty feet of height to the Doum Palm of Egypt; but he also gives Port Natal as one of its localities, and describes the fruit as "growing in large bunches of a yellowish brown colour, with thick mealy rind, in look and taste resembling gingerbread."

This singular oval-shaped fruit is everywhere eaten by the natives of the place. In Cairo it is commonly sold, and at a low price. Children espe-

\* "Lake Ngami, and Four Years' Wanderings in South-West Africa."

cially relish it, from its flavour of liquorice and resemblance to gingerbread.

Andersen speaks of it as being soaked in water before it was eaten. In Egypt the ivory looking seeds or kernels are turned into beads for rosaries and various ornaments. They are also carried to Bethlehem where they are fashioned by the Christian population into beads, strung as necklaces and bracelets. They are bought by European travellers, and are also sold in England by converted Jews, as remembrances of the Holy Land. They unfortunately darken a little with age. The leaves are made into bags and baskets, and are woven into mats for carpeting. The wood of the tree is used for various domestic purposes.

A gum resin, resembling myrrh, and sometimes substituted for it in medicinal preparations, called bdellium, is said by Lindley to exude from the trunk of *Hyphæna Thebaica*. Bdellium is yielded also by other plants, but Egyptian bdellium is said to be the produce of the Doum Palm, the Palmyra, and the Dwarf Fan Palm.

The substance called "bdellium" in the English translation of the Bible (Gen. ii.) is evidently a gem. The word is believed by some to mean pearls.



## Double Coco Nut—Coco do Mar.

(*Cocos Maldivicus*.—RUMPHIUS.)

(*Lodoicea Schellarum*.—LA BILLARDINE.)



MYSTERIOUS link binds the Coco Palm to old ocean's side. She languishes in the most fertile spot if removed from the influence of the sea breeze; but her sister with fan-shaped leaves, was for centuries believed to dwell in the mighty ocean itself.

Below the billowy waves, in the crystal depths where sea-nymphs braid with pearls their streaming hair—even there it was said that the wondrous Coco do Mar had its roots.

Nay, there were not wanting in olden times sailors of all nations who declared their own eyes had there beheld the unearthly tree. They affirmed that through the transparent waters of placid bays on the coasts of Sumatra, the plumed diadem of the marvellous Coco do Mar had been plainly visible. But when some adventurous spirit out of the wondering crew, had plunged into the sapphire depths to pos-

sess himself of its priceless fruit, the magic tree would suddenly disappear.

The native priests of Java declared that its branch-like leaves rose above the water, and that amongst them a monstrous bird had its habitation. From thence it issued nightly to seek its prey. Elephants, tigers, and rhinoceroses were torn to pieces by its savage beak, and their flesh taken as food to its fearful nest ; fearful indeed—for not only beasts, but sometimes men supplied the cravings of its huge appetite.

Some mysterious attraction was said to exist in the tree, by means of which vessels were irresistibly drawn towards it, and rendered unable to depart, while the helpless crew were one by one devoured by the savage bird.

Such tales, and others still more marvellous, respecting this tree, were told to Rumphius by those who, even in his day, implicitly believed them.

The strange hold which the *Coco do Mar* had thus taken on the minds of men may, in a measure, be accounted for by the impenetrable mystery which long hung over the actual place of its growth. No eye of man, let him wander as he would amongst the clustering islands of those seas, had ever really looked upon the living tree.

Its fruit, of singular size and shape, were never found except floating on the waves or cast upon the shores of one only group of islands, in themselves so



strange and peculiar as plainly to render them fit recipients for the produce of an ocean tree. Such were the Maldives, or, as in old maps they are named, "Coralline Islands," situated in the Indian ocean to the south-west of Hindustan. This group is composed of coral banks or atolls\*—tiny gardens on the sea, gems of verdure, which might well appear to weary voyagers, as Cook describes them, "terrestrial paradises." While such tales of wonder clung about the trees, magic properties were, of course, believed to be inherent in the fruit. It was death to any native of the Maldivian Isles to possess himself of one. These nuts were the especial property of the king of the country, and by him alone could they be disposed of, sometimes as royal gifts the most precious he could bestow, sometimes sold at what seems to us almost fabulous prices. A ship fully freighted was given for a single nut by one of the credulous native kings.

They were valued at sums equal to £300 and £400. The Emperor Rodolph II. offered in vain 4000 florins to procure one.

In those days, not only the simple islanders but intelligent Chinese, and many European sages, believed these nuts to contain an infallible remedy for all diseases, and an antidote to all poisons. To the

\* A name given by the natives to the detached coral formations, of which their Archipelago is composed. They seldom exceed a mile in breadth, rising perpendicularly from an unfathomable depth. Openings in these reefs afford safe anchorage for vessels.

albumen, or inside lining of the nut, was added the powder of white, red, or black coral, and the shavings of stags' horns and of ebony, the whole was mixed with water in a vessel of porphyry. This specific for all human maladies was eagerly drunk by every sufferer who could afford the costly elixir. The old name of "Nux Medica,"\* refers to these supposed properties.

The shells were also of exceeding value, as vessels for holding betel or tobacco. They were supposed to preserve all they contained from every noxious or contaminating influence. By both their Oriental and European possessors they were lavishly adorned with gold and precious stones.

Though the mystery of their birthplace has been cleared away, these nuts still retain their fabulous powers and artificial value in the minds of the Indian islanders. But in other lands the "Coco do Mar," or "Coco de Maldivia" of the early Portuguese navigators has shared the fate of many an ancient marvel—it has been divested of all its mysterious charm in European eyes.

In 1769, the tree was discovered in its native home by M. Barré, a French officer of engineers. In 1827, a full description of it with illustrative plates were given by Dr. Hooker in the *Botanical Magazine*, and still later a paper on the subject was read at the Royal Asiatic Society by an inhabitant

\* See Rhind's "Vegetable Kingdom."

of the same favoured country as itself. In 1854, germinating nuts were sold in London at a public sale for £10 a-piece. In the Crystal Palace of 1851, exquisite artificial flowers were exhibited, made from the young leaves of this once far-famed tree, which may have been seen in living beauty in the Royal Gardens at Kew till within the last year and a-half. The young plant, now dead,\* appeared then to be a denizen not of ocean but of air. The nut being elevated about a foot and a-half above the surface of the earth, refusing to germinate if buried. Thus suspended, its roots were shooting downwards into the pot, its leaves expanding upwards into the air from the stem not yet severed from the nut. †

Although no longer a theme of romance, this exquisitely beautiful Palm will never fail to interest those who delight in God's beneficent gifts.

Though proved to be no denizen of ocean's crystal caves, the terrestrial home of which it is the boast, and from which it is found impossible to transplant it, is lovely beyond description.

The Seychelles, or Mahé Islands, to the south-west of the Maldives, which have since 1794 belonged to Great Britain, are like fairy-land.

Resting on a vast platform of coral and sand in the midst of a resplendent sea, these gardens of spices are unvexed by storm or tempest. The oldest inhabitants remember not even one rude gale.

\* 1861. † See "Wanderings through Conservatories at Kew."

From the healthiness of the islands, the people attain extreme old age. It is no uncommon sight to see four generations sit down to table.

These palm-crowned islands are overarched by skies of cloudless blue. The fragrant atmosphere is always serene. The heat of a nearly vertical sun is tempered by delicious never-failing sea-breezes, and its dazzling brilliancy is relieved by a luxuriant vegetation. Amongst these emerald groves, supreme in loveliness, is the glorious Lodoicea. It springs to the height of eighty and ninety feet, a superb crown of fan-shaped leaves spreads ray-like from the queenly brow, while the slender stem, not more than fifteen inches in diameter, with ever undulating grace sways with each passing breeze.

If the beauty of her home and of her matchless self still make the Lodoicea seem a creation of romance, her usefulness is real beyond a question. Her fruits, known as the Double Coco Nut, are sometimes triple, and even quadruple. They frequently measure a foot and a-half in length, with a circumference of three feet. Their usual weight is from twenty to twenty-five pounds, but they sometimes weigh forty and fifty pounds, the largest fruit that any tree is known to produce, excepting the huge Jak, from *Artocarpus integrifolia*.

The inside lining of the nut, like that of the common coco nut, is delicious in all its stages. The far-famed elixir of old is still highly esteemed amongst

the natives for medicinal purposes. It also enters into the composition of all their favourite dishes.

The shell itself, from its exceeding strength and durability, and the immense size it sometimes attains, is made available for innumerable domestic purposes. Highly valued in all the Seychelle Islands, they are there called "Vaissalles de l'Île de Praslin."

Praslin, Curieuse, and Round Island, are the only islands in the group where these trees are found.

The larger shells, containing six and eight pints, are used as pitchers for water. They are carried by the natives, two at a time, suspended at opposite ends of a stick. Those of a smaller size are apportioned as drinking-cups, when divided lengthways they furnish plates and dishes. They take a beautiful polish, and become of a fine black colour. They are often carved and set in silver for European purposes. Goblets, shaving-dishes, and numerous other articles are made from them. The nuts are often seen in Ceylon. They are frequently used by mendicants as begging dishes to put provisions in. Even in its natural state these nuts retain so much of their old estimation in the minds of all the natives of those seas, that sailors always try to make them part of the cargo of their vessels. They are sure to bring a good price from credulous islanders on account of their fabulous properties, and from Euro-

peans as curiosities. They constitute a regular article of commerce.

The fibrous covering of the nut is manufactured into ropes. With the downy covering of the young leaves beds and pillows are stuffed.

The ribs of the leaves and fibres of the leaf-stalks are made into baskets and brooms. The leaves when very young, before they have expanded, are dried in the sun, cut into narrow strips and plaited into hats for men and women. They form the universal head-covering in the Seychelles.

The heart of the leaves is eaten as a vegetable, and made into pickles. Its slightly bitter taste renders it less delicate than the "cabbage" (as it is called), of other palms.

Next to her wondrous nuts, the chief boast of the Lodoicea, is the magnificent size of her leaves. A hundred of them are sufficient to build a house from twenty to thirty feet in length, and from ten to twelve feet in width. With these leaves only entire houses are constructed, with partitions, doors, and windows. Most of the cabins and warehouses in the Island of Praslin are so made entirely with these leaves.

The trunk of the tree is used for water-troughs, and the wood is split into pallisades.

But alas for these precious trees; they are as rare as they are precious. Found only in those spice-gardens of the Indian seas, they are there confined

to three out of the thirty islet gems that crown the glad waters of that balmy sea, and no pains are taken to increase their numbers. They are often recklessly cut down to obtain their fruit and leaves—that valuable fruit which takes so long a time to mature, the blossoms being of an unusual duration.

It bears only one spadix in the year, but has often more than ten in bloom at once. Like the orange tree flowers and fruit of all ages are on the tree at the same time. The tree requires one hundred and thirty years to attain its full growth.

The *Lodoicea* grows on all kinds of soil. It loves the sandy shore; it also loves the rocky steep and the rich dark earth of the damp ravine.

Strange to say, though resisting all endeavours to transplant them to neighbouring countries, one lovely tree deigned for a time to flourish in the palace of palms at Kew.

But how unlike the superb *Lodoicea*, as seen in their glory, are these sorrowful figures that travellers describe as the first objects which their eyes rest upon on landing at the Seychelles.

With drooping heads, poor trees, they stand at the ocean's brink, their torn chaplets streaming desolately from their brows, they quiver as the wind passes by. Are they not mourners for their proud race passing away?

Would that the touching sight might appeal to

some beneficent hand to look to their perpetuation before it is too late.

The museum at Kew contains some exquisite artificial flowers cut out of the young unexpanded leaves. Boxes and baskets are also made from them. They have the appearance of ivory. The specimens at Kew are said to be the work of some ingenious French ladies at Seychelles.









Paradise of the Ocean



## The Coco-nut Palm.

(*Cocos Nucifera*.--Linn.)



WE have seen in the Date tree the Palm of the Desert—in the Calamus, or Ratan, the Palm of the Forest—in the Palmyra the Palm of the Plain. In the Coco Nut we behold the Palm of the Seashore, or as it may be called the Ocean Palm. Not only does it grow on strips of sand wave-washed on either side, but the Coco-nut Palm is ever the first, sometimes the only tree that is found on those tiny coral isles that dot the Indian and South Pacific Oceans.

These coral reefs take a variety of shapes. Sometimes they are of a circular form inclosing a lagoon. The fairy islet, covered with a grove of palms, then looks like a green wreath borne on the sunlit waves, or like a ring of emerald in its setting of gold, cast up from the treasures of the deep. Sometimes the work of the insect builders would seem to have been interrupted, and the coral speck reaching but to the level of the waves, would be wholly unseen—a place of peril for some swiftly-speeding ship—

when lo, the friendly Coco Palm, like a plumed sentinel, starts up; and as he shifts his helm the warned mariner blesses the ocean tree.

In all cases these gardens of tropical seas are quickly clothed with beauty. The green garments which the numbed fingers of the shivering North so slowly weave are rapidly accomplished by the glowing South. Beneath her radiant skies the island Venus almost, in rising from the waves puts on her lovely robe, and crowns herself with a diadem of palms.

Well may the grateful Coco Palm cling to the ocean's side, for he loves to do good service to her.

Winged birds and viewless winds are commonly commissioned to scatter abroad the seeds of trees and flowers. Some plants, gifted with peculiar strength, force their own seeds below the surface of the soil.\* But the seeds of the Ocean Palm are the great sea's peculiar charge;—in his giant arms he carries them tenderly to far-off lands. Unharm'd by the rough waves, coco nuts are cast on all tropical shores, and even on the European coasts of Ireland and Norway, but lacking the sunshine of their native land they cannot flourish, and the cold north sighs that the ocean's gifts are in vain.

Even in our crystal palaces, where so many crowned captives of her race grow vigorously, the sea-loving palm tree droops. She sickens in cap-

\* The Ground-nut of South America, *Arachis hypogæa*.

tivity, and never survives it longer than ten years.\*

The only palm of both hemispheres, the Coco-nut Palm, has a wider geographical range than any member of her race. Her green groves girdle the globe with gladness for about twenty degrees on both sides of the equinoctial line. The Coco Nut has been found in India at an elevation of six hundred feet—in Venezuela, at a hundred leagues from the coast—by some accounts, in the heart of Africa, at Timbuctoo—and little islands off Sumatra and elsewhere, not a mile in circumference, so low that the tide flows completely over them, are completely covered with Coco-nut trees.

The fruits of this palm is said to be eaten by a hundred millions of human beings, besides countless animals of all kinds. Without her, numberless islands in the Pacific would be uninhabitable; but by her the people are fed, and clothed, and sheltered.

Men of all nations—British sailors especially—share with old ocean the honour of propagating this invaluable tree, planting the seeds wherever their vessels touch. Even where she is sterile, as at Lucknow and other inland parts of India, she is cultivated for her beauty. The Coco-nut Palm is in no danger of passing away, like her beautiful sisters, at the Seychelles.

\* The shores of all tropical seas are fringed with

\* The flowering of a Coco Palm at Syon was mentioned as a "great event" in a *Gardener's Chronicle* of 1862.

groves of the ocean-loving palm. The Brazilian coast, for a distance of two hundred and eighty miles, is covered with them, with scarcely a break. The small island of Itamarca, on that coast, three leagues in length, is said to yield annually about three hundred and sixty thousand nuts.

In some of the most ancient voyages on record, mention is made of the Coco-nut groves of beautiful Ceylon—the Taprobane and Serendib of ancient days, the Tarshish (we believe) of a still older time.

And on the same spot where the old Arabian voyagers beheld them, those Coco-nut groves are flourishing still. The Moor joins with the Englishman in the diligent cultivation of the trees, on which more than on anything now, it would seem that the prosperity of the island depends.

The cinnamon and pearls of the days of old, the coffee of a later period, are all eclipsed by the Coco-nut Palm of to-day.

Twenty thousand acres at Jaffura and Batticalva were purchased, some years back, for the sole cultivation of these trees; and in 1858 the estimated number of them on the island was twenty millions.

The Coco Nut is to the people of the south and the south-western parts of Ceylon what the Palmyra is to those of the north.

Yet over the birth-place of this universal favourite, and, next to the Date, the most widely known of all palms, there hangs a strange mystery. A palm of

both hemispheres, yet neither in the east or west has it been absolutely proved to be indigenous; nor yet in either is there any record as to the time or manner of its introduction.

In Ceylon we find the earliest notice of the Coconut tree, B.C. 161. But the precious nuts then in use must have been first carried there by the sea at a time so remote that it is beyond their historical records, which are amongst the most ancient books in the world.

But the great waves of the Indian Ocean, as crested with foam, they cast their treasure on the shore, to be self-sown on the southern and south-western coasts of the island, left no token to show whence they came.

It has been questioned whether it was from the mainland of India, or from the far-off continent of America, that world which remained unknown for so many centuries subsequent to the growth of Coconut trees in Ceylon. But India cannot prove her claim; and South America, though she boasts seventeen out of the eighteen known species of cocos, ventures not to assert that the Coco Nut (*Cocos nucifera*) is originally hers. The beautiful stranger grows luxuriantly along her coasts, beloved by all who know her; but she lives not, like the Miriti Palm, in the ancient traditions of the land.

To Africa, also, she is a dear adopted child; but she is not her own.

The mysterious veil that so long overhung *Lodoicea* (Double Coco-nut), still rests in a measure on the tree with whose rough-looking nuts we are so familiar. The fables of other days are gone by ; we look not now for trees amidst the "rocks of the ocean ;" but the actual home of the coco nut has yet to be discovered.

The useful coco nut, like useful wheat, has been from time immemorial so diligently propagated, that the spot of ground where either of them first sprung up, is likely for ever to remain in doubt.

Could we hear what, in the east and the west, the rustling palms are answering to the boom of the sea, we might perhaps learn from the messages interchanged that the earliest homes of the Coco-nut Palm were on either side of Hindostan ; in the Maldives, the "Coralline Islands" of old ; and Tahiti, the garden of the Ocean of Peace. Or it may be, brave voyagers as they are, that it was from the far off Western World that the kindly nuts first came, telling—but their voices were long unheard—of the treasures their vast continent could unfold.

Coco-nut Palms are not found on volcanic islands. There are none in St. Helena, Ascension, Madeira, or the Cape de Verd Islands, excepting St. Iago.

They grow, but do not flourish, in the Sandwich Islands ; the fruit is of small size. So highly prized was it, however, amongst the natives, that for centuries a law was in force amongst them, whereby women were forbidden to taste a coco nut. Con-



sidered as a sacrilegious act in them, they were threatened with the vengeance of their gods if they dared to disobey. At length one courageous female chief openly braved the threatened anger of the gods of wood and stone. Her eating the coco nut was followed by no evil consequences; and thus she won for her sex the right to partake of the fruit of the kindly palm. Yet more—assisted, perhaps, to break down the barriers dark and senseless superstitions ever oppose to the entrance of the true Light.\*

We find the earliest mention of the coco nut in the Singhala chronicle, "Mahawanso," A.D. 161, † the milk of the small red coco nut being used in preparing the cement for building the Ruanwelle dagoba or temple-palace. In the unchanging East, the milk of the coco nut is still so used for its adhesive properties, as it was two thousand years ago.

We have no record to tell us when the nut was first used for food. Sir S. Tennent remarks that the writer of the "Mahawanso," dwelling in the interior, would be unacquainted with a tree which is never found inland, unless planted by man.

An ancient tradition in Ceylon relates ‡ that the use of the coco nut for food was first revealed in a dream to one of their rajahs.

Afflicted with leprosy as a punishment for some act of irreverence to a sacred tree, no cure could be

\* Seemann's "History of Palms."

† Tennent's "Ceylon."

‡ Bennett's "Wanderings in New South Wales."

discovered for the suffering monarch. At length, having by his penitence removed the anger of the gods, a beneficent being appeared to him in his sleep. By him the king was directed to make his way from his inland home to the coast. On the brink of the ocean he should find a tree, the fruit of which, capable of satisfying both hunger and thirst, he was desired to make his only food for an allotted time. Gladly was the journey undertaken, and with joy the unknown ocean and unknown tree were both discovered, and the healing fruit accomplished the cure of the grateful prince. Grateful in their turn for this new and delicious fruit now first made known to them, the people raised a monument to the discoverer of the coco nut. In the present day a granite rock is seen, in the midst of a grove of Coconut Palms, at Bellingham, a fishing hamlet to the south of Colombo. It has no date, but on it is a gigantic representation, sixteen or eighteen feet high, of the Kustra Rajah.

Manuscripts of the fifth century distinguished amongst palm trees those that bore "the great Indian nut" (coco nut), and "the smaller aromatic one" (areca nut). Sopater, a merchant, the first traveller who described Ceylon from his personal knowledge, and who visited it early in the following century, speaks of her Coco-nut trees. In Singhalese chronicles, A.D. 1153, the planting of Coco-nut trees is recorded as one of the munificent acts of a king of

Ceylon. In the following century these palms supplied the "wine drawn from trees," of which Marco Polo partook when he rested at the island on his homeward route from the coast of Kubla Khan.

Of this palm wine a wondrous tale was told by Arabian travellers in the ninth century. They spoke of fish which, issuing from the waters, ascended Coco-nut trees to drink of the sap, and then returned to the sea.

A new competitor for that fascinating toddy which, we have already seen, allures flies, and birds, and cats; to which may be added lizards, bats, and bees. But the trees' worst enemies are the rhinoceros beetles that attack the leaf-bud, and the sea-swallow, macaws, and cockatoos, that peck at the flowers and destroy their fertility. The nut itself is another attraction; hard as the outer shell may be, animals of various kinds, inspired by the rich reward within, accomplish the task of getting at the interior.

In the Mauritius and elsewhere, an enormous kind of crab, two and sometimes three feet long, makes its way up the tall stem of the tree to get at the nuts. Darwin relates that this crab has been seen to tear away the husky fibre from that part of the shell where the eye holes are situated; on one of these, as the softest place (for the passage of the germinating plant), it hammers away with its strong claws till an opening is made, to get at the jelly within. As this is a work of three or four days, the

crab is said to have a storehouse of nuts in different stages of progress. Bats are also fond of this delicate food; they are constantly found hidden amongst the leaves at the summit of the tree. There are also palm-squirrels and palm-martens. Elephants and wild hogs are so eager to get at the tender leaves of the Coco-nut tree, that young plants are protected from them by strong fences, and occasionally lighting fires and firing muskets.

Monkeys are also extremely fond of these nuts. Of all animals, they have the best claim to a share of them, as the name by which this palm is so generally known is derived from the Spanish for monkey, *coco*—their own peculiar cry, *co-co*. *Coco nut*, or *monkey nut*, is the name which, with slight modifications, has been adopted into all European languages for this fruit. The name is said to have been given from the resemblance of the rough hairy nut, with its three black scars, to a monkey's face.

Monkeys are also connected with *coco nuts* from an ingenious manner in which sailors through them obtain the fruit. The men throw stones at the monkeys as they sit at the top of the trees; the chattering little creatures, with no other missiles at hand, angrily snatch at the nuts, and with them return the enemy's fire, much to the satisfaction of their assailants.

Our blue-jackets may have learned this trick from stories of Sinbad the Sailor, the real true sailor, "all

of the olden time," "Sinbad of the Sea" of the ninth century. But the custom was older still. The Chinese have practised this craft from earliest times to the present day; and paintings in Egyptian tombs represent that most ancient people having their fruit gathered by monkeys.

Coco nuts, coming to England in the humble capacity of wedges to fill up vacant places in the freighting of ships, are comparatively low-priced and common in England. In 1857 one thousand five hundred and seventy-five tons of coco nuts were imported into England.

They find their way to the humblest fruit-stores of English villages; and coco nuts are perhaps the only strictly tropical fruit with which the very poorest in our land are acquainted. The delicious orange, though a native only of sunny climes, is not so confined to the torrid zone as the fruit of the palm.

But how little does the boy or girl, who buys a bit of coco nut from the fruit woman's barrow imagine the preciousness of the tree which bore that fruit in its native land, wherever that land may be—in the Eastern or Western world.

The little girl sits sewing at her cottage door. She is making a shirt for her father. He is a fisherman, and the boy runs to join him as he pushes his boat from shore. Within doors the mother is setting aside the tea things and the remains of a loaf of bread.

The simple requirements of that humble home,

from what countless resources have they been drawn! Hundreds of miles have been traversed, thousands and thousands of hands employed to furnish those few wants.

From far-off continents the pods of the cotton-plant come to be manufactured into cloth by complicated machinery in vast factories at home. Through similar preparations the child's thread of cotton or flax must have passed, and a bit of steel wire was fashioned into her needle by the hands of one hundred and twenty different operatives. The little boat, with sails, ropes, oars, and nets, from how many countries were the materials for each supplied, how many hands were required to fit them for their present use! For the simple meal,—a Chinese herb, a West Indian grass, and grains perhaps of Polish wheat,—what various manipulations did they undergo before they became tea and sugar and bread! Cups and plates, too. How many hands were busied, and for how long a time before clay dug out of the ground was fashioned into those forms.

“ The Indian's nut alone  
Is clothing, meat, and trencher, drink, and can,  
Boat, cable, sails, and needle, all in one.”

Do we wonder, when we read of the simple islanders of the Marquesas, who say that the Coconut tree was brought to one of their islands by the very hands of a god.

It was, indeed, by the hands of a God—the God and Father of all—that the seeds of this precious

tree were especially bestowed on the Indians of the south, his simpler children, the little ones, as it were, of the human family. Their mental powers are not full grown, their intellect and energy are less fully developed than in the long civilized nations of Europe; and so for their few wants this loving Father provides for them close at hand.

Where the heat of the climate renders human nature less capable of bodily exertion, the development of the vegetable kingdom is increased. In one tree alone, of easy, abundant, and peculiarly rapid growth, men find in the regions of the sun all things they absolutely need.

Therefore in Malacca, where the coco nut furnishes the chief food of the poorer classes, a nut is planted on the birth of each child, designed for his especial benefit. The child and the tree grow together. The Palm tree, servant of God and friend of man, begins to bear "good fruit" at five years old; at eleven it is in full bearing; for fifty years it is considered in its prime, and it will continue to bear for a hundred years. The annual produce of a vigorous tree is from one hundred and fifty to three hundred nuts, or from one to two tons of fruit. A nut, before it is fully ripe, sometimes weighs fifteen pounds.

The nuts grow in clusters of from five to fifteen. Twenty clusters are together on the tree in different stages of ripeness, so that fruit may be gathered four or five times in the year. The Coco-nut tree,

like the orange tree, has fruit and flowers at the same time. The flowers, when they first appear, are pure white, with the scent of the magnolia. They change to cream colour, and finally become of a golden hue.

The Coco-nut Palm is amongst the loveliest of its race. Its slender stem attains from sixty to ninety and one hundred and ten feet in height.\* Less firmly erect than the Areca, and many other equally slender stemmed palms, the Coco-nut and the Lodoicea have a peculiar grace of their own in their ever-undulating movements.

But though she sways to the breeze, the Coco-nut Palm never forgets her love for the ocean ; her crown is ever inclined seawards.

Nor does she forget to "hold fast" though she stands on wave-washed rocks and on slippery sands. Almost wrenched from the ground by the sudden hurricanes of tropical climates, these palms are seen clinging with singular tenacity to their allotted soil, putting out fresh suckers from the undermost side of their stems. *Uprising* still, the summit of each slender stem is raised, holding the crown erect.

Could there anywhere be found a more exquisite illustration of the righteous in misfortune? Children of light, who "have treasure in earthen vessels;" though "persecuted," "not forsaken," though "cast down," "not destroyed." †

\* "History of Coco-nut Tree."—Marshall.

† A drawing was made in the Mauritius of a Coco-nut Palm, which, three months after it had been overthrown by a storm, still retained this half raised attitude.



The leaves of the Coco-nut Palm are always twenty-five in number, five new leaves replacing five old ones every year. They are upwards of fifteen feet in length, in form pinnate or feathery, divided into long, narrow, sword-shaped leaflets like the Date Palm. They are more varied in colour than palm-leaves generally. Usually of a bright, vivid green, the older leaves before falling off assume somewhat of an autumnal tint. These occasional tints of reddish brown and gold have a peculiar and lovely effect. In Tahiti the yellow leaves are much prized for plaiting into sun-screens.

Our children sitting at home in the shadow of the soft grey cloak of English skies, read breathlessly the daring romances of the East. With children of the tropics dazzling Arabian tales of trees of gold with jewelled fruits take yet firmer hold of the imagination, for to them they do not appear quite so unreal. Their every evening is passed in such gardens as Aladdin's—gardens of palms. In the blaze of the setting sun their slender shafts are of gold, their leaves of emerald and topaz, and their fruit amber.

What pen or pencil could do justice to the gorgeous sunset colouring of an avenue of these Coco-nut Palms bordering a tropical sea?

Young plants growing luxuriantly on all sides cover the sandy soil with the rich green of their waving plumes, and from out of their feathery fronds spring up the tall resplendent trees.

Between these glittering shafts and jewelled plumes is seen the glowing west. There, like Cæsar of old, the kingly sun as he sinks enfolds himself in his purple robe, while a crimson flush overspreads the surrounding skies. On the deep blue of the horizon are silvery specks. They are vessels speeding away, "homeward bound."

In shore the waves of molten gold whisper low as they break on the white coral strand. They bring love-gifts from the mighty deep, and rings of pearl roll to the feet of the ocean palms. With bowed heads and rustling plumes the queenly trees respond to the message of the sea.

When daylight is past, and the radiant moon and glittering stars come forth, land and sea are lustrous still. 'Tis but that the jewels are changed! A sea of sapphires and diamonds shimmers in the clear, white cloudless light, and the palm-trees' golden shafts and amber fruit become columns of silver and clusters of pearls.

There are other trees which affect a sandy soil, but they are very different in character to the ocean palm.

On the shores of West Indian Islands the dark green of the full-leaved branching *Manchineal* is often seen intermixed with *Coco-nut Palms*.

But the rosy apples of the *Manchineal* are poisonous. Raindrops passing over its leaves will blister the skin, and the wood is so injurious to workmen's

hands that, though it is very beautiful, resembling satin wood, it is seldom made any use of. Not a blade of grass will spring up beneath the blighting shadow of its branches.

The Coco-nut Palm grows side by side with the Manchineal on that white glistening shore, but its every part is devoted to good works in the service of man,—root, and marrow, and bark of its stem ; leaves, and their mid-ribs ; fruit, and their fibres and shells ; flowers, and their spathes.

An Indian Islander, to whom a Portuguese was expatiating on the luxuries of Europeans at home, asked the boaster if in Europe they had the Coco-nut tree ? On hearing they had not, his admiration was changed to pity. His island-home, he said, with that one tree, was worth the possession of all Europe if deprived of it.

Self-sown on the sea-coast, the nut must be planted inland by human hands. In negro villages in the West Indies the Coco-nut tree, like the Date in Egypt, is often the only redeeming feature. The kindly Palm trees bend over the ugly little black huts, unadorned like English cottages with hanging vines and gay gardens in front, and their graceful forms crowned with green leaves and clustering fruit, give a charm to the scene.

They are always planted near wells, and frequently close to the sugar mill. The flickering sunshine plays through the overshadowing palms on gay

groups of negro women brilliantly attired in white dresses, with handkerchief-turbans and aprons of red and yellow checks, and the rustling of palm-leaves mingles with the peals of merry laughter and incessant chatter of the child-like blacks.

But little use is unfortunately made of this precious tree in the West compared with its infinite capabilities in the East.

In Ceylon Coco-nut trees still form, as they did centuries ago, an important feature of the landscape. On the one side of the island extends, for nearly fifty miles, a continuous garden of these palms, and on the other a splendid avenue, seventy miles long, reaches from Point de Galle to Colombo.

Along this beautiful road may be seen, says Sir J. Tennent, "in active illustration the multifarious uses of the Coco-nut tree." Houses are timbered with its wood, and roofed with its plaited fronds; gardens are fenced and partitioned with them. Women are at their doors rasping the nut for the preparation of various dishes. By the roadside are pits where the nuts are steeped to convert the fibre into *coir*, and the kernels of the nuts are spread out to dry in the sun preparatory to being made into oil. While on all sides "men are ascending the trees to collect the sap from the wounded spathes of unopened flowers." This will be drunk as toddy, distilled into arrack, or boiled into sugar.

The formation of a Coco-nut tree plantation is

said to be\* by planting the ripe nuts in squares, each square containing four hundred. They are covered an inch deep with sand and sea-weed, or soft mud from the beach, and watered daily till they germinate. Nuts sown in April are sufficiently grown to be planted out before the rains of September. They are then set separately in holes bedded with soft mud and sea-weed, three feet deep, and from twenty to thirty feet apart. For the first two years they are protected from the fierce glare of the sun by plaited fronds of kindred Coco-nut Palms, or the broad fan-shaped leaves of the Palmyra. Encircled by fences, they are guarded, too, while young, from the attacks of elephants, wild hogs, and rats. The tree flowers in its fifth year. Each nut requires twelve months to ripen. The time of its beginning to bear fruit depends much on its locality. An Indian islander told Mr. Crawford:—"If I plant a coco nut by the sea shore, I shall myself eat the fruit of it; but if I plant it inland, the fruit will be for my grandchildren to eat."

The most precious inheritance of the Singhalese is his ancestral garden of coco nuts. An attempt to raise a tax on them in 1797, roused the populace to rebellion.†

The genealogical honours of the Coco-nut Palm in Ceylon is beyond a question; but not on them does she rest her claim to their reverence and attach-

\* Tennent's "Ceylon."

† Tennent's "Ceylon."

ment. If, conscious of the traditions of the past, her motto is, "noblesse oblige," the good done by her ancestors she still strives to equal or outdo; and in the island her resources are constantly more and more developed.

As a matter of fact, legal proof, of the value of these trees, may be mentioned a cause very recently decided in a court of law in Ceylon. The subject in dispute was a claim to a two thousand five hundred and twentieth part of ten Coco-nut trees.

Sir George Barrow mentions the one hundred and fifty-fourth part of a Coco-nut tree being advertised for sale in a Ceylon paper; the proprietor of a whole tree being considered in the colony a rich man.

The Palmyra or Tala is to the Singhalese a sacred tree; but the Coco-nut Palm—the Hindustani Nariye, the Sanscrit Narikela—is as a loved member of his family, and to it he clings with superstitious fondness. The natives say the Coco-nut Palm will not grow out of the sound of the human voice; they will not flourish unless you walk under them and talk to them. If the villages where they grow are deserted, they die.

Groves of these trees are everywhere landmarks of happy human homes. Amidst the wild glens and recesses of the Kandiyan hills, the nodding plumes of the friendly Coco-nut Palm always betoken a cottage near.

In every garden of the rich and poor Narikela stands the guardian genius of the land, as she is also of the countless isles that gem the seas of the south.

In the island of New Caledonia (New Hebrides), these trees are, as in Ceylon, looked upon as part of the family. When a chief dies, his palms are wounded, that they may share the grief of the household. Besides their infinite usefulness, there is in some countries a peculiar mode of raising these trees, which helps to make them individually dear to the people. In parts of Ceylon and other places, the nuts are not put into the ground until after they have sprouted, and even attained three feet in height. During this stage they are kept close to their houses, so that in their early youth Coco-nut Palms are actually dwellers in the family home, if not within the house, at least close beside it, and under the shadow of its roof.

In a lovely little island in the Pacific, Rotuma, Bennet saw these nuts ranged in great numbers before the house, unplanted, but growing luxuriantly.

The natives of Tahiti, where this palm is regarded with peculiar affection, have a tradition that the tree was produced from the head of a man. The name *Uto* given by the people of Tonga (in the neighbouring group of the Fee-jee Islands) to the nut when germinating, is in singular accordance with this strange superstition, for it also signifies the brain.

As their most precious possession, Coco-nut trees are often devoted to their gods by the Singhalese; to Buddhist temples, or to Roman Catholic altars, superstitiously regarded by them. Consecrated trees are distinguished by having a band of leaves fastened round their stems by the owner. Sometimes the nuts are converted into oil to be burned before the shrine to which the trees belong.

In times of sickness offerings of young plants are made, or where other gifts have been offered, a palm branch is laid upon them, by means of which the god is supposed to enter into the offering, or it is attached to the sick person, and then the evil spirit is supposed to depart through it.

At Tahiti, a branch of the Coco-nut Palm is used, as the leaf of the Talipat is in Ceylon, as an emblem of authority. Like Clan-Alpine's fiery torch, or the wooden halberd—the budstikke of ancient Scandinavia—a branch of the Coco-nut tree is sent by Tahitian chiefs to summon their dependants. There too, the leaves, which form a principal part in all their religious ceremonies, were frequently suspended in their temples as offerings to their gods. Strings and bunches of the segments of the leaves were hung up in the manner of rosaries, to show the order of the prayers.

There are, in various parts of the East, religious ceremonies connected with this so long venerated fruit. In them a mysterious sort of connection is



always set forth as existing between the Coco-nut Palm and the sea.

At Trincomalee, where the Portuguese destroyed the temple of a thousand columns, a yearly procession of devotees takes place. Fruits and flowers of various kinds are carried to a rock which projects four hundred feet above the sea. Amongst other ceremonies which there take place, is the mysterious breaking of a coco nut against the cliff. After this is done, the officiating Brahmin swings a brazen censer above his head, which, being filled with inflammable materials, blazes up to a great height, casting a red fiery glow far out over the sea.\*

At Bombay, and at all the seaports on the western coast of India, there is, amongst the great yearly festivals of the Hindus, one known by the name of "Coco-nut Day." This festival takes place in August, at the termination of the rainy season, when the navigation of the sea is again open with safety. The natives, in holiday dresses, with bands of music, go in procession to the sea side, where numerous ceremonies take place over a coco nut, which is covered with gold and silver leaf. The principal person present then throws this nut into the sea. Every boat owner and trader having made a similar offering on his own account, the first boat of the season, gaily decorated with flags, immediately afterwards puts to sea.

\* Feament's "Ceylon."

In this Eastern ceremony, the gilded coco nut—considered a symbol of marriage in many parts of India—is as the marriage ring with which the Doge of Venice was wont to wed the Adriatic. It would also seem as if this ceremony, confined to the western coast of Hindostan, had its origin in some ancient tradition of the coco nut having been bestowed by the sea on their shores. This would point to the Maldives and the Laccadives as the home of the Coco-nut Palm.

In the Friendly or Fee-jee Islands these nuts are used as charms; answers are supposed to be given by them to anxious inquirers as to the recovery of sick friends. The nut, in its natural state, is placed on the ground. After prayer has been made, it is spun, and, according as the upper part of it does or does not point to a quarter previously determined upon, the answer is believed to be favourable or the reverse. Spinning these nuts is at all times a favourite amusement; they are frequently spun by women to determine disputed questions at games.

But not yet have we attempted a detail of the actual uses of the Coco-nut Palm.

The conjuror with his tricks never wants for an admiring audience; far greater marvels surround us on all sides. How few take heed of them! Palm trees, children of the south, give into our hands to have and to hold, gifts more marvellous in their variety than wizards of the north can do,

masters though they be in the art of prestidigitiation!

Let us call the rough coco nut—the seed of the tree—a wizard's box, and count, if we can, the number of infinitely varied articles that may be summoned from it. That we may the better remember, we will try to classify them under *fruit, fibre, shell, flowers, leaves, stem, and root.*

The first service the kindly Coco-nut tree does to man, is without any exertion or almost consciousness on his part, and at the peril of its own life. In tropical climates, where terrific thunder storms are frequent and sudden, these stately palms protect the palace and the hut while the households are perhaps asleep. The lightning's fiery arrows are abroad, but their crowns are uplifted as shields; their tall stems interrupt the discharge, and conduct the electric matter to the ground, especially when drenched with rain. "In the neighbourhood of these trees accidents from lightning are very rare."\*

The fruit, or nuts, are, of course, the chief boast of the Coco-nut tree. Bernardin de St. Pierre says—"The sound of falling cocos are intended to call guests to their refreshment."

There are red, yellow, and black, or rather dark green, coco nuts. Various writers mention five kinds as known in Ceylon. Of these the most

\* Tennent's "Ceylon."

highly prized is the king coco nut—the Tembili of the natives. They are planted near temples, and a draught from these nuts is presented to visitors as a mark of distinction.

One very diminutive kind, the size of a Turkey's egg, is much esteemed in Ceylon as a curiosity.

The aricuri, or accu-uri of Guyona (*Cocos schizophylla*—MARTIUS) bears a still smaller nut, the size of a bantam's egg, and of the same shape. When polished, it is black as jet, and when set in silver, forms a peculiarly elegant scent bottle.

As the fruit passes through its progressive stages to maturity, it is applied to different purposes.

In its earliest state, small, green, and undeveloped, it is serviceable to man. Grated down it becomes a valuable medicine; when mixed with the oil of the matured nut, a healing ointment.

When further advanced, the albumen, or white lining of the shell—a semi-transparent jelly, like white cornelian, with a flavour of almonds—furnishes a most delicate food. That portion of the albumen which remains still liquid, called the “milk” of the coco nut, or coco-nut water, affords a most delicious draught. This opalescent nectar, when iced, cannot be surpassed by any compound of European luxury.

Where milk cannot be procured, coco-nut milk is sometimes used as a substitute in tea. This is a milky liquor obtained by pressing the nut.

It is in their unripe state that coco nuts are used as regular food. With no other food but this Singhalese will labour for days ; so also will the people of Malacca. At one time these nuts formed part of the provision of negroes in Jamaica. The natives of the Isthmus of Panama principally subsist on grated coco nuts, boiled with rice and water. In the Maldives they are the price of labour.

The delicate jelly, called by the natives of Tahiti Ni-a-a, enters into the composition of various dishes there, and in all tropical countries. It is also prepared as a favourite sweetmeat, and makes an excellent emulsion.

The milk, besides affording so delicious a draught, is, when mixed with fresh cows' milk, a remedy for ophthalmic complaints. It is also used as a cosmetic, and in the preparation of cement. As the nut ripens this milk becomes unfit to drink, and finally dries away altogether.

It is in the kernel's transition state, from a jelly to a nut-like substance, that coco nuts form with rice the basis of all Singhalese cookery. They form the ancient dish of the Island, Curry, or Kuri, which dates back to the second century, B.C. It is the addition of this grated kernel which constitutes the excellence of East Indian curries.

When fully ripe the grated nut is, both in the East and West, made into delicious puddings and cheese-cakes. A most delicate article of confectionary

is also prepared from it. When mixed with a little water and boiled with sugar these coco-nut cakes are, in the West Indies, cut into fanciful shapes; some are coloured with the crimson juice of the Prickly Pear (a species of *Cactus Opuntia vulgaris*), and some are left pure white.

A tray with these white and rose-coloured confections makes a tempting display, carried about to sell on the turbaned heads of smiling black and coloured girls. A love of making presents is a marked characteristic of the negro race; and a tray of these sweeties is a favourite offering from the upper servants of a West Indian household to the younger members of the family. The nut preserved in sugar is an excellent sweetmeat.

The same nutty substance, the kernel of the nut, affords the valuable coco-nut oil which, with the fibre of the outside husk called Coir, constitute in European markets the most valuable products of the tree. The preparation of these two articles principally engages at this moment the industrious poor of Ceylon.

Sir George Barrow mentions, that in 1854 one hundred and forty-eight Coco-nut tree estates existed in the island; the names given to some of them being wholly unpronounceable,—*Galle wille mookelane watte* and *Koorooppooatchia mookelane watte*.

Since then the cultivation of these has greatly increased. Sir J. S. Tennent, quoting from the

*Ceylon Observer*, December 25, 1858, gives an interesting summary of facts connected with it:—

“The average export of coco-nut oil for the four years ending 1841 was said not greatly to have exceeded 400,000 gallons, value under £26,000. In 1857 the export rose to 1,767,413 gallons, valued at £212,184. As much oil being consumed in the colony as was sent out of it. To afford the whole quantity of oil, 3,534,826 gallons, 141,393,040 nuts are required. The refuse, oil-cake or poonak, being most valuable as food for animals and for manuring land.”

Of the twenty million Coco-nut trees estimated for as on the island, one sixth seems to be devoted to the produce of oil, and five millions to toddy drawing,—large proportions of this liquor being distilled into arrack and converted into sugar. There remains eleven millions five hundred thousand trees yielding four hundred and sixty million nuts to supply food for the people, and to be exported either in their natural state or as *copperah*,—the nut dried in the sun preparatory to expressing the oil.

Crushing mills, identical with those used from time immemorial for the same purpose, are erected under the shadow of the Coco-nut Palms growing near the natives' dwellings. They are very simple. The trunk of a tree, the stem perhaps of a Coco-nut tree, is hollowed into the shape of a huge mortar, in which a heavy upright pestle is worked

by means of a bullock yoked to a transverse beam.\* In 1815 a steam engine for expressing the oil was erected by government in Ceylon. The ordinary estimate in that island is, that one thousand full-grown nuts of Jaffna will produce five hundred and twenty-five pounds of copperah, a ton of which will yield twenty-five gallons of oil.

The natives of Malabar, Tahiti, and the Polynesian Islands, all prepare oil from their favourite nut; the process is everywhere very simple. The Indian Islanders boil the nut before pounding it; the milky liquor obtained by pressure is again boiled, and the oil skimmed off from the top. In some of the islands this operation, performed by women, is of the most primitive simplicity. The palm of the left hand is laid on the surface of the liquor, and the globules of oil that attach to the skin are brushed off by the right hand into another vessel, the shell of the coco nut itself. It is said that two quarts of oil may be procured from fourteen or fifteen nuts.

Freshly made this oil is excellent for cooking, even to European tastes. Coco-nut oil, it is asserted, keeps fresh longer than any other oil; it does not become rancid for years.

Employed in England in the manufacture of soap and candles, and for pharmaceutical purposes, coco-nut oil is much esteemed for burning in lamps. Deville, a great experimentalist in the illuminating

\* Engraving, Tennent's "Ceylon."



qualities of different gases, gave his testimony in favour of that procured from this oil as that which nearest approached the light of day. By no other artificial light could flowers of sulphur and flour of wheat (in other words, the palest shade of yellow, and white) be distinguished from each other.

On the Gulf of Cariaco, on the Venezuelan Coast, near Cumana, regular plantations of Coco-nut trees, "Haciendas de Coco," exists as in Ceylon. A great quantity of oil is made at Cumana. Humboldt witnessed the frequent arrival of canoes containing three thousand nuts. One hundred nuts yielded on an average eight flascos; the flasco sold at sixteen pence.

The natives of Tahiti used to make forty and fifty tons of this oil; it was brought off to the ships in calabashes. Tahitian oil is usually scented with sandal wood and sweet smelling flowers. Some years back four or five gallons would be sold for a fathom's length of calico.\*

In all places, as at Ceylon, the refuse from which the oil has been expressed is used to feed and fatten pigs, poultry, and cattle.

Coco-nut oil, esteemed in England where it has so many worthy competitors, is prized beyond measure in those far away lands where it is without a rival. The food in those countries, consisting chiefly of rice and fish, is always dressed with it. In the islands

\* Bennett's "Wanderings in New South Wales," &c.

of the Indian and Pacific Oceans it plays another and most important part as a necessary article of toilette. Scented with sandal-wood or odoriferous flowers the natives delight to pour it over their hair, but that is not all. Anointing with oil is with all savage races what the most elaborate toilette is to civilized people.

Even European travellers describe their dark skins as having an undressed look when this adornment has been neglected. Not only in appearance, but in actual utility this anointing oil stands them instead of garments, for it preserves their skins from blistering with the heat. When in North Africa Captain Lyon himself practised this oiling himself all over after a journey, and described it as very refreshing !

In Ceylon the Mahouts dress the elephants under their care by rubbing them over with this oil, their skins having been previously scrubbed with some porous substance. This oil, when mixed with resin, is applied in the East to paying the seams of ships and boats. It has very valuable medicinal properties, and is considered to cure rheumatism.

An interesting notice of coco-nut oil is found in missionary records. On the first setting up a printing press in one of the islands of the South Pacific, so anxious were the poor islanders to obtain copies of the precious "speaking leaves," that three thousand copies of St. Luke's Gospel in the native language

were immediately sold. They had no money, but the price given for each copy was three gallons of oil. Thrice blessed oil to them, thus purchasing the lamp of life, a light to guide their feet into the way of everlasting peace!

In 1857 the imports into England of coco-nut oil were ten thousand three hundred and sixty-one tons, and about one thousand five hundred and seventy-five tons of nuts. The quantity has diminished of late years.

The product of the Coco-nut Palm, almost, if not quite equal in value to its oil, is its fibre, or stringy covering of the husk of the nut. Coir, the name by which it is now known all over the world, is either derived from the Tamil word "cayer," a name given by them to rope of every kind, or the Tamils themselves must have learned the name as they did the art of making these ropes from those ubiquitous instructors in useful arts, the Arabs of olden days, by whom centuries ago this fibre was called "cayro."

On the first discovery of India by the Portuguese the Moors of Sofalah were found sewing their boats with "cayro." Itn Batuta, a pilgrim traveller in the fourteenth century, described this sewing together of the planking of boats as practised at Zafar.

The Arabian merchants of ancient days divided the Maldives and the Laccadives into the islands that produced cowries, and those that produced

coir.\* Natives of Oman and Yemen were wont to resort to Ceylon to prepare cordage from the fibre of the coco nut, even as in this day it is the occupation of the people on the south and south-west coasts of the islands.

Not only cordage of all kinds, but sail-cloth also was made from this fibre more than two centuries ago. Throughout the East it has always been a most valued article of commerce. While yet scarcely known in England, the annual export of coir from Ceylon to Calcutta and other parts of India was three million pounds.

What years of practical experience had taught the people of the East has been confirmed by Dr. Roxburgh in a series of scientific experiments. Coir was proved by him to be the very best material yet known for the manufacture of cables, on account of its great elasticity, strength, and durability. Until chain cables were introduced all vessels in the Indian seas were furnished with this kind.

Ropes and cables made from coir, and all fibrous material derived from palms, requires no tarring to preserve them. Sea-water improves rather than injures all cordage made from coco-nut fibre.

True to its strange instinctive love the Ocean Palm supplies the seaman's every want, and its produce, like the tree itself, is strengthened by the salt sea spray.

\* Tennent's "Ceylon."

The manner of obtaining this fibre from the husk is described by Mr. Marshall, a resident for many years in Ceylon, as very simple and expeditious. The nuts having been gathered before they are quite ripe, an iron spike or piece of very hard wood is fixed in the ground, and the nut forced upon its point in such a manner as to separate the rind from the shell. By this means one man can clear about a thousand nuts in a day.

These husks are steeped in water for several months; they are then beaten on a stone, dried in the sun, and again beaten or rubbed with the hand to separate the fibrous portion from the rind. Forty nuts will supply six pounds of coir.

Almost innumerable are the uses now made in England of this valuable fibre. In the East it has long been preferred to horse hair for stuffing beds, couches, cushions, chairs, and saddles, as it is indestructible, has no unpleasant smell, and does not harbour vermin. It is now largely imported into England and North America for the manufacture of brushes, brooms, rugs, and various other articles. The finer kinds of coco-nut matting, when dyed in various colours, is a pretty carpeting in summer for halls and passages. A coarser sort is spread in winter over garden walls, shielding delicate plants from the cold.

Strange are the destinies of plants, more especially those of the friendly palm tree's race! From

the fibres of a fruit which cannot ripen except beneath the glowing sun of the tropics, is woven a covering to protect children of the North from the snows of their own native land.

Even the dust or refuse of the fibre is valuable. The gardeners' journals of late years strongly recommend "coco-nut dust" as "the very best medium for promoting the throwing out of roots in cuttings." It is applicable to all roots, from seedling geraniums to the finest roses and *coniferae*. "For encouraging roots to the surface there is nothing like it."\*

Is not the Coco-nut Palm a kindly tree?

At Tahiti, and other islands in the Southern Seas, a fabric called "sinnet" is largely manufactured from this fibre. At Tonga it is dyed in various colours, and called "kafa." It is beautifully braided and applied to various purposes. In these once mis-called "*Friendly*" (now Fiji) Islands, Captain Cook noticed beautiful aprons worn by the women, composed of this fibre, called by them "bulu." Small pieces of the material were sewn together, so as to form stars, half-moons, squares, &c. These were studded with beads, and shells, and red feathers, "so as to have a pleasing effect." Combs made of the midrib of the leaf were adorned with this "bulu," beautifully worked. A variety of strong and elegant baskets were made from the twisted fibres, dyed in different colours, and orna-

\* *Cottage Gardener*, Nov. 17, 1857.

mented with shells and beads of mother-of-pearl and tortoise-shell.

Bunches of it attached to human bones constituted the fly-flaps of this savage people. Everywhere it supplied fishing-lines equalling European ones in strength, and cordage, plaited in all lengths and all degrees of thickness, larger ropes being made by twisting smaller ones together. A rope called "fire-rope," because it so long retained fire, is made from the coarser fibres. It is used in Batavia for lighting cigars.

But the apron of the Fiji woman may be matched with the head-dress of a Tahitian chief, made of the same materials. This broad fillet of worked fibre was adorned in the centre with circular pieces, alternately of mother-of-pearl and tortoise-shell, rising perpendicularly from the forehead—the lowest the size of a saucer, the topmost as small as a shilling. Sometimes the sides were similarly decorated. This Tahitian coronet was surmounted by feathers of brilliant hues.

In the museum at Kew are to be seen two singularly contrasted articles, both composed of coconut fibre,—a Tahitian war-dress and a model of a heathen temple in the Fiji Islands.

Plaited with the same material is a bonnet and hat of European shape.

Throughout the East strips of cane-palm and coconut fibre also supply the place of nails and screws.

With these strong ligatures rafters of houses are tied and boats fastened, with but the addition of a few wooden bolts. These strange fastenings now in use illustrate tales of old, of ships navigating Indian seas being without nail or iron bolt, then believed to be necessitated by the loadstone mountains supposed in the fifth century to occur in those seas.

In contrast to the garments of honour it supplied, the husk in its natural state, with the fibre attached, presents an admirable ready-made scrubbing-brush, constantly used as such in Ceylon.

But it is not only scrubbing-brushes that the kindly Coco-nut Palm presents us with ready-made. Supplying in her valuable fibre a material on which human industry and ingenuity may be employed, she also, as if to startle men with her liberality, furnishes them besides with a ready-made fabric, almost a ready-made garment.

We learn from Forrest's "Voyage to New Guinea," that the Papuans and natives generally wear a thin stuff resembling a coarse kind of cloth, which comes from the Coco-nut tree. At Tahiti also this cloth is worn simply joined together, leaving a hole in the centre, in the fashion of a poncha. From its strength and durability, and being uninjured by sea water, it was especially adapted for their fishing dress.

This curious substance—a web direct from Nature's loom—does indeed present an exact resemblance to coarse brown cloth, the threads crossing each other



with singular regularity. It is found at the bases of the fronds or leaves, enclosing each young leaf in a net-work of fibre. It is stripped from the tree in large pieces.

In its earliest stage it is beautifully white, transparent, and delicate looking as lace. This fairy-like net is used in Ceylon as an infant's cradle. From white it changes to green, the women of the South Sea Islands use it in this stage for aprons; becoming darker and stronger with age, it then forms a water-proof cloak for men; the *friend of man* supplying in turn a wrapper for infants, for women, and men.

This cloth, called Matulla by the Singhalese, is also used in the preparation of two of the products of the tree as a strainer for the toddy, and as a bag through which the oil is expressed from the kernels. It also serves in the East and West as a sieve for arrow-root\* and other flour.

Palm trees generally complete their good offices to men with singular gracefulness. They not only supply useful substances, but in almost every case they at the same time furnish some other article, by means of which such substance can be prepared to suit men's necessities.

Palmyra leaves are plaited into the mats on which the preserved fruits of the tree are laid to be dried in the sun. The pith of Sago Palms is prepared in

\* *Maranta Arundinacea.*

troughs hollowed from the stems of the trees; and many other like instances will be found in palms of the East and West. But the Coco-nut Palm, more than any other, has the power of thus admirably perfecting her gifts to mankind. She herself affords the young leaf for the loop by which the toddy-drawer ascends the tree, and the fibrous cloth as a strainer for the toddy, and a bag for expressing the oil. A little of the grated nut thrown on the surface of the boiling liquor determines when her juice is sufficiently boiled to become jagghery or coarse sugar, and into baskets plaited from her leaves the juice is poured to cool into a partial crystallization.

The coco nut's shell is the ever ready cup in which she offers a delicious draught to the thirsty children of tropical climes; it is the bowl also from which they can eat its delicate jelly, and in a more advanced state, the rich nut grated and mixed with rice. When the fruit is allowed to ripen, the shells are extremely hard, strong, and durable. The husk removed and carefully scraped, they take an exquisite polish, and are of a beautiful dark brown colour,—a representation of the tree is frequently carved upon them; they are sometimes set in silver as goblets for Europeans. They everywhere furnish domestic utensils of infinite variety, drinking cups, water vessels, and measures. In the East their size is expressed by the number of cowries they contain,—“Cocos of five hundred,” or “one thousand cowries.” Bowls, plates, dishes,

ladles, skimmers, spoons, and pipe-bowls, are made from nuts of different sizes, cutting the shells according to the shape required.

At Monte Video the favourite "maté," or Paraguay tea is drunk from richly ornamented coco-nut shell cups; it is sucked up from them through long silver tubes. This shell, as the original cup, has given its name to cups of other materials. In South America "silver cocos" are spoken of.

In Tahiti drinking cups are made from shells before the nuts are ripe, they can then be scraped so thin as to be almost transparent, and are of a beautiful pale brown colour. Gathered at a still earlier period when green, these shells are translucent, and are used as lamps by the Singhalese. Here again the coco nut does double service, lamp and oil both furnished by her.

When burned, the shells make good "lamp-black;" when reduced to charcoal and powdered, an excellent tooth powder.

Amongst the various uses to which in the East the coco-nut shell is applied is the bowl of the hookah, or Indian pipe. It seems not improbable, remembering the Arab name for the Coco-nut tree, "Narghyl" (from the Hindu Naryel), that the earliest suggestion of the Turkish pipe, Narghileh, is to be traced to Arabian travellers of old, and their recollections of the pipes of Serendib (Ceylon) furnished by the Narghyl.

The flowers of the Coco-nut Palm, when they first

expand, are of a beautiful milky whiteness, with the fragrance of the Magnolia; they afterwards change to cream colour, and finally become of a golden hue. They are powerfully astringent, and are much used in the East for medicinal purposes. Their juice, when mixed with new milk, has afforded, in many cases of a complaint very prevalent in hot climates, instant relief, and an effectual cure.

The flowers of the Coco-nut Palm are called by the Tahitians *Ti-ari*, signifying "*the flowers*," as the nuts of the Betel Palm are called by the Indian Islanders "*the fruit*." The spathe is called *Pa-tiari*, or the "*shell of the flowers*." The spathe, or sheath which envelopes the flowers, has, like the young leaves, a fibrous covering; like every part of the Coco-nut tree, it is very inflammable, and in the East, they are burned as torches. In the sugar and vinegar, both obtained from the toddy of the tree, the flowers are either preserved or pickled.

In Ceylon, the toddy,—a clear sweet liquid, which flows from the wounded spathe of the unopened flowers,—is principally converted into the coarse sugar called *Jagghery*. Toddy itself is there used as yeast by the bakers; it is considered to make very light and excellent bread. A powerful cement, said to be capable of taking a high polish, is said to be made from *Jagghery*, with an infusion of the husks of unripe nuts. In Madras and other parts of India roofs are covered with this cement, and also

the floors of rooms, and pillars. It is sometimes coloured to resemble marble.

From toddy is also distilled arrack, the only pernicious gift which the Coco-nut Palm bestows. "Arrak" is the general word throughout the East for spirituous liquors; it is principally distilled from rice. In Java a species of arrack is made from rice and sugar, with the addition of palm wine or toddy.

One hundred gallons of toddy will yield twenty-five gallons of arrack. A few years ago the export of arrack from Ceylon was from five thousand to six thousand leaguers, each leaguer containing one hundred and eighty gallons. In the East Indies arrack is issued to the navy instead of rum.

Not yet have we touched on the especial glory of all palms—the leaves. Always beautiful, they are always infinitely useful.

The leaves of the Coco-nut Palm are behind none in value. In their very earliest stage, as a leaf-bud or "cabbage," they afford a far more delicious vegetable than the name given to it suggests. This ivory-looking substance, resembling sea-kale in flavour, was likened by old writers on palms to an elephant's tusk, both in form and colour. In the Cabbage Palm (*Areca oleracea*) it attains its highest perfection.

In their next stage the leaves, formed but unexpanded, still beautifully white, of a satiny texture,

and semi-transparent, are used for various purposes. Exquisite wreaths and crowns are made from them for the decoration of dwellings and triumphal arches on festival days. The Singhalese make with them translucent lanterns.

A tree of light as well as love is indeed the Coconut Palm! See how eagerly her every part lends itself to the blessed mission of giving and carrying light. Her nut gives oil, her fibre the wick, her shell the lamp. Her young leaves make lanterns, and when old and dry, torches called "chules" are made in Ceylon from them. "They are bound together in bundles six feet long, and three or four inches in diameter. If dexterously carried, they burn for about half-an-hour."\*

In reading plain matter-of fact accounts of these various uses of palm trees, how constantly are we reminded, by the beautiful analogies they suggest, of their mission—the mission of the righteous—to be *servants of God and friends of man*.

These young leaves, white as paper, are used by boys and girls in tropical countries, to write verses upon, to send to each other on certain holidays. These ivory-looking tablets, written upon with styli, answer to the gaily-decorated valentines of English shops, but are far more elegant. The older

\* Tennent's "Ceylon." It may be noticed, as a proof of the continual strange varieties to be met with in the palm family, that a small South American palm, a species of *Geonoma*, growing at Kew, is marked with the name of the "*Fire-proof Palm*."

leaves of the Coco-nut Palm, like those of the Tali-pat and Palmyra, are also used for older letters and graver purposes of books. Prepared in like manner, they too are called Olas.

The leaves, when very young, are tough and stronger even than old leaves. Strips of them are used for all kinds of ligatures. With them the wounded spathe of the tree is bound when toddy is to be drawn, and with them the toddy-drawer makes his loop by which to ascend the tree.

Full-grown leaves are from fifteen to twenty feet long. They are everywhere used for thatch. Roofing mats, called "cajans" in Ceylon, are made of entire leaves, the leaflets being interlaced on either side of the midrib. Not only native dwellings, but also European bungalows are roofed with them. The waggons carrying coffee from the hill plantations to the sea coast are covered with these plaited fronds.

Throughout the islands of the South Pacific, native huts are often entirely constructed from different parts of the Coco-nut tree.

Faithful to her instincts, the Ocean Palm furnishes in her leaflets a material for the Malays to plait into sails for their prahus.

Like all palm-leaves, when cut into strips, they are plaited into all kinds of mats, screens, baskets, panniers, bags, fans, sunshades, and hats.

In the dear old pages of Captain Cook, we find

the Tahitians of his day excelled in this pretty manufacture. A Coco-nut leaf would in a few minutes be made to assume the shape of whatever article was required. It was with great neatness and surprising quickness woven into a thousand different forms.

From the leaflet entire the women made themselves bonnets, exceeding even the most extravagant European belles in the number of their bonnets; for, "freshly made each morning ere the sun had risen, at night-fall they were thrown away, to be replaced by new ones."

At the Marquesas and Washington Islands, Bennet describes a distinctive dress of the priests—a cap and cape, both of them entirely consisting of the leaves of this tree.

The cap was formed by about six or eight inches of the leaf-stalk rising perpendicularly from the forehead, the leaflets attached to it, passing on each side of the head, were neatly fastened together at the back. The cape or tippet was more singular. The leaf stalk, split to within an inch or two of its furthest end, was passed round the neck, and the split end tied together. The leaflets, from which the midribs had been removed, hung loosely over the chest and back.

These articles constituted the usual dress of the priests; but when they performed any religious office, it was imperative that they should be worn.

In Tahiti, also, the branch or leaf of the Coco-nut Palm was the emblem of authority, and, as such, was



sent by the chiefs to summon their dependants whenever their services were required.

In all places these leaves are used for adornment, and are connected with religious ceremonies. Amongst the Singhalese, branches, and in some cases whole trees, are, in times of sickness or sorrow, dedicated as propitiatory offerings to their gods. On occasions of public rejoicing in Ceylon, triumphal arches spring up like magic. All over the island the upright stems of Coco-nut trees are connected by arches, interlacing with each other in a most graceful manner; the whole structure being entwined with Coco-nut leaves, either green, or in their early stage of a beautiful pale yellow.

In Christian Churches in tropical countries, wherever the Date Palm's leaves cannot be procured, those of the Coco Nut, which are of the same feathery shape, are used for decoration on Palm Sunday and other festival days.

Elephants are particularly fond of these leaves. They are always brought to captive wild ones as soon as the first paroxysm of rage and grief are over. Hunger and his favourite food then tempt the poor, exhausted animal to eat.

The juice of the leaves, mixed with fresh oil from the nut, is considered a most valuable medicine.

The water in which the burnt ashes of the leaves have been steeped contains so much alkali that

Singhalese washerwomen use it to cleanse their linen, without the addition of soap.

The midrib, or large vein which passes from the leaf stalk to the end of the leaf, is, in all palm trees, a most valuable article. These midribs are to the natives of tropical countries what osiers are to us; but they are still more serviceable from their greater strength and elasticity, and their capability of being split into the very finest segments. They are at the same time fitted for workmanship of the strongest and most delicate nature. All kinds of basket and wicker work are made from them, and many other articles not to be reckoned under these heads,—amongst others, lanterns and buckets.

At Tongataboo, one of the Fiji Islands, the favourite head-dress is, as it is with some Indian tribes of South America, a high comb. These combs are made from the midrib of the Coco-nut Palm leaf. They are stained with the bark of the Ko-ha tree, so as to resemble tortoise-shell. The upper part of these combs are beautifully worked with the coco-nut fibre.

Indian sail-cloth of two centuries ago was made from the fibre of the Ocean Palm; the sails of the Malay prahus are now made from her plaited leaflets; and the Indians of British Guiana manufacture for their canoes or corials still more durable sails from the midribs of her leaves. Split into exceedingly fine and thin strips, they are interlaced and

attached together by means of a silky grass, forming a rude but almost imperishable sail.

But the tree that, with inclined head, listens so lovingly to the voice of the sea, loves also the music of the winds. Her leaves, that ever rustle in the breeze, whispered to the children of the palm regions of South America another use to be made of them. These midribs or elastic strings, stretched between two pieces of the wood of the tree, become musical, and form the *Æolian harp* of Guyana.

The so-called musical instrument—a favourite one with all savages, and called by the same name in the East and West—Tom-tom or Tam-tam—is generally made from the stem of the Coco-nut tree. To European ears the music of this instrument is more than doubtful, consisting only of the unvarying repetition of its own name. Undoubtedly it “has charms,” not only to “soothe savage ears,” but also more highly cultivated ones; for we read of an exactly similar instrument, and struck precisely in the same manner, amongst the ancient Egyptians. Amongst the Hindus, also, it has existed from time immemorial. Old chronicles of the East describe the march of an army enlivened with the rattling of sixty-four of these drums, and the piercing screams of trumpets of chank shells.

The tom-tom is the Hindu’s call to prayer. Public proclamations are still made accompanied by it in the East, and in the West Indies and Guyana

it is the tom-tom's ever welcome sound that summons to the dance. To its monotonous sound delighted blacks continue to lift their feet alternately for hours together.

When old, the wood of the Coco-nut tree is of great hardness, and is considered extremely valuable. By Eastern nations it is applied to various purposes. In the Maldive and Laccadive Islands boats are made from the hollowed stems, and planked with the wood. Spears are made from it in the Polynesian Islands. From one of the South American species of Cocos the powerful Indian tribe of the Puris in Brazil make their best bows.

The wood of the Coco-nut tree is brought to Europe under the name of porcupine wood. It is much esteemed for the manufacture of all fancy articles of cabinet work, elegant work-boxes, and costly articles of furniture. It is of a rich chocolate colour, spotted with black, and streaked with little veins. Hard as ivory, of a very fine grain, it takes an exquisite polish. Choice pieces, resembling dark agate, have been set in the lids of silver snuff-boxes.

Before the trees have become aged, the interior of the stems of Coco-nut Palms, according to the habit of the race, afford a pith which, when converted into a floury substance, is not only eatable, but sweet and "very agreeable;" and may be called the bread of the tree.

A sort of gum is extracted from the stem, which the Tahitian women spread over their hair.

The root of the tree, boiled with ginger, is an efficacious remedy in cases of fever. The same decoction, when mixed with Coco-nut oil, is used as gargle. In the East, wherever Areca nuts cannot be procured, the roots of the Coco-nut Palm are chewed.

From a very remote period, the Sultan of the Maldives has sent a yearly embassy to the reigning government of Ceylon. It commenced in the time of the Chinese supremacy in that island, in right of which they claimed sovereignty in the Maldives. This claim was continued by the Portuguese and the Dutch, and the embassy—a sort of feudal homage—continues to the present time. His Highness now assures the English Government of his fidelity, and claims the protection of the Queen of Great Britain.

In old books we find it stated that the Coco-nut tree alone supplied everything required for this embassy,—the boats that conveyed it, the food and clothing of the persons who composed it, and the various presents of which they were the bearers.

But this would seem to be a little too imaginative, as, on the undoubted authority of Sir J. S. Tennent, we learn that amongst the presents brought by these Maldivian ambassadors, which are identical with those carried by their ancestors for a thousand years or more, there are cowries and conch shells.

But the story may be almost, if not quite true.

We have seen that in these islands boats are made from the hollowed stems of the Coco-nut tree; and we know that its fibre furnishes ropes, its leaflets sails, its leaf-stalks oars. The kindly tree gives also ready-made garments for the body and coverings for the head; food and drink of various kinds—nuts, jelly, cabbage, and bread, milk, wine, and spirits; and dishes, bowls, cups, and spoons, necessary for the partaking of them. For light at night she affords oil and wick and lamp; and if sickness come, medicines of various kinds from fruit and flower, leaf and root. All that man wants, by land or sea, this friendly palm tree will provide.

Enthusiasm here is shared alike by the poet, the traveller, and the “Commercial Dictionary.” All tell the same tale. Supreme in usefulness as in beauty is the kindly Coco-nut Palm. She is as a mother to the children of her own sunny lands; in her they find all that they need, and they love her as one of themselves. But to the stranger of distant lands she is as a generous friend, sending them useful gifts; and shall they not repay her with affectionate gratitude?

A touching incident, recorded by De Lille as happening at the Jardin des Plantes in Paris, is retold by Mrs. Hemans in the following beautiful lines:—

“ Fair the exiled Palm tree grew,  
Midst foliage of no kindred hue;

Through the laburnum's dropping gold  
 Rose the light shaft of Orient mould.  
 Strange looked it there ! The willow streamed  
 Where silvery waters near it gleamed ;  
 The lime tree lured the honey bee  
 To murmur by the *ocean's\** tree.

There came an eve of festal hours,—  
 Rich music filled that garden's bowers,  
 And bright forms glanced—a fairy show—  
 Under the blossoms to and fro.  
 But one, a lone one midst the throng,  
 Seemed reckless all of dance or song.  
 He was a youth of dusky mein,  
 Whereon the Indian sun had been ;  
 Of crested brow and long black hair ;—  
 A stranger, like the Palm tree, there.

And slowly, sadly moved his plumes,  
 Glittering athwart the leafy glooms.  
 He passed the pale green olives by,  
 Nor won the chestnut flowers his eye ;  
 But when to that sole Palm he came,  
 There shot a rapture through his frame !

To him, to him its rustling spoke,  
 The silence of his soul it broke ;  
 It whispered of his own bright isle,  
 That lit the ocean with a smile ;  
 Ay, to his ear that native tone  
 Had something of the sea-wave's moan.

His mother's cabin home, that lay  
 Where feathery Cocos fringed the bay,  
 The dashing of his brethren's oar,  
 The conch note heard along the shore,—  
 All through his wakening bosom swept  
 He clasped his country's tree—and wept.”

Though not to be reckoned among *Palms of the East*, two species of *Cocos* may be here rapidly noticed, harmonizing with each other with the won-

\* Substituted for "desert's," which does not suit the Coco-nut tree.

drous aptitude of a fairy tale—trees yielding bread and butter !

(*Cocos coronata*.—MARTIUS.)

This Brazilian palm is distinguished for its stateliness and grace. It is one of the most rapidly growing palms. Its local name is Urucuri-iba. From its nuts oil is extracted, and the farina obtained from its pith the natives make into *bread*.

(*Cocos butyracea*.—LINNÆUS.)

From the fruit of this tree, which is mucilaginous and very oily, the natives of New Granada make a kind of *butter*.

Like the kindred Coco, which yields bread, it is of majestic height, and bears a royal designation. Its local name is "Palma Real;" it is also called "Palma Dulce."

In the valley of the Magdalena this tree is known as "Palma de Vino"—Wine Palm. Humboldt calls it "the vine of the country." By many the wine of this palm is considered equal to Champagne. It is procured by hollowing out a part of the tree at the top. The sap collects in the cavity, and is then drawn off.



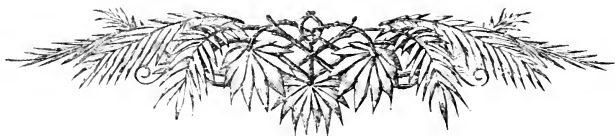








Caro Palms



## Palms of the West.



ON the threshold of the New World, palm branches met Columbus. They were carried in the hands of the poor natives, unconscious as they were of the full significance of these green branches of welcome.

The Promise-branch of Victory was for him, the follower of Christ, who came with auspicious name to conquer that glorious land in the name of the Prince of Peace—Christopher Columbus, the *Christ-bearer*, the *dove*! Well had it been for conquerors and the conquered had those that followed in the track of the high-souled Columbus, combined, like him, the nature of the eagle and the dove.

Where is the conqueror fighting his way to empire through fields of blood braver than he, who, calm in his unshaken trust in God, unwaveringly endured the bitter mockeries and ridicule of men whose standards were lower pitched, who, with unswerving purpose, ran the gauntlet of a sceptic world, and resolutely, in his tiny craft, put forth into an unknown sea? He saw what none beside him

saw, an Almighty hand directing his helm. Strong in faith, terrific perils glooming over the untrodden deep, had no power to frighten him back.

Where is the saint meeker than he, who, when the hopes of his whole life hung on the capricious mood of his sullen and discontented crew, asked but for one day more? At evening prayer, having commended his prayer to God, ascending the upper deck of his little vessel to look for the answer to his prayer, and there on the horizon hung the glimmering lights, for his prayer had gone up to heaven. When on that Elysian shore he placed his foot, and his followers, rapturous then, kissed the hem of his cloak, was there one thought of self to tarnish the victory he had through God's help achieved? Columbus' first act was to kneel down and return his thanks to God; his next, as he rose, was to unsheath his glittering steel. Was it to smite the rebels of his crew? Was it to terrify the poor natives into yielding up their treasures? Was it to begin at once to dig for the favoured gold of the soil?

Oh, no; it was in that soil to find a place where he may securely plant the Banner of the Cross.

On the dove's wing fell heavily again in later years the rain-drops of sorrow; but the eagle's eye was his; and he, who, across a misty ocean, beheld a new world, saw plainly also beyond the narrow stream of death a brighter and a better world.

Kings of this world may forget faithful services.

Columbus' matchless gift of a new world Ferdinand of Spain repaid with a grave-stone. But the King of kings never forgets. A cup of cold water given in his name brings a rich reward, and victories, through faith, such as Columbus achieved, are repaid with immortal crowns.

Palm-branches of the West were a fitting welcome to him who carried on his dove's wings the olive-branch of the Cross. Once more was it the mission of a dove to tell of a new world.

“Glory to God in the highest, on earth peace, and good-will towards men.”

The depths of the ocean which Columbus traversed have since vibrated to those words, the message sped by brave hearts, who, like the discoverer of old, undiscouraged by prophecies of failure, did achieve their task. Would that the Atlantic Telegraph might be made again to succeed; but if not, if never again through those mighty depths the electric wires do the bidding of man, a glorious triumph has been theirs, which no after disaster can take away. The ocean has carried the angel's message, and the glory of the sublime work they accomplished shall for ever rest on the waters of the great Atlantic.

Beautiful and varied as are the palms of the East, those of the West equal them in beauty, and exceed them in variety. The tropical zone of the western world is considered as the especial regions of palms.

The New World has its Oil Palms—its palms distinguished for excellent fruits, valuable fibre, and useful leaves, and besides these, some which afford the singular products of wax and ivory.

Von Martius speaks of palm trees as “the splendid offspring of Tellus and Phœbus—their native land being those happy regions within the tropics, where the beams of the latter for ever shine.”

In striving to paint the magnificent forests of South America, travellers exhaust the most brilliant colours on their palettes, and yet, when the pictures are accomplished, acknowledge what inadequate representations they are. Not by man’s feeble pen or pencil can they be portrayed. Only in the purple light of dreams may dwellers in temperate climates conjure up, perhaps, for themselves pictures of indescribable magnificence of the vegetation that springs up beneath the glowing sun of the tropics.

The individual plants themselves that languish imprisoned in our hot-houses can but faintly suggest ideas of their full and majestic development in their native lands.

Humboldt speaks of these splendid South American forests as composed of “trees about as lofty as our oaks, adorned with flowers as large and beautiful as our lilies.” Some are infinitely larger. The crimson flowers of the climbing *Aristolochia* are four feet in circumference. Indian lads draw them over their heads in sport as helmets.



There, too, spring up strange cacti of grotesque and singularly varied forms, and aloes, from whose rigid and immobile leaves, tall spikes of golden blossoms arise like giant's candelabra. Bamboos interlacing their reed-like stems, form labyrinths of silvery green; their slender pointed leaves dancing in the breeze with childlike restlessness and airy grace. Graceful plantains and bananas spread to the golden light broad satin leaves of most delicate texture, while the bright azure of the skies gleams through the feathery foliage of mimosæ and tamarinds, and the exquisitely fringed fronds of the tree fern, the "*Lady*" of tropical woods. Dazzling tapestries of many-coloured blossoms hang from the branches of the trees, and overspread the ground with marvellous beauty, and fill the air with delicious fragrance. Orchideæ, some of gorgeous colouring, and others with startling resemblance to insect or bird, brilliant passifloræ, with golden fruit, and flowers white, blue, crimson, or purple. There, too, are plants with purple leaves, and stems, and blossoms of rich scarlet, and others, where stem and leaf are completely hidden by profuse clusters of blossoms white as new-fallen snow.

But still, each traveller joins with Humboldt in saying, "The loftiest and noblest of all vegetable forms to which the prize of beauty has been assigned by the concurrent voice of all nations in all ages, are — *Palms*."

Pre-eminent are they, too, for usefulness as well as beauty. In the East we have seen the infant's cradle, the woman's apron, the man's waterproof cloak, furnished in its progressive stages by a curious cloth found at the bases of the leaves of Coco-nut Palms. Indian mothers in the West cradle their babes in the hollowed leaf stalks of *Areca Oleracea*, and in the spathe of the lofty fruit-bearing palm, *Maximiliana regia*; and men find a ready-made cap in the fibrous cloth afforded by *Manicaria saccifera*. And on the banks of the Orinoco we find the skeletons of an extinct nation preserved in sacks or baskets, at once their coffins and their shrouds—those garments of the dead prepared from the leaf stalks of the Itá Palm (*Mauritia flexuosa*). In the marshy rice lands of Bengal we have seen (as may also be seen in many other Eastern countries) a little Protestant Church built of palms, the pillars formed by their unwrought trunks, the roof and walls composed of their plaited fronds. On the banks of the Orinoco we find (and may find in other parts of South America) a Roman Catholic chapel entirely built of the stems of palm trees.

Within a very small circle, comprising some of the loveliest scenes ever beheld by man, we shall find palms in their living beauty and grace, and palms in their after usefulness building with their upright stems a Christian Church, and wrapping in their kindly leaves the bones of a perished Indian race.

Where the Orinoco breaks through a chain of granitic mountains to receive the waters of the Apure, and then to roll its mighty waters eastwards to join the Atlantic dividing the impenetrable forests of Guyana from the boundless Savannahs that stretch to the west, the scenery is described as magnificent.

Vast masses of granite, with serrated outlines, grotesque in shape, and of silvery whiteness, form vivid contrasts to the dark thickets out of which they rise. From one of these dense palm forests an abrupt mass of rock arises vertically more than two hundred feet in height, its sharp outline telling dazzlingly white against the blue and cloudless sky—its lofty summit diademed with palms, uplifts “a forest above a forest.”

Near to this spot, on a grassy terrace overhanging the river is the Palm-tree Church, attached to the missionary village of Maypures.

Descending from the village to the bed of the river by the Manimi rock, a scene of enchantment is displayed.

The foaming surface of the river for four miles in extent is overspread by a magnificent curtain of dazzling spray glowing in the sunlit atmosphere with every imaginable hue. The dark-green waving plumes of lofty palms pierce through this glittering, gleaming veil. High over them again float and interlace, appear and disappear, rainbows of matchless brilliancy. When in the evening breeze the

jewelled curtain sways to and fro, glimpses of scenes of magical beauty are disclosed in the river itself.

Rocks of iron blackness rise out of the crystal flood, assuming the most picturesque shapes. Castles with tall towers and steep battlements appear, garrisoned with armed men; plumed helmets, as it were, of watchful sentinels, are seen on the heights; and serried ranks of soldierly forms below upright with uplifted heads, their green plumes curling in the breeze, while many-coloured banners stream from the walls. There, too, are cathedrals with flying buttresses, pinnacles and spires tipped with gold, open doors revealing pillared aisles whose pointed arches are seen to rest on slender shafts with richly-sculptured capitals—all dark and shadowy, save where the vista closes with a window of gorgeous brilliancy—not coloured glass, but rubies, emeralds, and topazes, seem to compose the dazzling panes.

They are but the crystal drops flung up by the foaming waters to sparkle in the sunlight. The many-coloured banners are wreaths of wild flowers clinging to the rocks; and helmeted soldiers and slender shafts are palm trees growing on the rocky islets.

Far away in the blue distance an abrupt cone, terminating a mountain chain, glows as with roseate flames at every returning sunset. This memorable rock, whose strange glitter is supposed to proceed from the reflecting surface of decomposed mica or

talc, in the fifteenth century lured thousands to ruin and death with its promise of El Dorado.

But let us follow on, with Humboldt still for our guide, to the Randal, a cataract of Atures, resembling that of Maypures. The river forces its way through a cluster of islands, each crowned with a forest of palms rising from the midst of the foaming waters. The scene is glorious, but we will not tarry there.

Beyond the glittering splendours of the cataract's jewelled spray, beyond the musical sound of the water's silvery fall, is the Cave of Atarupe, closely hemmed in by high and barren rocks. All is desolate—all silent there—save for the scream of the vulture, and, when twilight falls, the goatsucker's or night-jar's hoarse cry, as they hover in mid air, hungering for prey, or, flapping their dark wings, glide like ill-omened shadows along the stony face of the precipice. At the further end of the valley is the Cave of Atarupe, formed by an overhanging cliff, in the midst of a dense forest. It is the sepulchre of an extinct nation. Fragrant vanillas and golden blossomed plants curtain the entrance of the rocky vault, while on either side, standing erect like warriors guarding the grave of warriors, are stately palms.

Within the cave are about six hundred skeletons, well preserved in baskets woven from the stalks of palm-leaves. These baskets, called by the Indians "*mapires*," resemble square sacks; like coffins, they

are suited in size to the body they are to contain. Some of these skeletons are of infants, but in all cases the frames are perfect; not a bone is wanting.

The bodies had been variously prepared. Some are embalmed like mummies with sweet smelling resin, and wrapped in plantain leaves; of some the bones are bleached, and some are coloured red. No certain information could be gained by Humboldt as to the age of the skeletons or of their palm-leaf coffins. They were supposed to be a century old.

Besides the mapires, this burial vault contains urns of half-baked clay of a greenish colour, with handles shaped like snakes and crocodiles, "labyrinthine ornaments" traced on their margins "similar to those which cover the walls of the Mexican palace at Mitla." These urns appear to contain the bones of whole families.

A tradition exists amongst the Guareca Indians that, pressed upon by cannibal Caribs, the brave Atures withdrew to the rocks of the cataracts, and finally perished in their rocky fortress.

A mournful history. What strange impressive pictures haunt that valley of the shadow of death! What piteous tales these palm-leaf coffins so ingeniously woven could repeat!

Hopeless of rescue, the healthy and strong shut up to die by famine's lingering torture! For a while the Ità Palms would furnish food, but what were

they where hundreds were to be fed from the palms of that valley alone? So as the long days went by the dead outnumbered the living; the door of the sepulchre never closed; and ceaselessly from the echoing rocks came back the mourner's wail. As one by one of the doomed race, men, women, and children, consumed by hunger, fell away from the narrowing circle of the survivors, their lifeless bodies claimed and received the tenderest care. To guard the bodies of the beloved dead from future desecration was now the only work of the living. But the palm trees cut down to furnish food, they too were passing away, and each day a coffin of palm-leaves became a more rare and precious thing.

What woeful pictures were then beheld!

Some dying warrior, his grim face lighted by a smile as he looked on the wife of his bosom sitting by his side engaged in her labour of love. She was weaving his palm-leaf shroud. Dulled by long suffering, the worker tearless at her task feebly and impassively wondering the while whose hands, if any, will prepare a like garment for her?

A mother wrapping her babe in its leafy robe, a gleam of ghastly joy sweeps over her haggard countenance. It is because the Great Spirit has called her little one before herself, for now no rough or hasty hand will approach those tender limbs; her darling will now be safe in that long-enduring shroud and within that sheltering cave. Now without

shuddering she may hear the thronging vultures scream ; they can but tear her own unresisting flesh, but their cruel eyes cannot see, nor their cruel beaks come near her babe.

The language of the brave Atures has perished with them. It survived their extinction for a time, but not in human speech. In the village of Maypures a parrot of extreme old age uttered words that were unintelligible to all. They were believed to be the language of the extinct tribe of the Atures.









Palm of the River



## The Mauritia Palm.

(*Mauritia flexuosa*.—LINNÆUS. *Miriti*, Indians of Brazil.  
*Murichi*, Venezuela. *Itá*, Guyana.)



WHO does not number amongst their friends some kindly nature whose peculiar and most loveable characteristic it is to abound in sympathy? Be it in man or woman's form, such kindly spirits seem nowhere out of place. Where the young and gay make holiday, none are more joyous than they, for theirs is the secret of perpetual youth. In the chamber of sorrow or by the sick-bed, no voice is so low and gentle as theirs, for theirs is the nature of angels—their ministry love and peace and joy. Doves' wings are theirs: the most churlish open their hearts to them. At home with the rich, at home with the poor, beloved of young and old, like pilgrims from the Holy Land of yore, they are free to pass over every threshold. Even as the warmest place by the fireside was for those whose palm-tree staff betokened whence they came, so in these days (sometimes perhaps unconsciously given) our warmest

heart-corners are theirs—not always the greatest, the wisest, the fairest—but those whose kindly sympathies, like sweet harps always in tune, respond to our every touch.

Absence or death robs not such friends of their accustomed places in our heart of hearts ; memory still cherishes them. Other scents, fragrant though they be, are powerless to displace from vials that have once held the rich attar of rose, that strongest and sweetest of all perfumes.

In venturing as we have to typify human beings by our loved palms, we have personified the time-honoured Date as a queen, the aspiring Calamus as a conqueror, the “married Palmyra” as a wife, the devoted Sago as a mother. The image of such a friend as we have attempted to sketch should be associated with the Coco Nut and Miriti Palms.

They are alike in the absolute surrender of their every part to carrying out their friendly mission to mankind,—fruit, flowers, leaf, fibre, stem, and root, all are of use to men.

The Coco-nut tree has a world-wide reputation ; two of her products, her oil and fibre, being of such excellence as to render them valuable to all nations. The Miriti's name is confined to a narrower circle. It is in her own home only she is well known, dearly loved, thoroughly appreciated.

To the Indians of Brazil, Venezuela, and Guyana the *Mauritia flexuosa* is a “tree of life,” even as

the Palmyra is to the inhabitants of the north of Ceylon. Old traditions cling about her; love for her is a thing of the past as well as of the present.

One peculiarity distinguishes her amongst her race, marking her out as the type of the friend in need. Infinitely varied as are the localities in which we find the members which compose the palm-tree family, yet each individual, as we have seen, shows a marked preference for some distinctive kind of country.

The Date loves the desert, the Palmyra the plain, the Cane Palm the forest, where he can raise himself above his companions, the Coco Nut is the ocean palm, but the Miriti or *Mauritia flexuosa* flourishes in positions most singularly opposite to each other.

Those boundless savannahs or llanos of South America, which are divided by the Orinoco from the dense forests of Guyana, are during part of the year grassy plains, but during the other part burnt up by the scorching sun of the tropics. They are desolate as the sandy Lybian wastes. Humboldt describes "the turf covering under the vertical rays of a never clouded sun" as actually "carbonized and falling into dust, the indurated soil cracking as if from the shock of an earthquake."

These arid plains have, like the sand storms of the desert, whirling columns of hot dust filling the air with suffocating particles; while, as it is described by Humboldt, "in the dim straw-coloured light shed

rom the lowering sky on the desolate plains, the steppe seems to contract, and with it the heart of the wanderer."

There, languid and drooping herself from excess of heat, the Miriti Palm, like the Date in the deserts of the East, spreads over each scanty pool her friendly branches to guard them from the fierce and greedy sun, so that thirsty men may drink, and poor half-maddened beasts moisten their burning tongues. So lovingly does she keep watch over these precious water-drops which are as the lives of men and beast, that the Indians believe some mysterious attraction exists in her roots, enabling her to draw water out of the parched soil.

Is it not really so with them whom these palm-trees typify? Is it not given to them that power to draw from hidden wells?

To those who carry the palm-branch of faith, even from hot sands and arid rock waters of comfort flow.

Like the queenly Date the gracious Miriti also affords abundant fruit. According to Humboldt, "were it not for the occasional presence of single individuals of this life-supporting tree, these steppes would be abandoned entirely to wild animals."

Can any overlook the analogy of these gracious beings, true followers of the Prince of Peace, whose lovely lives exercise such mighty though unacknowledged influence over their fellow men, that without them the world would be as a howling

waste, where men's unbridled passions would, like wild beasts, bite and devour one another.

On those burning sandy wastes, those Fan Palms, with their pale and drooping leaves, are like "*foot-prints*," that many "seeing shall take heart again." Planted there by an Almighty hand, they are witnesses, faint but resolute, that His hand is over all His creatures, "caring for all," "not willing that any should perish" of temporal or spiritual need.

See now the Miriti in wholly different circumstances. In the flooded lands, the "gapo" or mouth of the Amazon, we read of "a virgin forest of lofty trees, whose stems are every year, during six months, from ten to forty feet under water."\*

These lofty trees are also Miriti Palms.

From the delta of the Orinoco, extending northwards to the Sierra de Santa Imataca, we find Miriti Palms overspreading the land, and feeding and housing the unsubdued nation of the Guaranis. To these trees an ancient people owe their independence. In the half-submerged soil in which alone these poor Indians can dwell secure from their enemies, *Mauritia flexuosa* affords them safe dwelling places, even when the mighty river, swollen with rains, bursts its banks and rolls its sea-like waves over the plain. She gives them food of various kinds,—fruit, and from the pith of the tree a wholesome flour from which bread is made, and

\* Wallace's "*Palms of the Amazon*."

wine from the sap. With her plaited leaves the floors of their aerial dwellings are constructed, and her twisted leaf-stalks furnish cordage of every kind. And so it is that the Itá Palm is almost worshipped by those whose protector and benefactor she is.

It is to this tribe that Humboldt alludes when he speaks of "the existence of an entire people bound up with that of a single tree, like the insect which lives exclusively on a single plant or a particular flower."

We read of the Guaranis in very early chronicles. Cardinal Bembo, a contemporary of Columbus, speaks of them in 1551. Sir Walter Raleigh, in his "Discovery of Guyana," tells the strange story of their dwelling in trees. In the Latin edition of his book there is a drawing representing the fires of the Ouaraa-etes (called by the Caribs U-arua), or Guaranis, "high up in the trees," as he expressly describes having seen them himself from the river, the flames appearing in the darkness of night to be suspended in the air. Trees crowned with light rising out of the waters.

But now we saw the Miriti, with pale and drooping leaf, guarding in the desert a scanty pool. See her now with her dark plumes waving richly. A broad river flows at her feet. But the Itá Palm, as she is here called, carries her light steadily. She is a home for the oppressed, and wanderers, as they



rock to and fro on the dark river of life, look up and bless her light.

These fires of the Guaranis rested on a coating of damp clay, which covered the flooring of their dwellings on the tree tops. The floor itself was composed of mats and strong cords interwoven among the branches—mats and cords both made from the leaf-stalks of the tree.

To another tribe of Indians, not dwelling in the living trees, but having their habitations raised out of the marshy soil upon their massive stems, Amerigo Vespucci refers, their homes “*fondata sopra l’acqua come Venezia;*” whence came the name of Venezuela.

*Mauritia flexuosa* flourishes on the banks of the Amazon and Rio Negro, as well as on the Orinoco. These palms are also found in Trinidad.

First of the nations of the Old World, England possessed the fruit of this wondrous tree, named by the Padre Jose Gumilla, who twice visited the Guaranis as a missionary, “*Arbo de la vida,*” or tree of life.

The fruits of the tree were brought to England by Raleigh, who compared them to fir-cones, which, from their scaly covering, they much resemble. They are the size of small apples, and, according to their degree of ripeness, furnish a variety of food. Unripe, they are dry and farinaceous, like unripe plantains, like them becoming sweet and pulpy as they attain maturity.

The kernels are also used as food. They are ground into flour, from which cakes of bread are made, as well as from the pith or interior of the stem, which affords the usual farina of palms, said in this instance to resemble cassava.

A favourite Indian beverage is prepared from the fruit. They are soaked in water till they begin to ferment, and are then strained off through a sieve. It is slightly acid, and is not at first palatable to Europeans.

Wallace informs us that "a spadix of *Mauritia flexuosa* loaded with fruit, is of immense weight, often more than two men can carry between them. Describing the appearance of the tree on the banks of the Amazon, he says—"The majestic Muruti (or Miriti) Palm was abundant; its straight, cylindrical stems, like Grecian columns, with its immense fan-shaped leaves and gigantic bunches of fruit, produce an imposing spectacle. Some of these bunches, eight and ten feet in length, weighed probably two hundred or three hundred pounds' weight." The fruit itself, large and reticulated.

These stately trees, growing to the height of eighty or one hundred feet, are often clothed with orchideæ, which climb to their lofty summits—their gorgeous blossoms glowing in the sun-light, intermixed like jewels with their ray-like crown, superb fan-shaped leaves forming a complete circle round the head of the tree.

“A full grown fallen leaf,” is said by Wallace to be “a grand sight. When entire it is a load for a man. The expanded sheathing base is a foot in diameter; the petiole (or leaf stalk) is a solid beam, ten or twelve feet long, and the leaf itself is nine or ten feet in diameter.”

Leaves and leaf stalks are applied to the innumerable purposes for which, in all lands where palm trees flourish, they are found to be so admirably fitted. Baskets, boxes, bird cages, window blinds and shutters, lattice-work doors, through which air but not insects can penetrate, partitions, and even entire houses, are constructed from them.

These Indian houses are of the simple description. Models of them are made by the Indians on the Demerara and Essequibo rivers, and brought into the colony to sell. A few upright posts support a sloping roof of palm-leaf thatch; the interior is divided into two or more rooms by partitions of plaited palm leaves; two or three stems laid parallel and attached to the upright posts, form the sides of the house. They are not filled in, so that there are no walls.

These models show great ingenuity. All the domestic utensils required by an Indian household are to be found within in miniature. A few wooden stools, and some hammocks swung in the centre of the hut, constitute the furniture. There are black pots for cooking, and finely plaited sieves and

baskets, with the indispensable "tipiti," or elastic cylinder for squeezing grated Mandioca. Bows and arrows are also there, and fairy-like fans plaited with minutest strips of the leaf fibres. Throughout the whole there is not a nail, or screw, or piece of wire; all the fastenings are furnished by strips of the leaves or leaf stalks of palms.

Broad bands plaited from young leaves of this palm, are used by all Indians for carrying burdens. They are suspended from the forehead. Men carry weights of twenty-five pounds; and women carry their infants in this manner.

Hats, fans, mats, and, in Guyana, baskets of elegant form and various design, are made from the leaf stalks of Itá Palm. Cut into narrow strips some are left to be the natural colour, and some are dyed black. When plaited the effect is singularly pretty. Their shape is peculiar—an outer basket completely covering an inner one. Some, made large and quite flat, are used by Europeans as letter cases. Some are of fairy-like texture, scarcely exceeding an inch in length, and others of sufficient size to carry bonnets or dresses. In the country they are called Peghals, which some derive from pack-all.

Somewhat similar baskets, made of the leaves and leaf-stalks of palms, are to be found in Antigua and St. Vincent's. They are there called Carib baskets. They are generally black and white, or black and cane coloured. Red and green stripes are sometimes

introduced in Antigua. These baskets are stronger and more durable than Demarara baskets, for between the outer and inner plait made from the leaf stalks, leaves are introduced, so that the baskets will hold water, and are impervious to dust. The "*mat-poi*," or instrument for squeezing the poisonous juice from the grated Cassava, and the "*etami*," or sieve for sifting the flour, are both made in Guyana from the leaves of this palm.

From the petioles of the Itá Palm, as well as from those of the Coco Nut, the coast tribes of Guyana make sails for their corials or canoes. Some of these of large size, capable of carrying one hundred men and a three-pounder, are constructed by the tribe of the Warows. Made without line or compass, they are said to be models for speed and for elegance of form. Like the Orientals, the natives of the West put these admirable boats together without nail, or screw, or iron bolt. The Itá Palm, or the Coco Nut, supplies their sails and cordage; but for the timbers and masts incomparable timber is found in the magnificent forests of Guyana; some of it, light and easily worked, is almost impervious to worms.

A rude kind of viol is made by raising the upper fibres of the petiole, and placing a bridge under them. To the music of this instrument they dance. Another so-called musical instrument is made from the young leaves of the Itá Palm. The narrow

strips are dyed various shades of brown, and plaited in very pretty designs like the baskets, a sort of oblong bag is made—the ends fastened together round a handle. Seeds are put inside this plaited bag. The Indian name, “*shaak-shaak*,” at once describes the kind of music produced by this instrument, which exactly resembles a child’s rattle, and is used as such in the nurseries of English residents in British Guyana. The Indians dance to the sound.

As in Venezuela, the massive trunks of these trees serve as piles on which houses are built, in the tidal districts about Pará. They form causeways to houses along the banks of the river, a large expanse of soft mud extending at low water between them and the water’s edge.\*

Humboldt, Schomburgh, Wallace, Gardiner, and all travellers in this part of South America, unite in homage to the beauty of these trees, and their exceeding utility. We read of the majestic *Mauritia flexuosa* overspreading the banks of the Essequibo, as the solitary charm of the great savannahs stretching from the Orinoco to the foot of the mountain range where Duida raises her lofty summits to the skies; or as a social palm covering large tracts of tide-flooded lands in the lower Amazon; no under-wood to break the view along interminable ranges of her stately columns which rise from the water,

\* Wallace’s “Palms of the Amazon.”

unbroken by leaf or branch, to eighty and a hundred feet in height.

“A vast natural temple, which does not yield in grandeur or sublimity to those of Palmyra or Athens.”\*

It is said that no supposition can be formed of the probable age of these trees, though they are known to be extremely old.

To this tree—the bulwark of the freedom of the Guaranis—the strange tradition of the Tamanacs refer. After the “age of water,” one man and woman being saved on the mountain of Tamanacu, on the banks of the Asiveru, they cast over their heads the fruits of the Mauritia Palm, and from their seeds men and women sprang up to re-people the earth.

In the “old museum” at Kew are to be seen mats, baskets and hammocks, made from the Miriti Palm. The shaak-shaak is also there.

There are other species of Mauritia Palms to be found in the same localities, but none of them approach in value the useful *Mauritia flexuosa*.

*Mauritia vinifera*, as the name denotes, produces wine, which is of an excellent quality. It is described by Gardiner as one of the loftiest of Brazilian palms, reaching sometimes to one hundred and fifty feet in height. From the reddish, oily pulp of the fruit, a sweet meat and a beverage is prepared.

\* Wallace's “Palms of the Amazon.”

*Mauritia aculeata*, a palm of Guyana, discovered by Humboldt and Bonpland, is a thorny palm. Its leaves are singularly coloured with concentric yellowish stripes, like a peacock's tail.

*Mauritia gracilis* (or "Caranai," in native language), grows on the edge of the waters of Rio Negro, and is distinguished for its beauty. Its slender stem, from twenty to thirty feet high, is ringed with spines; it has drooping leaves of an exquisite silvery green, and clusters of rich brown fruit.

A very singular looking smooth stemmed species, allied to *Mauritia flexuosa*, was lately discovered by Wallace, growing in the district of Rio Negro and the Upper Orinoco, named by him *Mauritia Carana*, its native name being "Carana." Its singular appearance is occasioned by the immense quantity of fibre which clothes the bases of the leaf stalks, giving to the tree a bearded look. As yet this fibre seems not to be applied to any use. The entire leaves are preferred to all other for thatch from their great durability; but the leaf fibres, or epidermis, are not used, as with the Miriti, for making cordage.\*

\* Wallace's "Palms of the Amazon."







## The Jacitara.

(*Desmoncus Macracanthus. Jacitára, Lingoa Geral.*)



REES of the forest and flowers of the field, by divine teaching made instruments for conveying spiritual truth, have also lessons of temporal wisdom intrusted to them. How often, amidst life's anxious care, might they be our comforters, if we would listen to them! Do they not show us again and again how God's purposes of love are worked out by a variety of means—some of them, to us, short-sighted ones, apparently insufficient.

We have seen the independence of a whole Indian tribe secured to them by means of some kindly palm trees. Pillars of strength rising out of the waters which overflow the land, the tall and stately *Miritis* have been to the Guaranis a sure refuge from their enemies; men, like birds, building their nests of safety in trees, and feeding upon their fruits.

In another part of the country, amongst the *Catinga* forests of the Upper Rio Negro, we find the same good office of protecting the poor children of

the soil, carried out in a different manner, by a palm tree of a wholly different character.

The Jacitára is a climbing palm, but, unlike her giant brothers in Himalayan forests, she shows no signs of ambition. Her long and flexible stem, sometimes seventy feet long, is furnished, like the Cane Palms of the East, with hooked spines; but the Jacitára cares not to attain a giddy elevation by mounting on the shoulders and heads of her companions. Like a graceful child at play, she throws her green garlands from tree to tree, or trails them along the margins of silvery streams that sparkle amongst the forest glades. With the sportive mischief, also, of a child, she provokes the good-humoured reproaches of ardent entomologists,\* when she snatches from him his insect net, or plucks the cap from his head, or suddenly detains the sleeve of his jacket.

But the childlike Jacitára is kindly and brave; she is the poor Indian's defence against his enemies. He blesses the hooked spines that cover her trailing stem, as warily through the thorny barrier he guides his light canoe up the "igaripes," or forest streams that lead to his sheltered hut. Only in the depths of those almost impenetrable forests is the home of his wife and little ones safe from the cruel outrages of unprincipled men.†

The round red fruit of the Jacitára is not eatable,

\* Wallace's "Palms of the Amazon."

† Ibid.

but its prickly stem is instrumental in preparing other food. This pretty palm, which to the Indian men is like a wall of bayonets, furnishes to the women an article indispensable for domestic comfort.

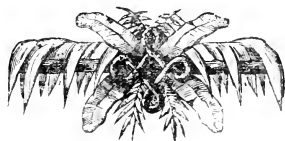
On the Mandioca root (*Jatropha Manihot*, or *Manihot utilissima*) the Indians of this part of the country principally depend for food. It is grated by means of the tubercular air roots of another palm, the Pashiuba (*Iriartea exorhiza*), but so long as it retains its natural juices it is poisonous. The Jacitára furnishes the "tipiti," or elastic plaited cylinder, by means of which this poisonous juice is got rid of. The grated pulp being placed in the cylinder, it is suspended to a pole. A lever attached to a loop at the other end of the cylinder is worked by a woman. This powerfully contracts the "tipiti," and all the poisonous juice runs out.

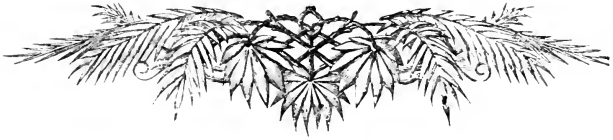
Other cylinders are used in the preparation of this universal article of food, also called "cassada" and "farinha;" but none are so lasting as those made from the Jacitára, so that they are greatly prized by the Indians.

This interesting palm is singularly unlike every other member of its family. The leaves grow alternately along the stem, instead of meeting at the summit to form the crown which, in every other

case, is the distinguishing characteristic of the palm tree.

The leaflets are somewhat of an oval shape, and pointed at the ends. Leaf-stalks and spathes are covered with spines, as well as the long, slender, waving stem.





## Wax Palm of the Andes.

(*Iriarteia* or *Ceroxylon Andicola*.—HUMBOLDT AND BONPLAND.  
*Palma de Cera*.)



HUMBOLDT, by whom the Wax Palm of the Andes was discovered, gives to its mountain home an elevation of nine thousand seven hundred feet above the level of the sea, and to the superb tree itself a height of from one hundred and seventy to one hundred and ninety-two measured feet.

Itself one of the most magnificent of its race, its singular characteristics, combined with the grandeur of the wild solitudes in which it delights to dwell, uplifted far above the usual homes of its kindred, give to the Mountain Palm a peculiar interest. In those elevated forests the Wax Palm reigns as a king amongst oaks and pines. The monarchs of our woods are but as attendant nobles in the mightier presence of the crowned tree.

Amongst the stupendous passes of the giant Andes, the loftiest mountains of the world, nature is beheld in her grandest and most impressive form.

Up the rugged roads of the Cordilleras nor horse, nor ox, nor mule can force its way; the adventurous traveller must submit to be carried in a chair strapped to the back of a man.

Men accustomed to these savage scenes from infancy become enamoured of the rude and lawless life, and devote their strong limbs to the enormous fatigue of this office, making themselves wholly and solely beasts of burden. These "carqueros," or bearers, whether Indians, half-breed, or white men, will, with scarcely any covering on their bodies, journey with heavy loads for eight or nine hours, over toilsome mountain paths, for but a miserable pittance. They risk, too, a terrible fate, which is known to have befallen some,—that of being left by their cruel employers to die in the pathless forest, where they have fallen, sick or overburthened.

Yet such is the extraordinary fascination this wretched life has for the youths of the district, that Humboldt mentions that a project for making some of these roads passable for mules was laid aside by the Government, solely on account of the urgent remonstrances against it which they received from these carqueros themselves.

Humboldt and Bonpland crossed the central chain of the Andes by the mountain of Quindiu, in their journey to Popayan from Santa Fè de Bogotà.

This last beautiful city, the capital of New Granada, stands on an elevated plain, eight thousand

seven hundred and twenty seven feet above the level of the sea (higher than the summit of St. Bernard,) lofty mountains surrounding it on every side. This fertile plain was once the bed of a lake. The variety of climate of the surrounding country, owing to the different elevations, affords the markets of Bogotá a wonderful and delicious variety of fruits and vegetables. The strawberries, apples, and peaches of temperate climes stand side by side with the pine apples, bananas, and palm fruits of the tropics. The English traveller may breakfast on native chocolate and tortillas of maize, freshly shelled and ground, and dine on roast mutton and vegetables familiar to him at home.

The Pass of Quindiu is the most difficult of the crossings of the Andes, and cannot be traversed under ten or twelve days. But what a lifetime of impressions, of glorious recollections these few days would have power to bestow! All that is most sublime in Nature seems gathered together there.

Giant mountains towering to the skies, crowned with dazzling pinnacles of perpetual snow; thick and almost impenetrable forests, stretching upwards on all sides, girdle the giants with massive emerald belts; while, in the rendings of the mountain chain, the valleys of the Cordilleras disclose abysses of unfathomable depth. Could the traveller with steady eyes look down one of these narrow fissures, he would behold natural bridges of picturesque form,

in endless succession, spanning the immeasurable depths below ; enormous masses of rock that, jutting out from the cliffs on opposite sides, meet together, over-arching the black gulfs—paths of peril, untrod-den by the feet of men. The silvery-footed torrent alone, flinging itself from the precipice above, impetuously leaps from one to the other of the gigantic ladder steps, down, down into the unseen abyss. A reckless spendthrift indeed, scattering, with hoarse laughter as he goes, showers of sparkling gems on tree, and shrub, and flower. In gentle and confid-ing beauty, many plants cling about the rough rocks, undismayed by the wild tumult around ; nay, cling the closer and more tenderly because they feel their presence is the one sweet charm those dark, unquiet cliffs can ever know.

So doth the world's rude buffetings draw closer to the bosom of her troubled lord the loving wife ; so kindly little ones instinctively caress those whom they see in sorrow and distress.

In such scenes as these, far removed from the fevered restlessness of communion with men, safe from the bewildering mirage that floats over the lower places of earth—in the clear, pure atmosphere of these elevated regions, the soul feels drawn into a nearer communion with its God. It seems to see in close reality the gates of heaven and hell set open for their choice.

Look on that fathomless depth where a thick



darkness broods, and whence arises the mad torrent's unreal laughter, mingled with the doleful cries of hideous birds that shun the light.

Now look above !

That pure, snow-covered mountain peak that tells so brightly against the azure sky,—is it not like the Heavenly City's gate of pearl ?

The noble Ceroxyton is the sole representative here of that kingly race to which the Word of God has likened the righteous. His choice is made. He stands on the brink of a great precipice where, by the providence of God he has been placed ; but his foot stands firm. He looks not down, but up. Erect he stands, a pillar of strength, clothed, as it were, in white, and wearing on his head an unfading crown.

He is as one to whom it has been given, while yet on earth, to show forth the beauty of the sons of God.

Is not the palm tree a witness-bearer here ?

A strange beauty indeed must be imparted to these wild scenes of mountain grandeur by the presence of these majestic palms. Their lofty stature, averaging one hundred and eighty feet ; their superb crowns of plume-like leaves, eighteen and twenty feet in length ; their erect columnar trunks, uplifted on ærial roots, having a peculiar whiteness, from the incrustation of wax which is their peculiar and distinguishing characteristic. This marble-like column

is surmounted by another more slender shaft, smooth, and of a silvery green. It is the sheathing base of the magnificent leaves which form the circular crown of this kingly palm. The leaves have a silvery lining, their under surface being covered with a soft white down.

It is sorrowful to read that, to obtain the wax, these noble trees are felled. An "arroba," or twenty-five pounds, is the quantity obtained from each tree.

This substance, called in the country palm wax, is said by Vauquelin strictly to consist of one-third wax and two-thirds resin. The mode of obtaining it is very simple. A man will cut down two trees, and scrape them, in one day. The wax so scraped off is melted and run into calabashes, and sold to the villagers in the neighbourhood of the Tolema range. Mixed with tallow, it is made into candles. It is said to burn too rapidly alone. Considered as wax, candles are made from it unmixed, as offerings to Roman Catholic shrines. Purdie informs us that though in great demand, this wax is so easily and abundantly procured, that in the town of Ibaque, at the foot of the Quindiu, it is sold at half a real, or threepence a pound.

Bonpland noticed "that the wax or inflammable matter is not exuded from the rings formed by the falling away of the leaves," the incrustation being formed on the spaces between the rings, which are

smooth as the stem of a reed, and of a pale yellow.

This singular product is not the only advantage derived from the tree. Its superior height recommends it for hollowing into canoes and aqueducts, and its durable wood is used in the construction of houses. Its leaves form admirable thatch, and the filaments at their base are applied to innumerable useful purposes.

Both in the Great Palm-house at Kew, and at the Crystal Palace, there are several fine young specimens of *Ceroxylon Andicola*.

*Iriartea Ecorhiza*—MARTIUS. *Pashiúba*, Lingoa Geral.  
*Zanora*, Panama.

The *Pashiúba* Palm, so called in the language of the country, is said by Wallace to be very common in the forests about Para and on the banks of the Amazon. It sometimes reaches seventy feet in height. Its stem is of moderate thickness, and is almost perfectly smooth, no rings or scars being left by the fallen leaves.

Belonging to the same family of *Iriarteas*, this palm has the upper shaft noticed in the Wax Palm, but that of the *Pashiúba* is dark green in colour, and swollen at the base. Below this upper column the spadices or fruit-bearers appear, four or five in number, growing upwards. The small red fruits are bitter, and are only eaten by birds.

Amongst the lovers of palm fruits must be reckoned the brilliant humming-birds, whose jewelled splendours outshine even the gorgeous hues of the flowers of tropical climes. Prince Maximilian of Weid, in examining the flower of a Brazilian palm, found attached to it the dainty little nest of a humming-bird. Those tiny cradles, seldom exceeding one and a half inch in length, are most exquisitely constructed. The one just referred to was lined with moss, but cotton, thistle-down and lichens are also used. Some of the lichens of South America are of the purest white, and the ground overspread with them seems covered with snow. The framework of these nests are generally spiders' webs, which are warped over fragments of plants, down, and other tender materials.\*

The leaves of the Pashiúba, or Zanora as it is called by the natives of the Isthmus of Panama, are pinnate or feathery; they curl with peculiar grace. The great peculiarity of the tree consists in its aerial roots, which descend diagonally from the stem. These lofty palms, seventy feet high, are sometimes seen supported by only three or four roots, uplifting them so high above the ground that a man may walk erect beneath the tall and massive trunk.

The young plants are described by Wallace as amusing copies of their parents; they seldom possess more than three legs. Soft and pithy in the interior,

\* "Naturalist's Library," Humming-Birds. Sir W. Jardine.

the outside of the stem is very hard, and being perfectly straight, is much used for flooring houses and canoes, for shelves, seats, and other domestic purposes. Large quantities of it are said to be imported into the United States to be made into umbrella sticks.\*

From its strength and durability this wood is employed in making fish-weirs. Harpoons are also made from it.

The air roots, which are covered with "tubercular prickles," are used as graters by the Indians of the Amazon to grate their Mandioca or Cassada, and by the natives of the Isthmus of Panama to reduce the inside of the coco nut to the pulpy mass, in which state it is boiled by them with rice and water. Some Indian tribes of Guyana are famed for the manufacture of these Cassada graters, in which Schomburgh informs us they carry on a brisk traffic with their neighbours.

This admirable substitute is furnished by the palm tree in moist climates, where, as Seemann observes, "tin graters soon get rusty." Two of these graters were sent by Dr. Seemann to the Museum of Economic Botany at Kew, where they are exhibited with other curious products of palms.

To the same museum Mr. Spence, for some time the companion of Mr. Wallace, contributed a yet more singular and interesting article. "A loud bassoon,"

\* Seemann's "History of Palms."

which might well lure to its side, not only the "wedding guest," but the ancient mariner himself.

The Indians of San Antonio de Javita are said by Humboldt to have two great objects of worship, the Good and the Evil Principle. They have no idols, but the *Boluto* or sacred trumpet is looked upon with extreme veneration.

This singular instrument, or rather pair of instruments, consisting of a monster flageolet and huge trumpet, are devoted to, and played in honour of, the Evil Principle. They are called *Juri-pari*, or devil's music, aptly so named. Hedged about with such superstitions and cruel reverence, that for a woman to look upon them the penalty is instant death. Should the glance have been accidental, or the poor creature be only suspected of the crime, her doom is not the less certain, no mercy is shown—fathers have put their children to death, and husbands their wives.

Wallace describes the sounds of these fearful instruments to be wild and pleasing as he heard them played by the Napé Indians coming down the river at dusk. A simple air was given from pairs of different sizes being blown together in tolerable concert.\*

The instruments at Kew are thus described by Mr. Spence, who sent them. "The two larger instruments are portions of the trunk of the *Pashiúba*

\* Wallace's "Travels on the Amazon and Rio Negro."

(*Iriartea exorhiza*), with a square hole near the upper extremity. When about to be used this end is nearly closed by a piece of clay, and a piece of uaruma leaf is tied on above the square hole, so as to form a monster flageolet. The smaller ones consist of a tube of Pashiúba wrapped in a long strip of the tough bark of the jébarú, which descends in widening folds to some distance below the tube, thus forming a sort of trumpet, which is simply blown into at the upper end."

(*Iriartea Setigera*—MARTIUS. *Pashiúba Miri*, Lingoa Geral.)

If the poor Napé women tremble at the sound of the "Botuto," made from the larger Pashiúba, the sight of the noiseless "gravatana," furnished by smaller species of *Iriartea* spreads equal dismay among the birds and beasts of the forests of Brazil and Guayana.

This almost unerring weapon is as constant a companion of the Indians of South American forests as the rifle is of his red brethren in the north, and also of the backwoodsman and fur-trapper.

Known in Guyana as the "Ourah and Samourah," it is described in Waterton's "Wanderings" as made of reeds, reed-like palms, or bamboos. This blow-pipe or blow-tube, a weapon noiseless but deadly, is simple in construction. "Two straight tall stems of the Pashiúba Miri are selected of such proportionate thickness that one may be contained in the other.

With a long slender rod, prepared from the hard black wood of the Pashiúba barriguda (*Iriartea ventricosa*), and a little bunch of the roots of the tree-fern, the Indian cleans and polishes the inside till the bore becomes as smooth and polished as ivory." The slenderer tube inserted in the larger, it is fitted with a mouthpiece of wood, and a sight formed by a large tooth of the Paca or water hare of Surinam is fixed on with pitch. The work is ornamented with a spiral twisting of the shining bark of some creeper. These tubes are never less than eight, and often more than ten and twelve feet long. "The arrows, fifteen or eighteen inches in length, are furnished by the singular black spines of the Patawa Palm (*Enocarpus Batawa*) sharply pointed. They are dipped in "curari" poison three or four inches deep, and are notched so as to break off in the wound."

The Gravatana thus described by Wallace is said by him to do more execution in an Indian's hands than a double-barrelled Manton in those of the best European sportsmen.

Invaluable, therefore, to the Indians of Brazil and Guyana is the palm tree, whose smooth cylindrical stem furnishes the indispensable weapon without which they dare not penetrate the pathless forests,—without which their wives' cooking vessels would lack their supplies of various kinds of food.

The slender stem of Pashiúba Miri varies in



size from the thickness of a finger to that of the wrist, its height is from fifteen to twenty feet; its leaves are pinnate, its roots only slightly raised above the ground; its small crimson fruits are the size of our "hips," or wild-rose fruit.

The home of these graceful palms is in the virgin forests of the Upper Amazon and Rio Negro, where the soil is dry.

Other blow-pipes are made in Guyana from a kind of bamboo, which has been named *Arundinaria Schomburghii*. Schomburgh speaks of some of these reeds measuring upwards of sixteen feet, perfectly straight, and free from knots. To prevent their splitting, one end of these reeds is tied round with silk grass, and the other is inserted into the seed of the "Acuero," or Accu-uri Palm (*Cocos schizophylla*). The arrows used with them by the Maiong-hong tribe of Indians are more than twenty-four inches long; they are made of the middle fibre of a palm leaf, and dipped in poison three inches from the point. The "Cucurito Vadgihai" Palm, one hundred and six feet high, noticed by Humboldt as adorning the cataracts of the Orinoco and the lonely banks of the Cassequiare, supplies some Indian tribes with their arrows.

(*Copernicia Cerifera*.—MARTIUS. *Carnaíba*, Brazils.)

The Wax Palm of Brazil affords a striking contrast to the Wax Palm of the Andes. They are the

only two palms as yet known who yield this singular product.

Of majestic height, and crowned with waving plumes, the kingly *Ceroxylon* reigns amidst the lone sublimity of the loftiest mountains in the world, while, comparatively low in stature, the fan-leaved *Copernicia cerifera* dwells in the crowded forest of Brazil.

Amongst her many companions she is without doubt the most exquisitely proportioned, and might therefore be deemed the queen of beauty; but like a drawing-room beauty, erect and immobile, she seems almost too conscious of her charms. The careless grace of the Coco-nut Palm, always in motion, slender stem, green leaf, and silvery flower swaying in the breeze, would be to many eyes more attractive.

The appearance of the Carnaüba Palm is quite peculiar, and unlike any other member of its noble race. It is of faultless proportions, and exquisite regularity of shape. Never exceeding forty feet in height, the thickness of its stem, the shape and size of its almost spherical crown, the length and breadth of its fan-shaped leaves, and the proportion they bear to the foot-stalks from which they spring, are all in wonderfully exact relation to each other.

A beautiful representation of this palm tree of faultless proportions is given in Martius' work.

Remains of the fallen leaves which adhere to the

stem give it a reticulated appearance; and as they catch the glowing rays of the ever cloudless sunshine of those regions, have a look of fretted goldsmith's work,—a fitting robe for a court beauty. The leaves have a peculiar glaucous bloom, and the fruits are the colour of chrysolites.

Statuesque as she may be, Carnaüba is even more valued for her utility than admired for her beauty.

The wax of this palm has no admixture of resin; it is perfectly pure, "as much so as that procured from our hives."\* It is easily obtained; the young leaves, when detached from the tree, only require to be shaken for the wax to fall off from them. Each leaf yields about fifty grains of a whitish scaly powder, this is pure wax; melted in pots over a fire, it is then ready for the market.

It is imported into England for the manufacture of candles, and has been used at Price's Candle Company, Vauxhall. Its only defect is its yellow colour, which is that of raw wax. As yet no means has been discovered of bleaching it.

A kind of farina is prepared by the Brazilians from the pith of the tree, which furnishes wholesome food, and in times of scarcity of provisions for horses and cattle, the young leaves chopped up make excellent fodder.

Its fruit, though bitter, is eaten by the Indians either raw or boiled.

\* Wallace's "Palms of the Amazon."

The wood is strong and very durable, frameworks of houses and inclosures for cattle are made from it. It is also applied to innumerable other purposes. It is occasionally met with in the timber-yards of London.

The leaves are infinitely useful, they make excellent thatch; pack-saddles, hats, and many other articles are manufactured out of them.

Pretty specimens of these plaited leaves are to be seen in the old museum at Kew. A mat plaited in various shades of yellow, from palest straw up to dark brown; bunches of the strips of leaves, dyed and undyed, ready for plaiting, and a hat plaited of fine strips.

Lumps of the wax of the tree are in the same compartment.





## Oil Palms of the West.



THE mineral kingdom never wants for explorers. The very name of "gold diggings" summons to all parts of the globe thousands of adventurous spirits willing to undergo any danger and any toil.

But how few care even to inquire into the wonders of the vegetable world. Few hands are stretched out to receive the wealth that generous plants are eager to bestow. The palm tree is no churlish giver; she gives bountifully, and requires no painful seeking after; and yet, year by year, a profusion of precious gifts absolutely perish because there are none who care to accept of them.

Humboldt tells of South American forests where are to be found palm fruits lying three inches deep on the ground.

Almost all these fruits are available for some purpose; but some kinds are of great value, and may easily be turned to excellent account.

Amongst those which are of a nature particularly serviceable to man are the fruits of Oil Palms. The Western world boasts herself of several of these.

Could European enterprise and industry be directed towards them, how wide a sphere of usefulness might they occupy, and without in any way interfering with the almost sacred mission of the African Oil Palm—the negro's friend.

Light is a blessing so universally desired, the demand for it must be illimitable. It scarcely seems possible too many sources can be opened up to supply it.

(*Elais Melinocca*—GAERTNER; or, *Aljonsia Oleifera*—HUMBOLDT. *Corozo Colorado*, Venezuela and New Granada.)

This American Oil Palm, of the same genus as the Oil Palm of Africa, resembles it in all points; its trunk is, perhaps, more decumbent or reclining. It has the same shaggy appearance from the remains of fallen leaves adhering to the stem. Its leaves are pinnate, and its fruit, as its Spanish name signifies, is brightly-coloured, vermilion with a golden tint. The oil is obtained from the pulpy part surrounding the kernel. The fruit having been boiled in water, is crushed in wooden mortars, separating the husk from the seed. The oil floats on the surface of the liquid mass thus obtained.

This oil is used in the houses and churches of the country, but appears as yet not to have been exported in any quantity.\* This tree is a native of New Granada, and is also commonly found in the

\* Seemann's "History of Palms."

Isthmus of Panama. In parts of New Granada, its leaves, twenty-four feet long, are manufactured into ropes.

Its fertility may be imagined by the fact noticed by Humboldt, that its spathe contains two hundred thousand flowers.

(*Acrocomia Sclerocarpa*.—MARTIUS. *Great Macaw Tree*, W. Indies, *Macoya*, Guyana. *Acrocomia Lasiospatha*.—MARTIUS. *Mucuja*, Lingoa Geral.)

These two palms are only distinguishable from each other by botanists, and they afford the same product. Not remarkable for stature, averaging from forty to fifty feet in height, they, however, form striking objects in the landscapes they adorn.

*Acrocomia Lasiospatha* is a native only of Brazil; but the Great Macaw inhabits Jamaica, Trinidad, Barbados, and some of the adjacent islands, as well as the continent of South America, where it extends as far south as Rio Janeiro.

Their stems, slightly swollen towards the centre, are covered, as are also their leaf-stalks and spathes, with long black or brown spines. Their especial beauty is their crown. It is almost spherical in shape, their magnificent feathery leaves of a brilliant green, extending evenly on all sides—some erect, some are horizontal, and some are drooping.

Their fruits, the size of apricots, are round and greenish olive on the outside. The seed is enveloped

in an orange-coloured pulp. From this the oil is obtained, which exactly resembles African palm oil, and is sometimes sold as such in the markets at home. It is esteemed in like manner by the natives as a remedy for boneache, and is used as an emollient.

The fruit having been slightly roasted, is ground into a paste, which is heated and mixed with boiling water, and then pressed between heated plates of iron. It yields about seven-tenths or eight-tenths of oil.\*

The fruit, though oily and of a bitter taste, is much esteemed by the Indians of Brazil. The shell of the nut takes a high polish, and is often curiously carved by the natives.

(*Attalea Cohune*.—MARTIUS. *Palma real*, Panama.)

This is another of the Oil Palms of the West, of whose value we are slowly becoming aware in Europe.

Natives of Honduras, the Cohune groves of that country are described by Mr. Temple, Chief Justice of British Honduras, as of vast extent, and striking beauty.

“Long avenues, which closely resembled the nave and aisles of a cathedral. The arched leaves meeting overhead, and producing an exact imitation of the vaulted roofs; and, if the sun was declining, the horizontal rays shining at intervals through one side

\* Wallace's "Palms of the Amazon."



of the avenue, created the splendid effulgence of the most richly-painted window."

Seemann in his "History of Palms," gives this letter, and also describes from personal knowledge the Cohune Palm as a native of the Isthmus of Panama, where it was called "Palma real," and "Corozo gallinazo." The measurements given by him are—the stem, forty feet in height; the pinnate, or feathery leaves, thirty feet long, each leaflet being three feet in length.

Its fruit consists of three and sometimes four bunches of nuts the size of small turkey's eggs, and clustering together like grapes. On an average, eight hundred are in one bunch.

The oil expressed from these nuts, Mr. Temple affirms, is of a most excellent quality, in his opinion superior even to coco-nut oil, and burning double the time.

From Cohune oil forwarded to him, the manager of the "British Sperm Candle Company," made candles, and the experiment was considered by him to be most satisfactory.

The shell of the Cohune Nut, like that of the Coco Nut, admits of a beautiful polish, and may be turned into a variety of useful and ornamental articles.

Yet with abounding forests, where for miles and miles extend these abundantly-bearing trees, it is said, "No one has been found to turn them to a profitable account. Over these vast fields of wealth

a few old negro women occasionally wander picking up the nuts which have accidentally fallen, with which, in their rude and clumsy way, they manufacture as much oil as will supply their personal wants, and even their luxuries of pickled pork, gin, pipes, and tobacco." \*

In Panama, where these trees are not so neglected, not only is oil expressed from their nuts, but from the sap wine is obtained. Its leaves supply the usual thatch, "and play an important part in the religious ceremonies observed on Palm Sunday throughout the country."

The unexpanded leaflets are wrapped round Tortillas (cakes made of maize or Indian corn) previous to cooking them.

\* Seemann's "History of Palma."





## Fruit Palms of the West.



OVERS of palms, as they read their histories in many lands, will often exclaim with Linnaeus, "The human race should be classed as *palmivorous*, as those whose birth-place is the land of palms. Man dwells naturally within the tropics, and feeds upon the fruit of the palm tree."

Centuries of ever-progressing civilization, with all its artificial and acquired wants, have indeed long since made stronger food desirable to a large proportion of mankind, even in regions of palms; while in cold climates, where palm fruits cannot be procured, not only bread-corn, but also animal food seems almost a necessity.

But when the world was young—in the sunny lands which were as the seed-plot for peopling the earth—how unnatural such food would have appeared! To Adam and our gentle mother Eve how odious would have seemed the necessity that any creature should die to furnish a repast for them.

The glorious trees of Paradise had supplied abundance of delicious fruit to satisfy their hunger, the

crystal rivers that made glad their garden-home had satisfied their thirst, and when Cherubim and a flaming sword shut them out of Eden, still to the fruits of trees, we may be sure, they looked for food, both they and their immediate descendants. After the Deluge, to Noah and his sons, was given "every moving thing that liveth to be meat for them."

Palms that we read of in the heavenly paradise surely adorned the paradise on earth. Touching must have been the scene when our first parents beheld them first again beyond the threshold of the home of their innocence. Sorrowing to see remembrancers of the joys they had lost, yet glad to recognise, in their familiar forms, tokens of their heavenly Father's pitying love.

We have seen in the East many millions of human beings fed by palm trees of various kinds: the Sago, the Palmyra, the Coco-nut. Palm trees of the West are in no way behind their sisters in like usefulness, though their spheres are narrower.

(*Euterpe Oleracea*.—MARTIUS. *Assai*, Lingoa Geral.)

At Pará half the population are said by Wallace to look to the Assai for their daily meal, while hundreds make it their chief subsistence, with only the addition of a little farinha or Mandioca flour (*Jatropha manihot*) called in Guyana Cassada or Cassava, known in Europe in a granulated form as Tapioca.

In baskets neatly plaited with the leaves of the

tree, the fruit of the Assai Palm, or *Euterpe oleracea*, is brought daily into the city from the neighbouring forests which cover the thousand islands of the river, and overspread vast tracts of swampy land on either side of it. From the great variety of soil and climate in these extensive forests, Assai Palms, with ripe fruit, are to be found there throughout the whole year.

A delicious beverage is also to be obtained by pouring water on the ripe fruit, the pulp being rubbed off and kneaded into the water, and then strained off. The thick creamy liquor is of a fine plum colour, and has a nutty taste. With or without sugar, but generally accompanied by a handful of farinha, the usual substitute for bread, this fruity beverage is considered one of the chief luxuries of Pará. A cheap one also, for "a penny-worth fills a tumbler." \*

It is sold daily and hourly in the streets of Pará, the shrill cry of "Assai" an ever welcome sound, as Indian and Negro girls are said by Wallace constantly to walk about with earthen pots on their heads, filled with this pleasant and refreshing drink.

When ripe, the fruit is the size and colour of a sloe. The tree itself is very beautiful, tall and slender; its stem of a pale colour, and extremely smooth, is about four inches in diameter, and reaches from sixty to eighty and one hundred feet in height.

\* Wallace's "Palms of the Amazon."

Its feathery leaves have drooping leaflets, they are a delicate pale green. In the *Euterpe* genus is found the same elegant slender upper shaft formed by the sheathing bases of the leaves, which distinguish the *Iriarteus*, including the Wax Palm of the Andes, and the *Arecas*, including the Betel Nut of the East, and the Cabbage Palm, or *Areca oleracea*, and *Oreodoxa regia* of the West.

Wallace notices, in his "Travels in the Amazon and Rio Negro," "clumps of the graceful Assai raising their stems one hundred feet in the air, or bending in graceful curves till they almost meet from opposite banks of the river."

Their straight smooth stems are much valued for poles and rafters, but one rejoices to hear that these trees are considered too precious on other accounts to be often felled for such purposes. Wallace speaks of "very fine specimens of this tree growing in the great palm house at Kew as luxuriantly as in their native forests." The unopened spathe, the flowers and the fruit, are found at the same time on the tree.

(*Euterpe Catinga*.—WALLACE. *Assai de Catinga*, *Lingoa Geral*.)

This new species was discovered by Wallace in a district of the forest of the Upper Rio Negro, called by the natives "Catinga Forests." It is of the same graceful character as *Euterpe oleracea*, its still more fragile looking stem reaches only fifty feet in height,

its leaves are more erect, and the upper shaft is red in colour.

The fruit, too, is of the same kind, but, though smaller, is much sought after on account of its fuller flavour, a less quantity affording a larger proportion of the cherished "Vinho d' Assai," Assai wine.





## Peach Palm.

(*Gulielma Speciosa*.—MARTIUS. *Paripa*, *Piritu*, Guyana.  
*Pirijao*, Venezuela. *Pupunha*, Brazil.)

**G**ULIELMA SPECIOSA, a universal favourite, and known by many names, is described by all travellers as one of the loveliest and most elegant of the palm family. Its slender stem, sixty feet high, is ringed with long needle-shaped spines. Its stature is erect. Its crown is nearly spherical, and is composed of very numerous leaves pinnated, curled, and waving, their leaflets also curl and wave, giving to the foliage an exact resemblance to a rich plume of dark green feathers. The leaves of young plants are entire like those of the *Manicaria* or *Bussú* Palm, but as the tree becomes older, they divide into the usual segments or leaflets.

Humboldt and Wallace speak with peculiar admiration of this beautiful palm. Its "delicate flag-like foliage curled at the margins" is noticed by the former, who adds that, among the fruits of palms, there are none to equal in beauty those of the Peach Palm.



They are egg-shaped, mealy, usually without seeds, two or three inches thick, of a golden colour, which is on one side overspread with crimson. These richly-coloured fruits, seventy or eighty in number, are crowded together like a bunch of grapes, they hang from the summit of the majestic tree.

These magnificent clusters of fruit form an important article of food with the Indians of the Amazon.

Indigenous to countries in the neighbourhood of the Andes, the beautiful strangers once introduced to the banks of the Amazon and Rio Negro have been so thoroughly appreciated there, that even the indolent children of these tropical climes have been led to plant and propagate them. Like the Coco-nuts in the garden of the Singhalese, we read of native huts on the islands and along the banks of these noble South American rivers being overshadowed by the waving plumes of the Pupunha or Paripa, while the Indian's daily food is supplied by its abundant and wholesome fruit.

They are eaten either boiled or roasted, they resemble Spanish chestnuts, but have rather a peculiar oily flavour. "They are also ground into a kind of flour, and made into cakes which are roasted like Cassava bread, or the meal is fermented in water, and forms a sub-acid creamy liquid." \*

Birds and monkeys eagerly devour these tempting

\* Wallace's "Palms of the Amazon."

fruits. A brilliant representation of them is given in Von Martius's work.

The wood of the tree when old is black and exceedingly hard, so much so as to turn the edge of any ordinary axe. Wallace speaks of it as the only wood that supplied bars strong enough to withstand the continual gnawings of some sharp-beaked parrots he had caged. The Indians assured him that "were their beaks of iron, they could not bite through 'Pupunha.'"

Its sharp needle-like spines are used by many tribes for tattooing.

Very fine specimens are said by Wallace to be growing in the great palm house at Kew.

(*Enocarpus Baccaba*.—MARTIUS. *Baccaba*, Lingoa Geral.)

The deep violet-coloured fruits of the *Baccaba* are covered with the same whitish bloom we see upon plums. A most delicious liquid is prepared from them, said by Wallace to surpass even Assai, its flavour "resembling filberts and cream." It is of a pinkish green colour.

This charming beverage is noticed also by Spruce under the name of "Patawa yutrisse," of which he was "passionately fond." The tree is called by him "Patawa," he speaks of "forests opposite San Carlos, extending from Rio Negro to the Xié, as literally sown with Patawa."

The fruit is in season nearly all the year round.

It is said to be not so wholesome as the Assai.

From the pulp of the fruit is also expressed a beautifully clear liquid, and inodorous oil. It is bought from the Indians by the shopkeepers of Pará, mixed by them with olive oil, and sold as such. It is indeed considered to be equally good both for burning and cooking.

The smooth and well-proportioned stem of this tree is from fifty to sixty feet high, its graceful plumes are composed of long and large pinnated leaves.

(*Enocarpus Batavá*.—MARTIUS. *Patawá*, Lingoa Geral.)

This kindred species to the above furnishes a similar fruit, from which an equally excellent beverage is prepared, and equally valuable oil obtained.

Its peculiarity consists in the black spines which proceed from the margin of the sheathing bases of the petioles.

Sharp, strong, and from eighteen inches to three feet long, they supply the arrows used by Indians of the Rio Negro with the gravitana which is made from the Pashiúba-miri Palm (*Iriarteia setigera*.)

(*Maximiliana Regia*.—MARTIUS. *Inajá*, Lingoa Geral.)

Amongst Fruit Palms may be reckoned the stately Maximiliana, which well deserves its royal designation. Its smooth and massive stem is frequently

one hundred feet high ; its superb leaves, exceeding fifty feet in length, are pinnated, and aspiring upwards give a strikingly exalted aspect to the magnificent tree.

It grows abundantly in the dry soil of the virgin forest on the Upper Amazon, and at the sources of the Rio Negro.

Its brown fruits have a pleasant sub-acid flavour ; they are much esteemed by the Indians, and from them they extract a saline flour which they use as salt.\* A somewhat similar substance is obtained from the ashes of the fruits of the Jara-assù (*Leopoldinia major*.) Humboldt speaks of these " balls of an earthy impure salt," two or three inches in diameter, made by the Indians from the ashes, spadices, and fruits, and palms, a few grains of which are dissolved in water, and dropped upon their food.

The great woody spathes of the Inajá Palm are used by hunters as cooking vessels for their meat ; when filled with water they stand fire. They are also used as baskets to carry their farinha, earth and clay, &c., and Indian mothers find in them a ready-made and convenient cradle for their infants.

\* Wallace's "Travels on the Amazon."





## Palms of the West yielding Fibre.



WE have seen how, in the magnificent forests of South America, Oil Palms and Fruit Palms abound; materials indeed are there to feed nations and supply rivers of oil. We may also find fibre from palms of the West sufficient to furnish ropes wherewith to girdle the globe.

Some of these trees are now becoming known in England, but even of these it would seem their capabilities are by no means developed to their full extent, while of others the precious product is disregarded, except by the natives of the countries where they are found.

(*Attalea funifera*—MARTIUS; or *Leopoldinia Piassaba*—WALLACE. *Piacaba*, Brazil. *Piazaba*, Guyana. *Chiqui-chiqui*, Venezuela.)

A strong black fibre called "Piassaba," has lately been imported into England in large quantities. It is said to be admirably adapted for the manufacture of brooms and brushes; street brooms are already made from it; but in its own country,

Piassaba fibre is found capable of doing much more than this.

All kinds of cordage are made from it; for a long period of time canoes navigating the Amazon have been supplied with cables manufactured from this fibre. European settlers have joined with the Indians in acknowledging the value of this product.

Before the independence of Brazil, the Portuguese government had for some time carried on, as a government monopoly, the manufacture of these cables. The factory was established at the mouth of one of the tributaries of the Rio Negro.

The making of cordage from the Piassaba fibre, seems long to have been a general occupation amongst the Indian tribes, both in Brazil and Guyana. In Schomburgh's explorations, many years back, of the latter country, he notices villages on the Cassiquiare and elsewhere, where Indians and Creoles were employed in making ropes from the fibres of the Chiqui-chiqui Palms, (*Attalea funifera*).

In settlements on the Rio Negro also, where the industry of the women was devoted to netting hammocks from the leaf-fibre of the Miriti or Itá Palm, the men were busied in twisting cordage from Piassaba.

In some places men, women, and children, joined together in the work, cutting with knives the fibre hanging from the trees of the forest, and afterwards at their own homes twisting it into ropes. The

cordage so made was cheaper than any other kind.

Wallace gives us the price in the city of Barra a few years past; for thirty-two pounds of fibre, four hundred reis or one shilling.

The fibre itself is now brought to England in long conical bundles. "Several hundred tons are annually cut on the Rio Negro and sent to Pará, from which scarcely a vessel sails for England without its forming part of her cargo."\*

This palm is represented by Wallace as *Leopoldinia piassaba*.

Though very useful, it can by no means lay claim to the usual beauty of the family. From twenty to thirty feet high, it is not tall enough in proportion to its large and handsome leaves which are pinnate, while the fibrous hairy-like covering which is its peculiar characteristic, gives to the tree a strange uncanny look.

We think we see in it one of those fearful Gnomes of German legendary tales—a dwarf in stature, with large head and ferocious looking beard.

This beard-like fibre which is produced from the bases of the petioles, hangs down in lengths of five and six feet, concealing a great part of the stem. When cut off it is reproduced in five or six years.

This grewsome individual, altogether a strange exception to his kingly race, has (gnome-like also)

\* Wallace's "Palms of the Amazon."

a malicious pleasure in accompanying its benefits with a terrible drawback. The poor Indians often fall victims to the apparently harmless work of cutting off the fibres from the tree; its monstrous beard is haunted by venomous snakes, and their bites prove often fatal.

The large and handsome leaves of Piassaba Palms are used for thatch. Their fruits are eatable, and the pulp rubbed off into water, furnishes, like so many of the Brazilian Palms, a pleasant drink.

The seeds of these trees, as well as the fibre, have established a European reputation, they are brought to England as "Coquilla nuts," and are much esteemed for many kinds of turnery-work, knobs to umbrellas, walking-sticks, and bell-ropes, and similar purposes.

They are hard, beautifully mottled with dark and light brown, and take an exquisite polish.

(*Manicaria saccifera*.—GERTNER. *Bussú*, Lingoa Geral.)

The stem of this unique and handsome palm is from ten to fifteen feet high, its leaves are very large, often thirty feet long, and four or five feet wide.

Unlike all other palms (excepting young plants of *Gulielma speciosa*), the leaves of the Bussú are entire like those of Plantains and Bananas, not being divided into the usual leaflets.

Like those of the Plantain also in this, the leaves of the *Manicaria*, when older, are split irregularly by



the wind. The margins of the leaves are serrated, and the sheaths often cover the stem quite down to the ground.

The immense leaves being entire, and of a firm and rigid texture, form the very best and most durable thatch.

“The leaves split down the midrib, and the halves laid obliquely on the rafters, the furrows formed by the veins serve as little gutters to carry off the rain. A thatch of Bussú, well made, will last ten or twelve years. An Indian will often take a week’s voyage to obtain a canoe load of these leaves.”\*

The Bussú, like the Hemp Palm, and the Coco-nut Palm, affords an excellent, durable, ready made cloth. This singular product is furnished by the spathe. Taken off entire, the Indian uses it as a treasure-bag, wherein to keep the red paint which is so necessary an article of his toilette, or the silk cotton he requires to wind round his arrows. When of a large size it furnishes him with a cap, “cunningly woven by Nature without seam or joining.”

Cut open lengthways and pressed flat, this smooth Bussú cloth forms a wrapper, between which the Indian lays his gala dresses and his delicate feather ornaments, the whole kept in a chest of plaited palm-leaves.

This peculiar-looking palm inhabits the tidal swamps of the lower Amazon.

\* Wallace’s “Palms of the Amazon.”

(*Astocaryum Vulgare*—MARTIUS. *Tucum*, Lingoa Geral.)

Once more we find an exception to the general characteristics of palms. The whole of this genus have anything but a kindly aspect; "armed to the teeth" they present a formidable appearance.

Stem and leaf, leaf-stalk, spathe and fruit are all covered with sharp spines, in some cases these are a foot long.

Still as in all cases—the invariable rule—the leafy crown is beautiful. The leaves are large and pinnate, dark green above, and the under part silvery white. With their elongated leaflets, grandly outspread, they form a redeeming feature even in these species which are low in stature. Some are indeed stemless. But the *Tucum* of the Amazon and the Rio Negro is by no means deficient in beauty, though it is of the severest kind.

Its stem, fifty feet high, and six or eight inches in diameter, has at regular and narrow intervals broad bands, thickly set with black spines.

Although bristling all over with such sharp needle-like spines, that it is difficult to handle any part of it, this tree, like some really excellent but unpleasant, tempered individual, is highly valued by those who know its hidden worth. It is considered of such importance by the Indians, that the beautiful and kindly looking *Paripa* is not cultivated with greater care and regard than the Thorny *Tucum*.

The severe Tucum has no lovely fruits to bestow, nor is its repelling stem of much value, nor its prickly leaves when they are fully grown; but in their undeveloped state, they are a priceless treasure to the natives of Brazil. They furnish them with a fibre superior even to that obtained from the leaves of the well-beloved Miriti.

The cordage manufactured from it is extremely strong and durable, but the especial boast of these strong and durable fibres is their extreme fineness, which renders them invaluable for fishing lines, fishing nets, and bow strings.

The Tucum thread is kitted by the Brazilians of the Rio Negro and the Upper Amazon, into a compact web of so fine a texture, that the completion of one is the work of two persons for three or four months.

These hammocks far exceed in beauty those made from the fibre of the Miriti. Some adorned with featherwork, are to be seen at the Museum at Kew. Tucum hammocks sell for about three pounds each, and for double that sum when ornamented with borders of featherwork. Most of them are sent as presents to Rio Janeiro.

The threads of palm fibre are dyed in the most brilliant colours, with these the hammocks are knitted, with fringes about a foot long of the same material. On these are fastened with the glutinous milk of the Cow Tree, (*Palo de Vaca*, or *Galactotendrum utile*), sprays, stars, and flowers of featherwork.

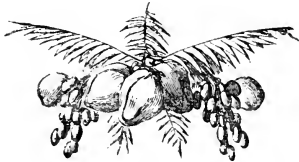
In some peculiarly beautiful specimens of this workmanship, executed by Indian women, from the designs of Senhor Antonio Diaz, the arms of Portugal or Brazil were placed in the centre, admirably represented on a ground of snow-white heron's feathers.\*

The dazzling plumage of the birds of their country has always attracted the Indian women of South America to this kind of work, and from remotest times they are known to have excelled in featherwork.

In the early days of the Conquest of Mexico, history tells mournful tales of cruelty and extortion, in connection with magnificent dresses of gorgeous featherwork, which was looked upon as the apparel of royalty.

The Tucum Palms grow in the dry forest land of the Amazon and the Rio Negro.

\* Wallace's "Palms of the Amazon."





## Palms of the West, principally valued for their Leaves.

(*Sabal Mexicana*—MARTIUS. *Palmato* or *Palmetto*.)



THE history of palms is rendered of peculiar interest by the striking and continual contrasts it affords. Their outward forms and their uses are infinitely various; their destinies, and the homes they inhabit, are strangely dissimilar.

What varied pictures in distant lands each palm tree's story unfolds for us. The sultry desert—the mountain's snowy peak—dense forests and boundless plains, treeless, were it not for the friend of man—and fairy islets, on whose placid shores the silvery-crested waves of ocean flow softly, like the white locks of some old man pillowing his wearied head on the lap of his gentle child.

We have looked on such scenes, and on many more of different kinds; but there is yet another phase of existence entirely distinct from all that have gone before, where we must seek a useful palm tree. Alas, poor Palmetto! what compassion would

she excite in the breasts of her noble kindred, could they look upon and be conscious of her hard fate. The mountain chief, the superb Ceroxylon—the graceful Coco, with unbound tresses floating on the ocean breeze—the sportive Jacitara, roaming the woods unrestrained and free; how different their destinies to the confined and artificial life of the Palmetto. We read of these palms as “planted in regular rows” in the Mexican states of Chiapa and Tabasco. They are thus carefully cultivated for the sake of their leaves, which are used in the manufacture of the “sombrosos de petate.” The latter term, referring to the dried leaves, is supposed to be of Aztec derivation, and signifies covering. The name “petate” is also applied in Mexico and Central America to a peculiar kind of mat.\*

Sombrosos, or very broad-brimmed hats, are the universal head-covering of the male population throughout the Mexican States. They are amongst the very few articles produced by native industry. These Palmato, or Palmetto Palms, are said by Heller to be from twelve to twenty feet in height. Their fan-shaped leaves are prepared for plaiting, by being dried and bleached in the sun. They are then divided into narrow strips.

*Sabal Mexicana*, sometimes called the American Palmetto, is the most northern of the palms of the

\* Heller's "Bonplandia," vol. ii., p. 157.

New World, as *Chemærops humilis* is of the Old World. They are both fan palms.

The Palmetto grows in Carolina and Florida ; and the Americans, like the Mexicans, manufacture light and durable hats from its leaves.

Humboldt, in his Travels in Mexico, speaks of a Palmetto which, cut into cylinders three feet long, furnishes excellent food from the farina contained in the pith.

(*Thrinax argentea*—TODD ; or *Chamærops argentea*.  
*Broom Palm. Palma de escoba*).

This beautiful little palm, whose fan-shaped leaves are of a pale silvery green, is a native of Cuba and some others of the West India Islands. It also grows on the Isthmus of Panama, where it derives its homely name from the use made of its leaves—brooms being manufactured from them.

In some of the West India Islands they furnish materials for basketwork ; for which purpose they are imported into England, and articles of this kind are made from them at St. Albans.\*

But these leaves are still more valuable as affording material for those delicately white “chip” bonnets, sometimes called “Brazilian grass.” These pretty bonnets were much worn a few years back.

\* Seeman's “History of Palms.”



## Ivory Palm.

(*Phytelephas macrocarpa*—RUIZ ET PAVON. *Palma de Marfil*—  
SPANISH. *Tagua*—INDIAN.)



NOT content with their acknowledged supremacy in the vegetable world, the imperial family of palms occasionally surprise us with some marvellous product resembling those of the other kingdoms of nature.

The wood of the Peach Palm (*Gulielma speciosa*) rivalling iron in its hardness, will turn the edge of an ordinary axe. From it harpoons are made. The leaf bud of *Nipa fructicans*, sharp as a bayonet, is used as a spear. The seeds of *Chamærops Ritchiana* serve the purposes of lead, and are employed as bullets. Ramrods are furnished by the outer bark of *Areca oleracea*. The sharp spines of *Sagus filaris* are like fine steel, and supply the place of needles; while the leaf fibres of the Coco-nut and Itá Palms are substituted for the wires of musical instruments. Vessels of baked clay are outdone by the ready-made bowls of the shells and spathes of palms.



But these marvellous trees do not confine themselves to rivalry of the mineral kingdom ; the princes of vegetation enter the lists with beings of the animal world. Horse hair is rivalled by coco-nut fibre, and the honey and the wax of palms equal the produce of bees. There is yet another singular approach to an animal substance to be found in the treasury of palms. Inside the large fruit of a palm of New Granada we find a substance apparently identical with the tusks of elephants.

These ivory-looking balls or seeds so closely resemble animal ivory, that they are sometimes mistaken for it. The name of vegetable ivory has been given to them, and the tree is called by the Spaniards "Palma de Marfi."

These singular trees were discovered on the banks of the Magdalena, towards the end of last century, by two Spanish botanists, Ruiz and Pavon, but the account given by them attracted but little notice except amongst scientific men. Later travellers, Humboldt, Bonpland, Purdie, Seemann, and others, have given to the world their respective personal observations, and the Ivory Palm has for some years excited much interest. The name *Phytelephas*, given by its discoverers to the tree, is derived from two Greek words, signifying *plant* and *elephant*. *Macrocarpa* signifies large fruited. The fruit has been commonly called "Cabeza de Negro," negro's head.

To the Indians of the Magdalena the tree is known as the Taqua.

By some writers this palm is described as a stemless plant. By others the creeping stem is said to reach twenty feet in length ; but it is stemless in appearance ; for, dragged down by the weight of its superb leaves and enormous fruit, the summit of the tree scarcely measures six feet above the ground.

But although deficient in stature, the Ivory Palms form striking and beautiful objects along the banks of rivers, and in the moist places they love to inhabit, forming groups by themselves, seldom intermixed with other trees or plants.

The Ivory Palm's feathery leaves, of a delicate pale green, are sometimes twenty in number, and from eighteen to twenty feet long. Gracefully outspread, with the central leaves erect, they seem to spring out of the ground like a magnificent plume of feathers ; while the great nuts, large as a man's head, which are their distinguishing characteristic, cluster thickly round the stem. The plant bears six or eight of these nuts at a time, each of them weighing, when ripe, twenty-five pounds.\* Each drupe or fruit contains from six to nine seeds, the usual number being seven. The seeds are as large as a golden pippin.

The fruit at first contains a clear insipid liquid, with which travellers allay their thirst. This gradually thickens and becomes milky and sweet, like

\* Seemann's "History of Palms."

the albumen of the coco nut. By degrees its taste and substance is altogether changed, and it is converted into a hard, solid ball, to all appearance, of ivory. A very close comparison will, however, show that vegetable ivory is whiter, and has not the soft, creamy look which is so beautiful in real ivory.

In its intermediate state, the yellowish, sweet, oily pulp in which the seeds are enclosed, and which ultimately will be absorbed by them, is much esteemed by the natives as a delicacy. At the proper season it is collected and sold at Ocana for one real a pound. Purdie informs us—"A spoonful of it, with a little sugar and water, make the celebrated 'Chicha de Taqua,' said to be the most delicious beverage of New Granada." He also adds, that this singular substance will, for nine months, retain all its peculiar flavour and quality.

The germination of the seed is described as equally curious with its formation. Through successive stages of water, milk, and oil, it becomes ivory; but this ivory, or albumen, is intended for the food of plants; and so, in the process of germination, the hard ivory is again dissolved, and the milky fluid passes into the young plant, feeding it until it is able to feed itself from the stronger food of the soil. Then ivory and milk alike disappear. The empty shell of the seed alone remains.

These seeds of vegetable ivory constitute a considerable article of commerce. Many hands are em-

ployed in collecting them, and large quantities are shipped from all places where Ivory Palms are found. The trade is principally with England and the United States. In some years not less than one hundred and fifty tons have been imported into England.

If bought in large quantities they can be obtained at a very cheap rate. Seemann informs us that in August 1854, a thousand nuts were sold in London for seven shillings and sixpence.

They are adapted for a great variety of turnery-work, knobs of walking sticks and parasols, rests of spindles, spools for thread, thimbles, numerous articles for the work table, and tiny toys of many kinds. Pretty specimens are sold at the Crystal Palace, with the outside of the seed only partially cut away, so as to show the vegetable ivory in its natural state.

These seeds soften in water, but soon grow hard again when dried. The young fruit is devoured with avidity by bears, hogs, and turkeys.

The beautiful leaves of the tree are used by the Indians of the neighbourhood for thatching. They are said to be not so durable as the leaves of other palms; but Purdie mentions that all the houses of a mountain district near the Magdalena were thatched with them.

The Ivory Palm prefers moist localities, but it is also found at elevations of more than three thousand

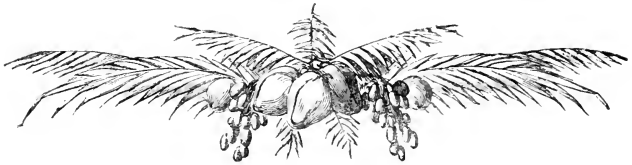
feet above the level of the sea.\* Introduced into Europe by Purdie, these plants have flowered at Vienna, and at Kew in 1855. Fine plants are now to be seen there.

The snowlike flowers have a smell of almonds. When the trees are in flower the country is said to be scented with their fragrance.

The seeds of the Doum Palm of Africa also bear a close resemblance to ivory, but they are of smaller size.

\* Seemann's "History of Palms."





## The King Palm.

(*Oreodoxa regia*.—HUMBOLDT and KUNTH.

*Palma real*.—DE LA HAVANA.)



ON the threshold of the great continent of America, in the lovely island of Cuba, these stately palms met the eyes of Columbus, the discoverer of the New World.

While yet in the first eager excitement of wonder and delight at the splendours of tropical scenery unfolding themselves to him, these superb trees, two hundred feet high, and crowned with waving plumes, must have looked to Columbus like the magnificent nobles of some mighty kingdoms standing in the antechamber of their sovereign, to greet the arrival of an honoured guest. But these matchless palms were as monarchs themselves; for even amongst their kindred, in beauty and in majesty they are unrivalled. Their kingly designation, conferred on them by the people of their country, has been confirmed by the most accomplished of European travellers.

The splendid forests of the mainland revealed no

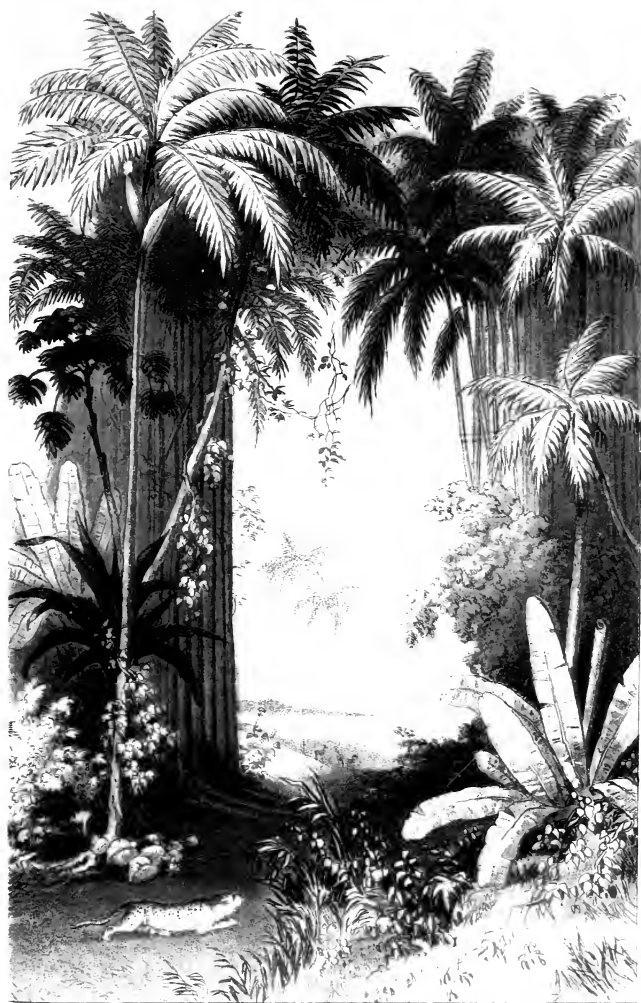
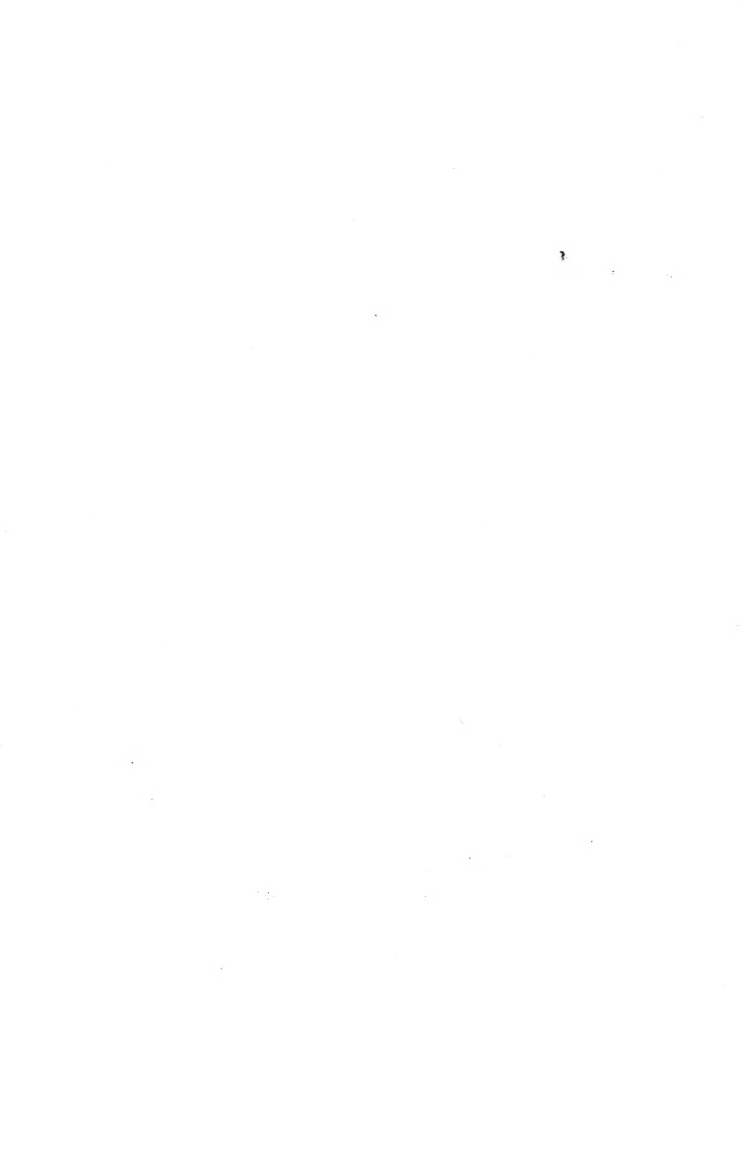


Figure 1. A. J. S. 1907





more beautiful creation than this island king and his sister palm, *Oreodoxa*, or *Areca oleracea*. To the general observer they seem in all points to resemble each other.

Like some stately column of ancient Greece, the King Palm, two hundred feet high, is perfectly erect, and reveals, in the outline of its stem, swelling towards the centre, the subtle entasis of the Greek, expressive of strength. Out of this dark grey column a more slender shaft arises, perfectly smooth, and of a delicate grass green; and from this the leaf stalks spring. Its pinnate leaves, with sword-shaped leaflets, are of noble size; they grandly aspire upwards; their extremities curl gracefully like a waving plume, and from the centre of them arises, like the point of a spear, the leaf bud of an unexpanded leaf. The flowers are described by Humboldt as of "silvery whiteness," shining from afar. They issue from spathes which are put forth at the junction of the leaf column and the stem of the tree.

The *Oreodoxa regia*, and *Oreodoxa* (or *Areca*) *oleracea*, are the glory of the West India Islands. Every traveller is enthusiastic in their praise.

Miss Bremer, a daughter of northern climes, speaks rapturously in her "Homes of the New World" of the Cuban Palm.

"The (Guadarajah) avenue of King Palms is everywhere the pride of the plantation, and the most beautiful feature there."

She describes at Santa Amelia the effect of a hundred of these trees planted in a row, many of them just in bloom.

“The luxuriant sprays of flowers shoot out like a garland of wings around the stem, a little below the palm crown, in the most beautiful relationship to both it and the stem.” \* In a lovely garden, two miles from Havanah, she tells us of the novel and beautiful effect of King Palms planted in a circle.

“In this way the most beautiful colonnade rotunda was formed which can be imagined. The crowns being all at the same height, locked their branches into each other, and formed a gigantic verdant garland, which waved and rustled in the wind, whilst the blue vault of heaven shone brightly through it.”

“Even when despoiled of some of its branches for the many purposes for which it is invaluable—thatching roofs, &c., &c.—this noble palm yet retains its grace and beauty. If but two branches remain, the unconquerable majesty of the royal tree elevates the leaves that the spoiler has left, and bending gracefully toward some kindred sufferer, they form Gothic porticoes and exquisite arches, as of some fair Cathedral aisle. Amid the depths of the forest, in the field, or by the roadside, wherever the palm

\* In the noble palm-house at Kew, the beautiful effect of various species of *Areca* Palms in flower may now (August 1861) be seen.

arises, there is grace and beauty, and the richly-suggestive emblem of a kingly soul."

This palm has been introduced into the Island of Teneriffe, and is cultivated in our palm palaces at home.

*Oreodoxa Oleracea*—MARTIUS; or, *Areca Oleracea*—LINNÆUS.  
*Euterpe Caribea*—SPR. *Cabbage Tree*, Barbados. *Palmiste*,  
 Guyana. *Chou Palmiste*, Mauritius. *Palmeto Royal*;  
*Palma Nobilis*; *Palma Altissima*—Old writers, LIGON, and  
 others.

Dear reader, has it ever happened to you, that enraptured by some vision of female loveliness, you have, on inquiring her name, been told that it was Betsy, Polly, or Deborah? However unreasonable it might be, did you not feel irrepressibly vexed?

Even so it is impossible with an enthusiastic lover of the beautiful, not to feel positively annoyed at hearing in our English West India Island the homely and really unsuitable name of *Cabbage Tree* applied as the distinctive appellation of one of the most exquisitely beautiful creations of the vegetable world. Its French name in the Mauritius is almost equally unfit, *Chou Palmiste*.

Old writers knew better. They lavished titles of honour on the graceful *Areca oleracea*. In books of ancient date we read of her as the "Royal Palm," the "Noble Palm," the "Loftiest Palm." As an *Oreodoxa*, too, closely allied to the King Palm, why should not the glory of the Caribbean Islands be

known as the *Queen Palm* instead of the *Cabbage Tree*?

Listen to grave historians.

Ligon, an old writer of a "History of Barbados," of which island the *Areca oleracea* is the especial boast, says, speaking of this palm:—

"So elegant and noble is it that every traveller agrees no lovelier tree can be seen." Bryan Edwards, a native of the West Indies, declares her to be "the most graceful of all the vegetable creation;" while Hughes proclaims with energy that "neither the tall cedars of Lebanon, or any trees of the forest, are equal to it in height, beauty, or proportion, so that it claims among vegetables that superiority which Virgil gives to Rome among the cities of Italy."

Of the "Chou Palmiste" of the Mauritius, or "Areca Chou," the lovely tale of "Paul et Virginia," by Bernardin de St. Pierre, is redolent of praise. "Le Chou Palmiste est un des plus beaux palmiers connus il atteint souvent plus de cent pieds de haut. Son stipe droit et flexible, porte un gracieux parasol de feuilles aileès, qu'il étale au dessus des arbres environnant comme pour les protéger de l'ardeur du soleil."

How queenlike and how womanly is the grace which that last touch of the painter bestows on the *Areca*. The protection her exalted position allows her to afford, so graciously afforded to all who need her care.

In all things this lovely palm presents an incomparable type of a fair and gracious Queen.

Words can but feebly portray her surpassing grace; pen and pencil are wholly unequal to the task.

Straight and upright as the slender shaft of some column of dark grey marble, the *Areca oleracea*, or Queen Palm (if we may be allowed to call her so), rises in her native land to the majestic height of two hundred, and sometimes even two hundred and seventy, feet. From out of the marble grey columnar trunk springs up a more slender pillar of a soft, smooth green, formed by the unexpanded leaves. At the junction of the two shafts bursting from their spathes hover, as if on snowy wings, the blossoms which in the kindred species, *Oreodoxa regia*, Humboldt offered large sums to procure in vain at the Havana. Evenly poised on her royal brow, the queenly *Areca* wears her superb crown of richest and darkest green, the feathery or pinnated leaves aspire upwards, their extremities, gracefully curled, bow to the winds like some court beauty's waving plumes. High over all, springing from the centre of her crown, appears the arrowy point of an innermost undeveloped leaf—the sceptre, as it were, of the royal tree raised aloft, and with mute eloquence, strangely suggestive, it has ever the same inclination—contrary to the prevailing wind—it points to the east.\*

\* Of this peculiarity, which she has never seen noticed, the writer speaks from personal observation a few years ago, in the Island of Barbados.

It would seem that the Areca Palm, in her far Western home, instinctively conscious of the traditions of her race, still points, as centuries roll by, with significant finger, to that Holy Land where palm branches kissed the feet of the Lord. To those Eastern skies she points, where the day-spring from on high shall once more arise to make glad the hearts of "the righteous."

The seeds of the *Areca oleracea* were introduced into Jamaica from Barbados in the year 1756.\* From the same island they were carried to Demerara, where they flourish in great perfection. Both there and in Barbados an avenue of these palms is the boast of old family estates.

It is scarcely possible to conceive any form of vegetation so suited to form the approach to a dignified-looking mansion as these noble Areca Palms. Were it only possible for them to live beneath the grey and clouded skies of England, no picture could be imagined more suggestive of perfect repose, in calm aristocratic grandeur, than one of our fine old Elizabethan halls approached by an avenue of these erect and stately palms.

It is sorrowful to hear that in many of the West India Islands, and in the Mauritius, those beautiful trees are becoming more and more rare. Safe only in the home avenue and the gardens of the rich, where she is guarded with jealous care, this lovely

\* Schomburgh's "History of Barbados."

palm is tracked to her mountain or forest home by the ruthless destroyer. A magnificent palm tree, perhaps two hundred feet high, and more than seventy years old, is cut down—and why? To furnish a single dish.

Such barbarism is so inexcusable that it is almost painful to confess that, though not accessory to the crime, one has profited by it, and tasted of this rare delicacy, which in no one particular resembles the homely vegetable after which it has been so unfittingly named.

In form cylindrical, from one to two feet long, and nine inches in circumference; in colour and appearance spotless ivory; in taste, a mingled flavour of seakale, artichokes, and almonds. Say, is not the name “cabbage,” as applied to this vegetable, an injustice? while, as a distinctive appellation for the noble tree, it is nothing short of *lese majeste*.

This dearly-purchased vegetable is eaten either raw, simply boiled or roasted in the ashes.

The silvery white blossoms, as well as this ivory-looking substance (the undeveloped leaf-bud) are often brought to England as pickles, under the name of “mountain cabbage.”

The fruits of the tree grow in clusters small and oval, of a greenish brown. They somewhat resemble olives. They are not eatable; but oil is obtained from them.

The interior of the stem affords the usual flowery

substance good for food, which is obtainable from almost all palms.

The leaves measure about fifteen feet in length, and are used for thatching, making baskets, and purposes of that nature.

The inside skin of the young green leaves, when torn off and dried, affords a kind of vellum, which, though greasy on one side, will on the other bear being written upon with ink.\* Twenty large sheets may be obtained from one tree.

The broad part of the leaf-stalks forms a hollow trough, and serves as a cradle for negro children. These stalks, when cut up, make excellent splints for fractures.

When the tree is felled and exposed to the air, the inside quickly rots. This natural hollow cylinder, often exceeding one hundred feet in length, is invaluable as a most durable water pipe. The hardness of the outer wood being such that it is said if buried for a time it will become as hard as iron. When split up pieces of it serve as ramrods. Beautiful walking-sticks are made from this wood, with the seed of the fruit as a knob for the top.

But there is another service rendered to man by this tree, even in its decay; a delicacy (so called) is afforded by it in the way of food.

Strange as it may appear, from the times of the ancient Greeks and Romans until now, and in all

\* Seeman's "History of Palms."



parts of the world, various kinds of worms have been considered dainties.

The *Areca oleracea* in the West, like one of the sago palms in the East, in its decay produces one of those greatly esteemed worms.

The groe-groe worm, or "ver palmiste," is found in the cavity left by the removal of the cabbage or leaf-bud. It is the larva of a species of beetle two or three inches in length, and three-fourths of an inch in diameter.

These disgusting reptiles, the size and thickness of a man's thumb, are very fat, and are considered, particularly in Guyana, a most delicious treat. Stedman, in his "History of Surinam," mentions their being regularly sold in the markets of Paramaribo.

Not unlike white bait, yellowish bodies with black heads, they are dressed in much the same way, and are said to unite in their flavour all the spices of India! Sometimes they are eaten raw, simply dipped in lime juice.

In curious connection with this product, we learn that a decoction of the bark of the tree is considered a valuable medicine as a specific for worms.

Humboldt, and Richard Schomburgh, in his "History of Guyana," both speak of the audible sound with which the flower sheath or spathe suddenly opens in the flowering of the *Oreodoxa*, or *Areca oleracea*.



## Miscellaneous.



THE procession has closed, as is fitting, with the King and Queen Palm of the West; but the glorious family records are by no means exhausted. Sadly we close our ears and turn our eyes away from rustling plumes and graceful forms, whispering and beckoning to us to tell of their beauty, and yet more to tell of their good offices to man.

The Jará-assú (*Leopoldinia major*), with tall and slender stem, springing up on the margins of the lakes and inlets of the Upper Rio Negro, reminds us of the usefulness of its abundant fruit. In a country where mineral salt is so scarce that it is counted as coin, and a pound of it pays for a day's work, the fruit Jará-assú is collected by the Indians and burnt. From the ashes a floury saline substance is obtained, which is used as a substitute for salt.

The Honey Palm. Should it be forgotten? These beautiful trees are cut down in numbers every year, and their graceful crowns of feathery leaves lopped off from the tall and slender stems. The sweet sap

which continues to flow for several months, is concentrated by boiling into a syrup resembling treacle. A good tree will yield ninety gallons. This Miel-de-Palmo, or palm honey, is much esteemed and used throughout the country.\*

*Jubcea spectabilis* is a Chilian palm, but is cultivated in New Granada, and other parts of South America. The fruit of this Honey Palm has a thick fibrous husk, like that of the Coco Nut. They cluster together in gigantic bunches. The nuts are the size of large marbles, and are used as such by the boys of the country. They are also preserved as sweetmeats.

The magnificent Jagua Palm, an unnamed species of *Maximiliani*, is mentioned by Humboldt as among the chief beauties of the splendid scenery of the cataracts of Atures and Maypures. Its smooth and slender stem, seventy-five feet high, is surmounted by a magnificent plume. The feathery leaves measure thirty-four feet in length, and are divided into four hundred and twenty-six leaflets, which, "having only a thin grass-like parenchyma, flutter lightly and airily round the slowly-balancing central leaf stalk.†

The weight of the spadix, bearing a thousand fruits, is a sufficient load for two men. Several spadices are matured simultaneously.

\* In Teneriffe honey is obtained from palm trees in an *indirect* manner. *Bee hives* are made from the hollowed stems.

† Humboldt's "Ansichten der Natur" (Aspects of Nature).

But there is another palm, whose leafy crown is of still greater magnificence. The leaf of the Jipati (*Raphia taedigira*—MARTIUS), though not entire, is said to be the largest in the vegetable world. "It covers a space of not less than two hundred square feet."\*

The majestic plume, which is composed of these leaves, is seventy feet high and forty feet in diameter. Some of the smaller leaves measure fifty feet, the leaflets being outspread four feet on either side of the midrib.

This palm forms a striking object on the banks of the Amazon. The height of its superb crown far exceeds that of its stem, which is only six or eight feet high, the greater part of it covered by the sheathings of the leaf stalks, which are thickly set with spines. The thickly clustered flowers, of a greenish olive colour, overhang the stem on either side.

In these leaf stalks, which, perfectly straight, measure from twelve to fifteen feet from their base to their lowest leaflet, consist the principal usefulness of the tree. The Indians strip off the smooth and glossy rind, to make with it baskets and window blinds. When dried entire, they are considered to equal the quill of a bird for lightness and strength. The inner part, of a consistency between pith and wood, is of a more even texture than cork. It is

\* Wallace's "Palms of the Amazon."

used as stoppers for bottles and linings for insect boxes. In larger pieces split up into laths, it serves an infinity of purposes. "Window shutters, bird cages, boxes, partitions, and even entire houses are constructed with it."\*

But see now, contending with the stately Jagua, and the Jipati, with its magnificent crown, the fairy-like Iù (*Bactris tenuis*), a new species discovered by Wallace.

Growing in the sunniest spots of the sandy soil of the Catinga forest of the Upper Rio Negro, this tiny palm tree has a stem no thicker than a quill, and its clusters of fruit are smaller than bunches of currants.

A kindred species, though not quite so diminutive, *Bactris maraja* (MARTIUS), having the same pinnated leaves and slender leaflets, grows so close to the margin of the river, that its tempting fruit, resembling clusters of black grapes, may be gathered by those passing by in canoes.

The fairy-like Iù, with pinnated leaves, contrasts with the superb Ceroxylon; the fan-leaved *Mauritia* has the "little one" of its family in the Caranai do Mato (*Lepidocaryum tenue*—MARTIUS). This rare and delicate palm prefers the "gloomiest depths" of the virgin forest of the Upper Rio Negro, where it is overshadowed by lofty forest trees, and is far from river, lake, and sea.† Its fruits are the size of hazel-nuts, and its ringed stem, six or eight feet

\* Wallace's "Palms of the Amazon."

† Ibid.

high, is only the thickness of a finger. Its dark green glossy leaves have narrow leaflets drooping from long and slender stalks.

The Snake Cane (*Cana de la Vibora*; *Kunthia*—HUMBOLDT and BONPLAND), grows in the mountains of New Granada. Its reed-like stem, from twenty to twenty-four feet, is used by some Indian tribes as their blowing tube. It derives its name from the sweet juice of its stem being used as an antidote to the bites of venomous snakes. It is used both as an application to the wound, and as a medicine to be taken internally. Its leaves are pinnate.

There are other reed-like palms, natives of Mexico and Peru, with miniature crowns of emerald leaves, fruits that glow like rubies, and blossoms, silvery white, of delicious fragrance. But here we must end.

Could this list of palm trees, especially chosen to illustrate the text that "The righteous shall flourish like the palm tree," end more fittingly than with one of the family, whose name has been given to mark that in it is found an antidote to the venomous bite of the serpent?





## Summary.



THE pageant has gone by. Bearing their precious gifts, the crowned trees have passed before us, as in some triumph of ancient Rome, when conquered kings and queens followed the victor's car. Attired in the garb of their country, manacled with golden chains, those captives dragged their unwilling steps, laden with their captor's spoil—treasures that had once been their own.

But ours is a fairer sight. The treasures we have looked upon are unstained by blood or tears. Our kings and queens of the vegetable world willingly bestow their riches on mankind.

Servant of God and friend of man, the palm tree rejoices in its kindly work.

Palms of the desert, the mountain, the forest, the plain, the river, and the sea—they are all witness-bearers to the goodness of God, and so do unto Him true and laudable service.

Men and women, gifted with immortal souls, dowered with hopes of everlasting life, are we all,

in our various positions of life, witness-bearers as faithful and true?

And is not the palm tree a proved friend to man?—the friendship commencing at his birth! Eastern and Western palms offer the spathes and fibrous sheaths, which have cradled their own blossoms and leaves, to human mothers to cradle also their babes. Throughout men's lives they receive rich fruits and wholesome food, and pleasant drinks, from the generous trees, shelter and clothing, and almost every article required for domestic comfort. Death and the grave beholds the continuance of these friendly offices. Have we not seen the skeletons of an extinct nation confined in the palm-tree's almost imperishable leaves?

As in centuries gone by, so now. Men choose the "uprising" tree to build up houses to God; and palm-tree pillars, upright in stature, are eloquent of Scripture truth.

In every form of religious belief the cherished palm branch takes its part from remotest times to the present day. On sacred festivals, on every occasion of joy and of sorrow, its ready leaves are outspread, to show its kindly sympathy with men.

Is it the Feast of Tabernacles, when, long ago, in the palmy days of Judea, the triumphant Israelites kept holiday! With the clang of trumpets and songs of victory, the descendants of Abraham pass before



the altar of Jehovah, waving palm branches, in remembrance of the city of palm trees, the key of Palestine, the first possession in the Promised Land. Is it a festive day in our own happy isles, when, a few years ago, the first blossom of England's royal rose was about to be transplanted to another land? The country made common cause with their beloved queen, and the wedding day of England's eldest daughter was kept as a general holiday. Amongst the bright garlands of our native plants bordering her path with ivy, wayside holly and lowly furze, appeared the princely palm. Typical of subject realms in the East and West, the palm branch should ever be joined with our national emblems, the rose, the thistle, and the shamrock; but on that occasion it was selected as the universal type of rejoicing. Our English princess passed as a bride beneath triumphal arches of tropical palms.

Again, let us travel back. Heathen emperors reign in Rome; a few poor persecuted Christians of the early Church have met together in the bowels of the earth, weeping, to lay in its narrow bed the body of a martyred saint. The widow's eyes are darkened with tears, the light of her life is gone out, when, lo, a sparkle of joy illumines her gaze! A glorious vision has filled the Church of the Catacombs. The palm branch is laid on her loved one's grave, and beyond it the mourner sees in the courts

above, in the presence of God, a rejoicing multitude "clothed with white robes, with palms in their hands."

And still, palm branches go with Christians to the grave. But two years past, behold them in the hands of sorrowing youths who walk on either side of Prussia's illustrious dead. Funereal plumes, well chosen indeed for Humboldt, whose glowing words have in our day recrowned the palm tree as queen of beauty.

In other lands, and throughout ancient and modern times, such pictures may be multiplied without end.

Still, in the Western world, as in Columbus' time, palm branches are signs of welcome and joy. In North Africa the natives hold them in their hands as they dance. In Ceylon, on every occasion of public rejoicing, from one end of the island to the other, triumphal arches spring up in a night. Those fairy-like structures are made with the smooth and slender stems of Coco-nut Palms, enwreathed with garlands of their feathery leaves.

And in sorrow the palm tree, with its promise of rising again, is still the comforter in many lands. The Egyptians of old laid these branches on graves that were dear. On Friday, the sorrowful day of the week, mourners pass through the streets of Cairo carrying palm branches to the burying places of their dead.

The palm tree is also, as we have seen, the useful friend of working men and women in every country where it is known. We ourselves partake of some of these benefits—fruits and fibre, oils and valuable wood. We may see in our museums a few of the countless diversified gifts which make the name of each individual palm a “household word” in its native lands. In our Crystal Palace of 1851,\* amongst the treasures entrusted to our care by foreign countries, were some of these products of palms, but they were by no means in proportion to their boundless extent. Amongst these contributions we may notice a few.

From Tunis came two hundred and fifty-two baskets of Dates. From Egypt, Dates of various kinds, and prepared in various ways, in their natural state, pressed, skinned, and preserved in honey. From that people of ancient name came also articles manufactured from the leaves of their beloved Date-tree (*Phœnix dactylifera*)—ropes, baskets, trays, scales, and lanterns. Paper, pasteboard, and “vegetable hair,” made from the Dwarf Fan-Palm (*Chamærops humilis*), were sent by Algeria. From Western Africa came the fruit and oil of the African Oil Palm, the “Negro’s Friend” (*Elæis Guineensis*). India sent Date sugar, the gigantic leaves of the

\* Since this was written our second International Exhibition has taken place. We can only find room to say that the first arrival there was palm oil from Liberia.

Talipot, the great Fan Palm (*Corypha umbraculifera*), Coco-nut oil and coir, snuff boxes and hookah bowls of coco-nut shells (*Cocos nucifera*). Palmetto plait from Bermuda was there, and window blinds of plaited cane from China, and sago cakes from the Moluccas. The Itá Palm (*Mauritia flexuosa*) of British Guyana was amongst the few magnificent palms of South America which were represented. Hammocks, baskets, fans, Cassava squeezers, and sifters, were furnished by the leaves of those trees in which Raleigh, wondering, beheld the aerial fires of the Guarinis, and whose fruits, two centuries and a half before, were amongst the scanty spoils the ill-fated adventurer brought back from his expedition up the Orinoco in search of the golden land.

Poorly indeed did such trifles image forth the magnitude and extent of the gifts bestowed by this royal race on the children of tropical climes. None can perhaps fully realize their value at home. But the traveller in far-off lands beholds foaming torrents spanned by their strong, though slender and flexible stems; dwelling houses hastily, yet securely, constructed with their leaves; and canoes quickly hollowed out of their trunks. He sees, too, food supplied by them, cooking vessels furnished, clothing and ornaments, instruments of music, weapons of war and the chase, healing medicines, materials for writing and for work,

a strangely varied list of articles which are sub-joined.

<b>FOOD.</b>	Hats.	Chairs.	Fences.
Fruit, various kinds	Bonnets.	Hammocks.	Well-sweeps.
Bread (sago)	Sandals.	Carpets and mats.	Fishing-nets, rods,
Honey.	Head-dresses.	Mattresses and	lines, hooks.
Sugar.	Beads of various	sofa-stuffing.	Bows, arrows, and
Oil.	kinds.	Chests of Drawers.	bowstrings.
Cabbage.	Necklaces and	Cooking vessels.	Harpoons.
Gruel.	bracelets.	Drinking do.	Blowpipe and
Sweetmeats.		Plates, dishes,	arrows.
Puddings	<b>MEDICINAL</b>	bowels.	Spears.
Palm-nut soup.	<b>PURPOSES.</b>	Cups, ladles,	Bullets, ramrods.
Preserves.	Decoctions of va-	spoons.	Drums.
Pickles.	rious kinds.	Water-pails.	Eolian harps.
Salt.	Lozenges.	Cylinders, strainers	Trumpets.
Yeast.	Emulsion.	Graters, sieves.	Flageolets.
Fruit beverages of	Lotion.	Shaving-dishes.	Viols.
various kinds.	Remedy for snake-	Lamps, lanterns.	Bird-cages.
Wine.	bites.	Candles, torches.	Insect-boxes.
Milk.	Do. for wounds.	Soap.	Chests, bonnet-
Toddy.	Antidote to poison.	Scrubbing-brushes.	boxes.
Arrack.	Catechu.	Brooms.	Packall or pegall.
Vinegar.	Dragon's blood.	Tinder.	Egyptian games,
Food for cattle, cam-	Tannin.	Panniers, baskets,	with sticks.
els, pigs, poultry,		sacks, bags,	Marbles.
and all animals.	<b>DWELLINGS AND</b>	combs, brushes.	Books, paper, pens,
	<b>DOMESTIC PUR-</b>	Coffins.	stylets, ink, let-
	<b>POSES.</b>	<b>MISCELLANEOUS.</b>	ter-cases.
<b>CLOTHING.</b>	Houses.	Churches.	Walking, parasol,
Ready-made cloak.	Thatch.	Bridges.	umbrella sticks.
Do. apron.	Flooring.	Canoes.	Knobs and frames
Do. cap.	Rafters.	Palanquin roofs.	to do.
Cloth.	Pillars and posts.	Bee-hives.	Umbrellas, fan sun-
Coats	Window-shutters	Pack-saddles.	shades.
Waiscoats	and blinds.	Water-troughs and	Bottle-stopper and
Gowns	Lattice screens.	gutterings.	screws.
Tippets.	Cradles.		Cordage and sail-
Pouches.			cloth.

In the highly interesting and admirably arranged museums at Kew, may be seen very many of the curious and varied products of palm trees. In striking proximity are articles of everyday use amongst ourselves, and strange and almost inexplicable things brought from the dwellings of savages.

# ALPHABETICAL INDEX TO PALM TREES NOTICED.

## PRODUCTS DIVIDED INTO FOUR CLASSES.

1. Edible fruits, food and drinks of various kinds.
2. Useful fibre from leaves or stem, furnishing clothing, cordage, &c.
3. Oil and wax, affording light.
4. Articles of various use, for building purposes, medicines, &c.

The numbers, 1, 2, 3, 4, are attached to Palms according to their respective class of products.

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<i>Areca catechu</i> .....	Betel-nut palm, Penang.....	4.	P.	E.	India Islands, Indian Archipelago.....	88
<i>Areca oleracea</i> , or <i>Oreodoxa oleracea</i> , or <i>Euterpe Caribaea</i> .....	Cabbage tree, Palmiste, Palmeto royal, &c.....	1, 3, 4.	P.	W. E.	West Indies, Guyana, Mauritius.....	307
<i>Arenga saccharifera</i> , or <i>Saguerus Rumphii</i> .....	Gomuti, Aren, Ejoo.....	1, 2, 4.	P.	E.	Islands, Indian Archipelago...	119
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<i>Attalea funifera</i> .....	Piassaba, Chiqu-chiqui.....	1, 2, 4.	P.	W.	South America.....	287
<i>Bactris Tenuis</i> .....	Iú.....		P.	W.	South America.....	317
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Botanical Name	Common or Local Name.	Products.	Description of Leaf.	East or West.	Native Country.	Page
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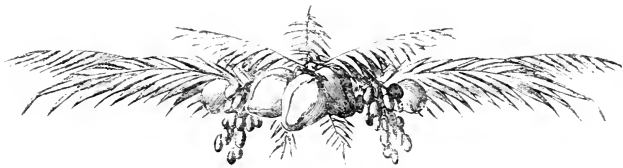


Scripture Notices of Palms.

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## Scripture Notices of Palms.



THE figure of a captive woman seated beneath a palm tree was chosen as the symbol of Judea by her conquerors. The device is to be seen on coins of the Roman emperors Vespasian and Titus.

How unconscious were they of the deep significance of their choice; and yet throughout the heathen world the palm tree was the recognised emblem of victory and light. Strange choice such symbol for a conquered land—to us how significant!

Emblem of victory for that Holy Land where, at the moment preceding its final conquest, when, as a nation, it should cease to exist, commenced its more extended and imperishable empire over the hearts of men—a wider empire than, in its proudest days, it would have dared to contemplate.

Emblem of light—fit emblem too for that fair country of the East where the true Light had arisen which should give light to all the world.

Prophetic, as it were, of this link which the future should thus unfold, we find the crowned tree assume a position in the history of God's chosen people—a parallel to which we seek in vain amongst other trees and other nations.

In the pages of Holy Writ the palm tree stands—a landmark, as it were—in points and places of peculiar interest in the story of the Jews.

In their poetry, too, we find her a favourite similitude,

and in their architecture a chosen symbol, until her chief glory was attained in the days of the Messiah.

The only happy earthly home Jesus the Saviour ever knew was sheltered beneath happy palms,—Bethany, signifying “House of Dates.” The one triumphal day when Zion welcomed Christ her anointed King, she laid in homage at his feet the honoured branches of the palm.

Emblem of light and victory to Him who came to be the Light of the world, who was the Conqueror over sin and death.

Rejoicing multitudes entered Jerusalem with loud “hosannas to the Son of David,” waving “palm branches” in their hands. And yet again a mighty multitude that no man can number, white-robed, with “palms in their hands,” shall in the celestial city Jerusalem, which is above, sing halleluiahs to their Saviour-God.





## Succoth.

BOOTH—COVERT—TABERNACLE.\*

"And the children of Israel journeyed from Rameses to Succoth.—EXODUS xii. 37.  
"And ye shall take you on the first day boughs of goodly trees, branches of *palm trees*, and the boughs of thick trees, and willows of the brook; and ye shall rejoice before the Lord your God seven days. Ye shall dwell in booths seven days; all that are born Israelites shall dwell in booths: that your generations may know that I made the children of Israel to dwell in booths, when I brought them out of the land of Egypt."—LEV. xxiii. 40, 42, 43.



THE first night of the Israelites' escape from Egyptian bondage—the birth-night of their freedom—"a night to be much observed unto the Lord."

A strange and solemn scene; one of inexpressible interest.

The grave and earnest gladness of a people released from slavery—a gladness too deep for outward show—as yet perhaps too deep for actual realization to themselves.

Amongst that "mixed multitude" there are some who, trembling and excited in their sudden joy, laugh and weep by turns. They are the mothers who strain their darlings to their breasts—alive, and safe, and free!

A flock of sheep huddling together, just rescued from a pack of ravening wolves.

Some few exalted spirits, beholding, through faith, their heavenly Shepherd, are calm and brave in their resolute

\* Stanley's "Sinai and Palestine," p. 529.

trust in him. They gather round their earthly leader, Moses, assured that he holds his commission from God. Moses, learned in all the wisdom of the Egyptians, mighty in words and deeds, and yet the meekest of men; Moses, for forty years the favourite in Pharaoh's sumptuous court; Moses, for forty years the prayerful, contemplative recluse of the desert;—now, doubly disciplined by a lifetime of action and a lifetime of thought, he stands the heaven-appointed leader of that mixed multitude, undisciplined indeed, but as yet obedient to his word.

The awe is yet upon them of that night of terror, when the Angel of Death passed through the land, and the "great cry" of their oppressors, smitten with a sudden and horrible chastisement, rings yet upon their ears: the Egyptians ever so frantic in their grief—desolate mothers running wildly through the streets, with dishevelled hair, beating upon their uncovered bosoms, their piteous shrieks mingling with the fierce cries of the men.

Awed and impressed well may the rescued people be. In the midst of a seemingly hopeless captivity, each long and toilsome day haunted by fears of a yet more iron rule, when lo! the mighty Avenger has snapped their chains, and their taskmasters bow beneath their own unutterable woe!

For them, the prisoners let free, a new life is beginning, full of strange interest. Significant of this new life, their reckoning of time is changed. It is the beginning of months of them; it has been consecrated by a solemn and mysterious rite: a lamb, without blemish, slain by each man for his household, the innocent blood sprinkled from the hyssop on the lintel and the door-post, a token for the Destroyer to go by.

O blind Jew! had not the very hyssop a voice when, lifting the sponge of vinegar to the dying Sufferer, it witnessed the perfect fulfilment of that typical rite ordained centuries before? The sinless Lamb, of whom "not a bone should be broken," but whose innocent blood poured out



must precede freedom from bondage, securing for His people preservation from eternal death.

The feast had been eaten in haste, with girdled loins, and sandalled feet, and staff in hand, as pilgrims in a stranger land. In the strength of that meat they had now gone forth into the night, a perilous and eventful journey.

Freed from slavery, they march to the conquest of the Promised Land, the Red Sea and the wilderness between.

And now commences that wondrous story which shall, till time itself shall end, rivet the interest of every child of God, and even arrest and startle the most stubborn amongst those who struggle against conviction.

That wondrous story : "Now all these things happened unto them for ensamples, and they are written for our admonition, upon whom the ends of the world are come" (1 Cor. x. 11).

Pregnant with meaning was each incident from day to day, eloquent with holy lessonings the strange vicissitudes of God's chosen people journeying, as God's children journey still, through life's long wilderness unto the heavenly Caanan.

Escaped from bondage, the pilgrimage begun, what is our first need? A *covert* and a shelter, where we may find the strengthening rest we sorely need to fit us for our onward march.

The *coverts* or *booths* of the children of Israel were made of "boughs of goodly trees, branches of palm trees." At Succoth was the *first* tabernacle of the Jews.

Doubly significant to them that covert of the branches of the palm, the tree symbolical of victory.

With a mighty hand and a stretched-out arm had the God of Abraham, the Faithful Promiser, brought his children out of Egypt. As conquerors their journey was begun. "Egypt was glad at their departing;" the affrighted people, urgent for the Israelites to depart, sent them not away empty. The spoils of the Egyptians were with their women in the camp.

What boughs so fitting as the palm tree's boughs to weave the conqueror's leafy tents?

Again, as conquerors they were setting forth to achieve new conquest—the Promised Land which should be theirs, Judea. Her symbol in after times was to be a captive woman beneath the shadow of a palm.

In the sealed book of futurity, which no eye but God's beheld, how many a page of mighty import to them bore the impress of that sacred tree, now for the first time assuming the figure of a type.

Are we not pilgrims too—the Promised Land before, the sea and the wilderness between? Oh, let not our Succoth be made of some withering gourd; let us make our tabernacle of the "up-rising tree," and then, in God's strength, set forth.

His presence will be ever with us. In the hot glare of worldly prosperity, the pillar of cloud will temper the fierce heat; in sorrow's starless night, the pillar of fire will make darkness light before us.

Do the waves of this troublesome world affright us?

At His word the waters shall be as a wall on either side, and we shall pass safely through.

Do we hunger or thirst in life's weary wilderness?

Bread from heaven shall be rained down, and living waters shall spring from the Rock of Ages.

Are we sick with the serpents's fiery bite, the sorrow that worketh death?

There is One on whom if we look we shall live.

And ere we reach the brink of Jordan, "grapes of Eschol" shall refresh us—earnest of the heavenly Caanan's joys.

Let us fear no evil giants that would bar our way. Our Joshua is with us. If soldiers of Christ, we shall surely overcome.

The cross and the palm branch here—the palm branch and the crown hereafter.

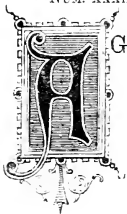


## Elim.

“THE TREES.” \*

“And they came to Elim, where were twelve wells of water, and threescore and ten *palm trees*: and they encamped there by the waters.”—EXOD. xv. 27.

“And they removed from Marah, and came until Elim: and in Elim were twelve fountains of water, and threescore and ten *palm trees*, and they pitched there.”—NUM. xxxiii. 9.



GAIN we greet the children of Israel beneath the shadow of palms.

We last beheld them on the birth-night of their freedom taking their rest beneath tents or “coverts,” woven from the branches of the friendly palm tree. Even as natives of sunny lands, both in the East and West up to the present day, weave them not only into places of temporary shelter, but into permanent dwellings.

So, too, our chosen “covert” should be not only a refuge from the storm, but an abiding dwelling-place.

Since that “much to be observed” night—the mighty God vouchsafing himself to be Israel’s guide—the angel of his presence has led them on, in the pillar of cloud by day, and the pillar of fire by night.

They have passed through the Red Sea as on dry land, the waters as a crystal wall on either side, and the pursuing chariots that “drave heavily,” have been overwhelmed.

The waters of this “their baptism” shall cling about the chosen race for ever. What though the mountains and

\* Stanley’s “Sinai and Palestine,” p. 20.

green valleys of Palestine are far removed from the sea? the sound of its waves unheard by the bodily ear shall all the more deeply live in their remembrance from father to son. Those mighty waters shall be unto them an abiding, ever-present memory—living within their hearts, enshrined in the imagery of their poets, speaking to them in the language of every day, typical alike of gladness and grief.

The sea, the mighty sea, shall be unto the dwellers of that inland country as an inspiration, as the key-note of their melodies whether grave or glad. From them originated, like imagery shall pass into the languages of all people, as it has been said, "The spray of the Red Sea is found, as it were, in the inmost hills of Palestine, and from there it has been wafted through the world." \*

The children of Zion have their harps attuned to the diapason of the ever-sounding, glorious sea.

Are they in affliction?

"Deep calleth unto deep; all thy waves and thy billows are gone over me" (Ps. xlii. 7).

Are they joyful?

"Let the sea roar, and the fulness thereof. Let the floods clap their hands" (Ps. xeviii. 78).

Would they describe the state of the wicked?

"The wicked are like the troubled sea when it cannot rest, whose waters cast up mire and dirt."

Or show forth the joyful security of those that love God?

"Therefore will we not fear, though the earth be removed, and though the mountains be carried into the midst of the sea; though the waters thereof roar, and be troubled, though the mountains shake with the swelling thereof. Selah!" (Ps. xlvi. 2-4).

Do they desire most vividly to display the power of the Almighty?

"They that go down to the sea in ships, that do business

\* Stanley's "Sinai and Palestine."

in great waters ; these see the works of the Lord, and his wonders in the deep" (Ps. cvii. 23, 24).

This matchless picture of life on the "great waters," so complete in every part—the lifting waves, "the mounting up to heaven, and going down again into the depths ;" the "reeling to and fro, and staggering like a drunken man ;" the troubled "cry ;" and then the "calm," the "still" waves ; the glad quietness of the "desired haven ;"—this picture so truthful in its minutest details, of which all mariners confess the vivid reality—was drawn by no mariner's hand. Only the inland seas, or rather lakes of Palestine, were known to her shepherd-king ; David could never have even looked upon the boundless waters of the mighty ocean.

We read that in that bright world which is to come, "when the first heaven and the first earth are passed away," there shall be no more sea.

No sea as here—where, as a wall of separation, she divideth the nations, she cometh between yearning hearts, and separateth the "graves of a household." No sea as here—where, with troubled and agitated breast, she symbols the restless desires, the changeful moods and destinies of man.

"There is sorrow on the sea, it cannot be quiet," says the prophet Jeremiah touchingly. Ah, therefore, is she not rightly chosen as the symbol of this life ?—"the waves of this troublesome world."

Yet strange is it that the sea, uncursed by her Maker as was the earth (for Adam's sake), should so much more closely seem to partake of the fitful nature of the human race than tranquil earth, transparent air, and fire unchangeable in its fervent heat.

There shall be in that better world no sea as here—when, vexed with rude winds, whitening in her wrath, she spareth none ; engulfing together the fierce reprobate, whose life hath been steeped in sin, and the innocent babe just born into the world—maidens in the sweet spring-time of their days ; and brave men, pillars of strength to loving hearts.

How terrible is her fury, but when that storm of passion has gone by, how bitterly she grieves it! Ah, who can listen to her moaning without tears?

Yet doth she work irreparable woe—irreparable till that last day when “the sea shall give up her dead.”

Thou fitful sea! wondrous in thy alternations as the expression of a human countenance, as the changes of a human heart, it accordeth well thy destiny thus linked with poor humanity.

The tempest has passed—look again, the vexing winds are hushed, the sun shines out, ineffable beauty and gladness illumine the face of the waters. She looks to the heavens, and their ethereal brightness is reflected far down into her sapphire depths. Tender as a young mother now she rocks the play-boat of a child, or tosses an infant’s ball to make the little ones smile.

No sea as here—but in that wondrous vision seen and described by the “disciple whom Jesus loved,” we read of the “sea of glass like unto crystal” “before the throne,” and in that “sea of glass mingled with fire,” “them that have gotten the victory,” “the redeemed of the Lord,” “shall stand, having the harps of God.”

The sea, the Red Sea is passed!

Ay, take your timbrels and go forth, ye daughters of Israel, praise his name in the song and in the dance. Let the sweet voices of the women answer the singing of the men. “Sing ye to the Lord, for he hath triumphed gloriously.”

And yet but a few days hence and the bitter waters of Marah shall be an offence, and an occasion of falling unto you.

The Lord God Almighty, who brought you out of Egypt “with signs and with wonders,” is his hand shortened that he cannot save? He by whom the heavens and the earth were made, and all things therein, to whom “the nations are as a drop of a bucket, and are counted as the small dust of the balance, who taketh up the isles as a very little thing,” could he not sweeten those few drops of bitter water? The

God of your fathers, the Shepherd of Israel, would he let one of his sheep perish of thirst?

Christian reader, tarry for an instant. Do we ever mistrust the Lord our Shepherd? Do we not, even as the Israelites of old in some little matter it may be, seem at least by our despondency to mistrust the love or the power of the Most High?

Rescued from bondage, baptized into his glorious Church, conscious of his saving presence by the uncounted mercies of every hour,—let one bitter drop in life's full cup of mercy touch our lips, and straightway we are offended or cast down.

We dare not, nay, we would not murmur; perhaps it is for an instant only; but do we never so mistrust His goodness which is over all?

Dear brothers—sisters—and poor weak heart of mine, this should not be. Disobedience provokes the Majesty on high; but distrust "*grieves*" the Father, the Spirit, the Saviour Son.

They "*limited*" the Holy One of Israel, "they said, *Can* God furnish a table in the wilderness?"

And even so do we, forgetting the precious promise, "As thy days so shall thy strength be," we throw ourselves unarmed into the imaginary host of coming evils,—must we not therefore be cast down?

The Israelites journeyed from the bitter waters of Marah unto the "twelve wells of water, and the threescore and ten palm-trees" of Elim.

Most true image of the whole world journeying through the wilderness of life, "hungry and thirsty, their souls fainted in them." There were no waters but the bitter waters of Marah, until "the Day-star from on high arose with healing on His wings."

When the fulness of time was come, the Gentile world groping in darkness saw a great Light; they were led as to another Elim, typified by the old Elim.

The "twelve wells of water," were they not as the twelve apostles of the Lord ?

Wells were they, filled from the Fountain of living waters, well-springs springing up into everlasting life, whose streams should be for the refreshing of men, leading them unto "the pure River of Water of Life, clear as crystal, proceeding out of the throne of God and the Lamb" (Rev. xxii. 1).

The "threescore and ten palm trees" were even as the seventy disciples,—fair and fruitful trees, where all beside was barren.

"Trees of righteousness, the planting of the Lord ;" "Trees planted by the rivers of water, bringing forth their fruit in their season, whose leaves also shall not wither." Branches springing from the Tree of Life, whose leaves were for the healing of the nations.

As individuals we too must drink of the waters of Marah. Sooner or later all of mortal mould must taste the bitter cup. To God's children—to those who drink in faith—the trial-draught is sweetened by the assurance that a Father's hand mixes the medicine given in love to heal some sickness unknown perhaps unto ourselves, but which unhealed would be a sickness unto death eternal.

But when we have drank of Marah's bitter stream, thus sweetened for us by Faith, led by God's hand we too shall reach our Elim. *Elim*, the "strong trees," the "trees of the desert," a grateful shelter for us, where we shall find sweet waters well-springs of joy.

All ye that love the Lord, say is it not so ? Is not the trial-hour, the day of adversity, followed by a "time of refreshing ?" Journeying through life's wilderness our tents are for a time pitched by fair clustering palm trees. In their cool shade, and the crystal springs found ever near to them, our hearts rejoice. We go on our way again with faith renewed, hope strengthened, love refreshed, knowing that with Jesus for our Shepherd, every day brings us nearer that perfect rest which remaineth for the people of God. The "still waters," the "green pastures" of the better land.

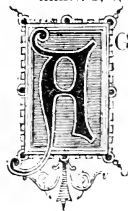




## Jericho.

### IR-HAT-TEMARIM—THE CITY OF THE PALM TREES.

"And Moses went up from the plains of Moab unto the mountain of Nebo, to the top of Pisgah, that is over against Jericho. And the Lord shewed him all the land of Gilead, unto Dan, and all Naphtali, and the land of Ephraim, and Manasseh, and all the land of Judah, unto the utmost sea, and the south, and the plain of the valley of Jericho, the city of palm trees, unto Zoar."—DEUT. xxxiv. 1, 2, 3.



GAIN the palm trees beckon us to a scriptural scene of exceeding interest, one altogether different from either of those we have just been contemplating.

Not now do the palm trees themselves present the prominent feature, though the position they hold is most significant.

It is not as at Succoth, the first tabernacle of the Jews, where their friendly branches, passing rapidly from hand to hand, were woven into the leafy coverts where, on their first night of freedom, a rescued people should repose.

Not as at Elim, where the rustle of the leaves of the trees of the desert was as music to the ears of the tired wanderers, who, at sight of their waving plumes, rushed forward with renewed strength to find beneath their shadow protection from the hot noontide sun, and cool waters to quench their thirst.

In the present picture, though distinct and lovely, palms are only seen in the distance. Delicately pencilled against the azure sky, a cluster of dark waving plumes sentinel the lofty walls of a fair city, "fenced up to heaven."

Not now is our interest divided ; the eye roves not over a mixed multitude ; it is not bewildered by many figures challenging its gaze in turn.

Here the whole interest is concentrated on one figure, majestic, silent, and alone.

Yon distant city in the grove of palms is Jericho, the city of palm trees.

The solitary individual we behold is the chosen leader of God's chosen people—Moses.

He looks for the first and last time on the Promised Land.

Oh touching scene, veritably beheld by no human eye, but which nevertheless has, from all time and amongst all people, fastened itself on the imagination and affection of man!

The superb figure—Moses, as a babe “exceeding fair,” as a man “mighty in words and deeds.” A hundred and twenty years have silvered the old man's hair, but “his eye is not dim, nor his natural force abated.”

The lovely land—Judæa, chosen for its fair perfections out of the whole earth to be the inheritance of God's ancient people, and to be sanctified as the birth-place of his blessed Son.

Oh world-renowned prospect, on whose beauty, nearly five centuries before, the eyes of princely Abraham had rested! His descendants now were brought to inherit God's promise made unto him.

Hill and valley, river, plain, and richly-wooded ravine. To the right, “the land of Gilead and Dan,” its mountain ranges magnificently clothed with the arbutus and the oak ;\* “the distant hills of Naphtali” melting away into the blue horizon ; “the land of Ephraim and Manasseh ;” openings of the western hills ascending from the Jordan valley, giving glimpses into the heart of the country, rich grassy plains

\* For the beautiful picture from which this slight sketch is taken, the writer gratefully refers her readers to the most interesting pages of “Sinai and Palestine,” by Stanley.

enchanting the eye of a wanderer in the weary wilderness. Before him spread "the land of Judah unto the utmost sea;" far in the dim distance on his gifted sight may have glimmered that shining sea, like the first streak of coming day. The hot desert of the south was as a line of fire, and on its borders Zoar. And seen through an opening of the steep descent into the shadowy Vale of Jordan was Jerusalem! "Beautiful for situation, the joy of the whole earth, Mount Zion," chosen to be the city of the great King. And Bethlehem, too, was visible to his prophetic eye, crowned with the radiance of the Day-star which should there arise.

At Moses' feet a magnificent oasis of palms extended, three miles in length and eight miles in breadth; and from thence gleamed out the white walls and crowning towers of the proud city—Ir-hat-temarim, City of Palm Trees; Jericho, City of Moon-worship—the key of Palestine, destined to be the first prize of its Heaven-appointed conquerors.

But not for him—their leader for so many long and toilsome years—not for him is that splendid conquest designed. He looked on his children's inheritance; but his fatherly hand will not conduct them there. "The good land" was before him, fairer than even he had pictured it in his dreams. The anticipation of its joys, its delicious repose, had sustained him through countless hours of weariness; but not for him were those joys and that repose.

The deep, dark valley of the Jordan lay between.

He had besought the Lord, "I pray thee let me go over and see the good land which is beyond Jordan." But he who had so often prevailed with God was powerless here. "The Lord was wroth." The Lord said, "Let it suffice; speak no more unto me of this matter." "Get thee up into the top of Pisgah, and lift up thine eyes westward, and northward, and southward, and eastward, and behold it with thine eyes, for thou shalt not go over this Jordan."

In the might of the Lord Moses had "stretched out his hand over the sea," a mighty and terrible sea," and his

people and himself had passed safely through. But when that might is withdrawn, the little stream of Jordan becomes an impassable barrier.

The mouth of the Lord hath spoken it. Moses his servant must suffer the chastisement of his sin.

A voice from the "great white throne" speaks to us from the mount of Pisgah.

Loving-kindness and "mercy" are the dearest attributes of "our Father which is in heaven." They are as the "bowels" of the Almighty which are "troubled"\* for his erring children; but justice is as "the breath of his nostrils."†

The Mount of Pisgah has an abiding interest, not only for the Christian and the Jew, but also for the Moslem. The follower of Mohammed holds sacred the memory of Moses. Mountain, valley, bath, well, and cleft in the rock, are revered wherever linked with traditions of his honoured name. Nay, unbelievers as they are in the sacred words which we know are literally fulfilled, "that no man knoweth of his sepulchre until this day," the Arabs hold as sacred a lonely mosque which, from an opposite height, overlooks the Dead Sea, covering, as they suppose, the grave of Moses. So sacred is it, that none but a Mohammedan's foot may cross the threshold. The sighing of the wind down the Pass of Nuweybia, on the Gulf of Akaba, is to this day called the "wailing of Moses," on leaving his loved mountains.‡

But let Moslems reverence as they may the memory of Moses, seeking to do him honour by name-places, legends, and mosques, untaught by the Holy Spirit of the Eternal Trinity, they have let go the noblest feature of the scene.

Well was it for Jephthah's young daughter to bewail herself upon the mountains; but shall Moses—intrepid warrior, majestic lawgiver, before whom Pharaoh had trembled, who

\* Jer. xxxi. 20.

† Job iv. 8.

‡ Stanley's "Sinai and Palestine."

had gone up into the midst of the cloud on Mount Sinai—shall he “bewail” himself like a tender girl?

Of all the many triumphs of his grand eventful life, there is none to compare with this last superhuman triumph of his faith in the closing hours of his mortal career.

Like the magnificent setting of some glorious day, his life was more kingly in its close than even in its radiant dawn.

What were the brilliant successes of his youth, and the yet higher achievements of his older years, compared with that full measure of God’s strength now bestowed, enabling him at this time to afford the sublimest spectacle wondering man ever beheld performed by man.

See now the aged ruler. He has brought his people to the borders of the Promised Land. How goodly is the heritage! how fair and pleasant is the land! “His eye is not dim, nor his natural force abated.”

A warrior from his youth, his pulses must have beat loud. The noise of approaching battle was in his ears—the clarion’s call, the trumpet’s cry, the clash of swords, and the rattling of spears! Victory! victory! for the Lord of Hosts is on Israel’s side! But it is not *his* voice which shall rally the victors round the standards of their tribes—not *his* voice which shall lead the song of triumph as it was wont to do, answered by the sweet voices of the women singing with their timbrels.

A tender and loving ruler, he must have longed with his own eyes to see his children’s “lines fallen unto them in pleasant places.”

A faithful servant of God, he must have eagerly desired to behold his Master’s honour, his faithfulness, and truth, confessed by those who had so often dared to gainsay it.

In a mighty heart like his, how vast must have been the aspirations struggling together at such a supreme moment!

A little further and his foot would have pressed the banks of Jordan. But the hand of God arrests him.

Stay, eager foot! be still, O panting heart! His passionate appeal is in vain; and Moses the servant of God is content.

Even as our great Exemplar, of whom Moses and the prophets spake, should say in after days, "If this cup may not pass away from me, *Thy will be done.*"

Oh simple sounding words, uttered morning and night by grandsires and babes throughout wide Christendom!

Oh, do we mean what we say?

The light of our eyes, the melody to which our heart-strings vibrate, all, all for which we care to live—the answer to that prayer may be, to sweep our summer sun away, to bid the music of our hearts be still, to make this world be unto us a silent midnight world. "*Thy will be done.*"

It may be giving our consent to the denial of some agonized prayer that our poor quivering heart had just before gasped out. Yet still—" *Thy will be done.*"

God in his mercy help (and most assuredly he will) the trembling lips that in all faithfulness still falter forth these words.

The prayer of Moses was rejected—rejected by his Father—God, whose wisdom, power, and love were infinite.

What did he then? Again he prayed, but never more for himself. For whom, then?

For his successor; for him who was to reap the dazzling harvest of Israel's glory, the seed of which Moses had planted, and watered with his tears.

For his ungrateful and rebellious people, who had chode with him, striven with him, mistrusted him, ever murmuring and dissatisfied, till even his patient spirit had given way, and he had prayed for death to be rid of his "wretchedness."

But now, on the borders of the eternal world, all is forgiven, all forgotten, save his deep, abiding tenderness for them, and his generous interest in him who should succeed him in the rulership.

How earnestly he pleads with his people that they might

“choose life;” and for each tribe he has words of especial blessing.

How affectionately he bids Joshua, “Be strong, and of good courage;” and then bursts forth into a glorious song of praise, his last on earth. But we hear not now the voices of the women answering with timbrel and harp. The word of the Lord had gone forth—Moses was to “go up” and “die in the mount.”

And, so, in silence and tears, his repentant children drank in the last accents of his voice, standing by the doors of their tents encamped amidst the acacia groves.

One last long look he gives them all. The hush of evening is on earth and sky—all is at peace, all beautiful and bright—as the silver-haired old man, stately in form, with steady steps and calm untroubled brow, turns to ascend the mount.

Never by human eyes to be beheld again, till in his glorified body he shall with Elijah stand on the Mount of Transfiguration. The representatives of the law and the prophets, summoned from their bright homes, rejoicing witnesses to the incarnate Son of God.

Never in human form was princely Moses so sublime as now. His eyes were fearless when the Red Sea's mighty waves wrestled at his feet like wild beasts hungering for their prey. His cheek blanched not when he alone went up into the midst of the cloud on Sinai's Mount, where the glory of the Lord was like devouring fire.

But now an *invisible death* awaits him.

Yet his own inspired lips had just spoken the words, “As thy days so shall thy strength be.” “The eternal God is thy refuge, and underneath are the everlasting arms.”

Shall the fountain which supplied such precious drops be itself dried up? Oh, no!

Majestic in look, and step, and mien, Moses ascends the Mount, nor ever looks behind.

Be sure that spirit-voices sounded in his ears, and on that

sun-illumined mountain top his eyes beheld a company of white-robed angels, and amongst them there was one of graver beauty than the rest, who would conduct him to the presence of his God.

“And no man knoweth of his sepulchre unto this day.”—  
Deut. xxxiv. 6.

The children of Israel, with their leader Joshua, passed over Jordan, and Jericho was taken. Ir-hat-temarim, the city of the palm trees, a fenced city, Jericho, the key of Palestine, was delivered into the hands of her heaven-appointed conquerors.

But if, as doubtless there were, many in that invading host who trusted in their own arm to help them, how humbled must they have been by their very victory. Truly was it shown in the sight of all men, most significantly, in this their first prize in the land of promise, that “they got not the land in possession by their own sword.” It was given to them without the striking of a blow.

Who has not pictured for themselves the events of that siege, so vividly set forth by holy writ ?

That solemn procession compassing the doomed city. Joshua, the commander of Israel’s hosts, was there to marshal and to lead. The seven priests, with the seven trumpets; the armed men, the rere-ward coming after the ark of the Lord, the priests going on and blowing the trumpets.

Within the city the wondering and terrified inhabitants, in breathless suspense, intensely watchful, but paralyzed with a nameless dread. The news had reached them of the miraculous passage through Jordan. What were earthly defences against such mysterious foes ? The voice of doom spake to them in the slow solemnity of each deliberate movement of those strange troops. With such a mighty enterprise before them, and so unnaturally calm, a whisper that could not be traced seemed to say, they needed not to haste who knew their victory was pre-ordained.



Then, on the seventh day, when the city had been "compassed seven times," the "trumpets sounded," and "the people shouted with a great shout," and the walls of Jericho, that great city, "fenced up to heaven," "fell down flat," and "the people went up into the city every man straight before him, and they took the city."

Centuries rolled by, and in spite of the dreadful penalty invoked by Joshua on whosoever should rebuild the city, it was dared by Hiel, the Bethelite, in the days of Ahab, and on him the curse fell. "In his first-born" was the foundation laid, and "in his youngest son" were "the gates thereof set up."

Risen from its ruins, Jericho became the school of "the sons of the prophets," and the frequent sojourning place of Elijah and Elisha.

The key of Palestine retained its value through all the changeable destinies of its people.

The magnificent palm groves and gardens of balsam were the princely gifts bestowed by the infatuated Anthony on Cleopatra. Herod the Idumean redeemed them from her for himself, and in this city of ancient name he died a death of torment from a loathsome disease which the healing springs of the neighbourhood which he had sought were powerless to cure.

The babe of Bethlehem, whom Herod had vainly sought to put to death, when grown to manhood passed through this city on his last journey up to Jerusalem, there to be received in triumph with palm branches as a conqueror—there to yield Himself up to a malefactor's death on the cross.

But let us once more for an instant glance at that great siege which sacred chroniclers record.

"The trumpet sounded," and "the people shouted a great shout," and the *walls* of Jericho fell flat, but the palm trees that surrounded them stood unshaken in their calm majestic beauty. Those lofty walls rose up again, grandeur and pro-

sperity was again the city's lot ; but her final doom was at length accomplished, Jericho fell to rise no more, but still the stately palm trees survived. They had beheld the infant city rise, on her their name had been bestowed ; great and powerful as she had been, they had witnessed her decay. But for centuries succeeding, when Jericho itself was but a ruined village, the palm groves of Jericho were celebrated in all lands.

Alas ! for " haughty Jericho's cloud-piercing wall," utterly desolate now, some of the foundations of her external walls alone remain to mark its actual site. A few miserable huts, " ruins built of ruins,"\* surrounding a square Saracenic tower, called the castle, which is the residence of a sheik. Jericho, the city of moon-worship, has fallen never to rise again. Alas, too, for its glorious palm groves that lingered up to the last century, they have at length departed one by one, having outlived the city's walls for more than three thousand years.† One solitary palm tree, representative of the ancient forest, in mournful grandeur long remained an object of reverence to pilgrims from all parts of the world. Fallen at length, she may have seemed to say in the language of a desolate queen, " Here I and sorrow sit ; here is my throne, bid kings come bow to it."

She too has passed away a quarter of a century ago, and the strange sad flower that cannot die lingers alone on the sandy plains of Jericho ; and travellers stoop to pluck the flower that looks not like a flower, even as Crusader knights of old bore it on helm and shield, but for its name sake,—the " rose of Jericho," or " Rosa Maria" (*Anastatica hierochuntica*). A strange unlovely thing, a mockery of its sweet name, unlike a rose in all things, without her beauty or her fragrance, life in death, death in life, it looks not living, but it cannot die.

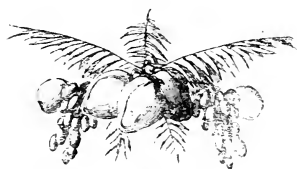
\* Roberts' " Holy Land."

† " Of which relics are still to be seen in the trunks of palms washed up on the shores of the Dead Sea, preserved by the salt with which a long submersion in those strange waters has impregnated them."—Stanley's " *Sinai and Palestine*," p. 144.

The "seven trumpets" sounded, and the lofty walls of the fenced city fell flat. Shall we not think of that day when, to the "seven angels which stand before God," shall "seven trumpets" be given, and when the "seventh angel" shall sound, "great voices in heaven" shall be heard, and "the kingdoms of the world shall become the kingdoms of our Lord and of his Christ."

Then shall the walls that have been built with "untempered mortar" fall, for in that day those that have sought to build upon their own righteousness, "as a bowing wall shall they be, and as a tottering fence."

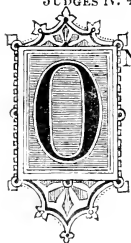
But the "trees" of "the planting of the Lord" shall stand. "The righteous shall flourish like the palm tree," "shall flourish in the courts of our God."





## The Palm Tree of Deborah.

“And Deborah, a prophetess, the wife of Lapidoth, she judged Israel at that time. And she dwelt under the *palm tree* of Deborah, between Ramah and Bethel in Mount Ephraim, and the children of Israel came up to her for judgment.”—  
JUDGES IV. 4, 5.



ONE more picture of a living palm tree as connected with the story of the Jewish people ere we turn to a closer and more individual contemplation of itself as a significant emblem in their poetry and their architectural representations.

The four first scenes thus marked out for us on the pages of holy writ by the mention of the palm tree, how complete a whole they make.

Interesting epochs, and strongly contrasted.

As if consciously and with intention, the palm tree, eloquent in her beauty, stands prominently forward in these four successive scenes. It is as if she would point some lesson to be learned at each.

At Succoth, on the borders of the “land of bondage,” the newly-redeemed people,—frightened sheep plucked from the jaws of death just gathered into a flock,—are docile and obedient, glad to seek their appointed covert.

At Elim the trees of the desert, the journey begun has already sufficed to show the rebellious spirit of the people, the power and long-suffering of their God. The bitter cup has been tasted, cool waters and refreshing shade are given.

At Jericho the palm trees saw another sight. Afar off on the mountain's side they beheld the crowning scene in the

life of him who "endured," as "seeing Him who is invisible." They heard too the trumpets sound, and the shout of the conquerors, and they saw the walls of the city fall, and the key of the promised land given into the hands of Joshua.

And now, beneath a palm tree in Palestine, a Jewish woman sits a ruler over her people,—Deborah, a prophetess.

A picture in itself full of significance, but yet more touchingly so if we see in it also the prefiguring of that picture which is to come.

After many years of alternate prosperity and adversity, according as she sinned against God or turned unto Him repentant, the long-suffering of the Lord is exhausted, the cup of her iniquity brims over. No Deborah shall awake, no Barak shall arise to deliver her in God's name from her enemies. And then, even as a woman seated beneath a palm tree shall captive Judea be represented on the coins of her conquerors.

In the days of her prosperity the vine was Judea's emblem. The Syrian vine, by whose rich clusters the desert wanderers were assured of the land's fertility,—first fruits to them of the land of promise,—and which in our day, even when transplanted into our land, excites wonder by its marvellously abundant produce. We read in the Songs of David of the vine as the symbol of Judea, and as such it was the chosen figure on the coins of her native Maccabean kings.

That the palm tree was then as now "the exception, not the rule"\* in the landscapes of Palestine, makes the fact of its being connected with her on her Roman conquerors' coins the more striking.

Throughout her long captivity the palm tree has been indissolubly associated with Judea throughout wide Christendom. Type of an enduring vitality that no oppression can utterly subdue or finally annihilate, even as that Holy Land, fallen and oppressed, yet lives abidingly in every Christian heart, and will assuredly, at God's appointed time, spring up

\* Stanley's "Sinai and Palestine."

with renewed life, and freed from bondage be again the glory of all nations.

The trees of Scripture, how eloquent are they all! Deborah's Oak,—another Deborah, Rebekah's nurse,—“Allonbachuth,” the “oak of weeping,” has its touching tale to tell. The faithful servant's grave, so honoured so lamented.

These two trees, not far apart, whose names for centuries have survived, whose fame has outlasted that of many a proud city—how eloquent they are! Let us take but one of the many lessons they afford.

All stations in life are made honourable by the children of God. Duty fulfilled, whatever that duty may be, is pleasing in the sight of Him who is so infinitely glorious that in His eyes what seems to us the great distinctions of this world are as nothing. Living dust, it needs man's microscopic eye to distinguish between the larger and the smaller grains. To Him their degree of vitality is all. In the great Creator's sight the dust of this world is looked upon but as the seed-plot for eternity. In that light, exceeding precious unto Him is the very smallest grain of living dust in which He beholds that germ which, through the blessed influence of the Holy Spirit, shall become a seed springing up to everlasting life. “To every seed his own body.”

And so did the nurse Deborah, whose name has been given to the “oak of Beth-el,” do unto God true service in the lowly lot assigned to her. As a servant faithful in that which was given her to do, her one talent was not buried, but turned to good account.

The Deborah we read of in connection with the palm tree of Bethel, had a different part to perform, which she too as faithfully fulfilled. To her the five talents had been given, and she had delighted to do “according” to her “ability.”

The queenlike palm tree which overshadowed her dwelling, with its magnificent leaves affording shelter—with its abundant clusters of golden fruit supplying food, gives us at once a picture of the stately woman who, a “mother in Israel,”

was, as ruler, prophetess, and poet, so greatly honoured and beloved.

As a wife, subjection to her husband would temper with womanly gentleness the commanding dignity consequent upon and befitting her exalted position.

As an example of female rule (an exceptional case, however admirable the world's history has proved it to be), her name is curiously appropriate—Deborah—a bee.

It seems strange that so soon after such leaders as Moses and Joshua, the yet unsettled tribes of Israel should have selected a woman as their ruler, to whom they should go up "for judgment." A ruler, too, in stormy times; for the yoke of the Canaanites, left as thorns in their sides through their own disobedience, had pressed heavily on the Israelites for twenty years. In their distresses, they, as disconsolate children, went up to their mother for advice.

Although of a northern tribe (as we gather from her song when the princes of Issachar are joined with herself), she had made her dwelling beside a palm tree of Mount Ephraim, and from thence she summoned Barak out of Kadesh Naphtali. At her bidding Barak hastened to her; but prince as he was of Naphtali, he, whose name signified "lightning," dared not go up into Mount Tabor with his ten thousand men, unless Deborah went with him.

Little wonder indeed that the hearts of mighty men sank within them, conscious as they were of having provoked the anger of the Most High in choosing to themselves "new gods." Now that the hour of peril had come, they felt that in Jehovah alone was their strength, and that His servants alone could be assured of His blessing.

Deborah knew in whom she had trusted; and in that terrible day, when men's hearts failed them for fear, the "mother in Israel" knew no fear. "I will surely go with thee."

Again, was it to be proved, as it is so often set forth in the history of the Jews, and experienced by ourselves, that

with the "Lord it is nothing . . . to help, whether with many or with them that have no power."

Jabin, king of Canaan, reigning in Hazor, had nine hundred chariots of iron, and the captain of his host was the mighty Sisera. In Israel there were dissensions, divisions, and heartburnings, and many of the tribes stood aloof from the combat. On this, the first conflict on Esdraelon's plain, so often in later years a battle-field, it was plainly shown, in the sight of all men, from whom the victory came.

Ere Barak, with his small but gallant band, willing to jeopardy "their lives unto the death," could, at the word of the prophetess, rush from their mountain position on the vast army, with their chariots of iron, awaiting them on the plain below, the voice of the God of Battles was heard. "The stars in their courses fought against Sisera."

A mighty storm arose; the sky grew dark; fierce winds rushed by, driving the blinding rain into the faces of the foe; hailstones like javelins hurtled in the air; that ancient river, the river Kishon, swelled to a torrent, foaming overleaped its banks, and swept the dread chariots and their plunging steeds away.

Amid the wild confusion of the mighty host overthrown, the discomfited Sisera leapt from his chariot and fled away on his feet, to meet his death beneath the black tent of a Kenite; while Barak, his name of "lightning" redeemed, now pursued with avenging sword, till there was not a man left before the conquering Israelites.

There was no Moses now to lead the song of triumph, and Deborah, like Miraim of old, bade Israel rejoice. With Barak, her successful commander of the troops, she sang the song of praise; the clash of spears and the echoing shout responding joyously as the names of each valiant tribe rang from the inspired lips of their chieftain mother.

And Deborah returned from the field of victory to her quiet home beside the stately palm tree. And the land had rest for forty years.



Beth-el, the House of God, was in a stony region, the stones of which cry out with a voice which hath gone out into the ends of the world. North and south, and east and west, wherever the one true God is known, there is the name of Beth-el loved and honoured. The name has passed from among the living cities of Judea, but it yet lives in many a hallowed place of prayer.

The oak of weeping, the grave of the faithful nurse, was in the valley beneath ; the palm tree of the prophetess stood on the height above.

The palm tree of Deborah retained, long after her death, the reverence attached to it at the time when the children of Israel went up to her for judgment, combined with a tender recollection of the home of the mother they had loved.

The well-known landmark is supposed to be the same that nearly a hundred years later, was known as Baal-tamar, "the sanctuary of the palm." In the time of the Judges it had become the place of assembly of the councils of the nation.





## The Similitude of the Righteous.

“The righteous shall flourish like the *palm tree*.”—Ps. xcii. 12.



HOMELESS nation wanders through the earth ; a dead city has risen from its grave to prove the prophetic truth of Scripture—to establish it as the Word of God. There are rich lessons contained not only in the solemn precepts and precious promises of Sacred Writ, but also in its lovely similitudes they are ever living and surround us on all sides. No obsolete figures are they, requiring commentaries to explain them, which must be dug out of mouldering volumes of the past. In the unchanging East the greater part of them are as fresh and forcible now as when they were uttered centuries ago.

Bible images are the home pictures of every day ; they are with us in our dwellings, or about us in our walks. If at times they are peculiar in their eastern origin, talking of lands more sunny than our own ; yet they are still so easy to be described, so capable of being brought before our minds, that throughout the whole world little children are quick to understand them, and the scarcely awakened perceptions of the savage are impressed by their beauty and force.

Unto some of these similitudes, inspired by Divine Wisdom, there would seem to be given a significance beyond the simple outward truth which is at once apparent ; an admirable completeness of illustration from its inward perfection, which grows upon us the closer we look into them.

Who has not experienced the charm of this deeper meaning, unfolding itself in passages of Holy Writ ?

Some sacred line we have read and re-read for years, we read again ; some new phase of existence has sprung up for us ; we are in altered circumstances, and a new light has fallen on the page. It may be the rosy gleam of some hope newly dawned ; it may be the starlike glimmer of some falling tear ; but in that light, whatever it may be, some precious gem has flashed out upon us. It has been always there, but until now unseen by us.

And even so is it with many a similitude used to illustrate divine truth. Written for all time, time shall but shed increasing light on every page, and bring forth yet more vividly the exquisite completeness of each analogy.

May we not humbly hope, if sought for in earnest prayer, that the blessing of the Holy Spirit may rest on the increasing knowledge of the day. The discoveries of science, the triumphs of art, each added intelligence, each original thought, may all be consecrated to His service with whose glory the universe is filled, and from whom cometh every good gift.

New lands, new continents, unfold new treasures unto us. Prophets and saints, and holy men of old, the incarnate Son of God himself, have all united to make the *Old World* vocal to his praise. May we not, on whom the latter times have fallen—we his younger children, destined, it may be, to behold ere long “a new heaven” and “a new earth”—may we not, ere these pass away, in humility seek to give, if but a feeble voice, to some of the glorious creations which embellish the *New World* already bestowed on us ?

The Date Palm of Judea speaks to us in the matchless tones of David's harp. Let us reverently listen to the message she unfolds. But from many a distant land then unexplored—from many a sister palm tree then unknown—that message is re-echoed to us. We catch, as it were, sweet voices eager to be heard, as they too, in the name of the

great God that made them. seek to testify to the truths their elder sister taught, and, with yet fuller development, to impress them more strongly if possible.

Forcible as was the similitude of "the righteous" when solely applied to the Syrian "palm tree," what added force and beauty has it not gained since it was uttered nearly three thousand years ago? Some of the peculiar characteristics of palm trees as a race, since then discovered, even now generally unnoticed as to their significance, seem to crown this analogy with such completeness as to make it perhaps the most perfectly beautiful similitude ever employed. Those points in which the members of this family differ the one from the other, being as strikingly illustrative of their parallel to the righteous, as those in which as a race they resemble each other.

This singular agreement in individuals otherwise widely contrasted, such agreement and such differences being more marked in the family of palms than in almost any other of the vegetable kingdom, is one of those lovely analogies hitherto unnoticed which meets us first in the history of the palm tree.\*

The first grand distinction of the palm family as a class—not originating in a poet's or an artist's fancy, but determined by the careful and rigid requirements of botany as a science—is eloquent indeed.

To give yet more life to our analogy, let us first borrow from the pages of an accomplished writer his description of a vegetable.

"Most vegetables have an upright body with vessels ascending and communicating with each other as in us; but with sap instead of blood, with woody fibres instead of bone, with *pith instead of brain and nerve*, with bark or rind instead of skin or hide. Their leaves imbibe air as we breathe

\* The reader's indulgence is besought for occasional repetitions in this chapter of points of interest already brought forward in the earlier parts of the work. Such repetitions being unavoidable in the chapter relating to the text which suggested the work which necessarily requires the full development of the whole theme.

it and also light and moisture, and in their continual motion answer the purposes of our respiration and exercise. They also imbibe and expire an aerial fluid. . . . They require food as we do, but their roots are their mouths. They are living beings, but with no power of spontaneous moveability from their first station of development."\*

Vegetables assuming the form of trees are divided into exogens or endogens.

Under the former head are ranged, oaks and elms and most forest trees of temperate regions.

Under the latter are classed palm trees and some others of tropical growth.

*Exogenous* may be described as growing by the *external* depositions or increase of the woody fibres, or *outward growth*.

Endogenous by the internal deposition or increase of fibre inwardly, or *inward growth*.

This internal deposit, or pith or "marrow," as it has been called, was considered by Linnæus to be "the seat of life," even as the brain to which it is likened above is supposed by some to be the seat of life in human beings. By others this pith or marrow in vegetable forms has been termed the "reservoir of vital energy." How significant then according to either is the analogy suggested by the words, "inward growth," growth of the spirit—unseen—save only in its effects.

What effects? Not such as are found where the growth is outward only.

"Here is a knot it was a crime, here is a canker selfishness,

See here the heart-wood rotten, see there perhaps the sap-wood sound." †

The endogenous or inward growth shows no such vital irregularities; it is in some slow, in others quick, but in all it is a consistent even growth, unaffected by outward circumstances.

\* Sharon Turner's "Sacred History."

† Tupper "Proverbial Philosophy"—"Yesterday."

A drought does not narrow its rings, nor are they swollen when waterfloods prevail, nay, its growth is uninjured by things which touch it very closely.

The brilliant Orchideæ's dazzling wreath hurts not the palm tree, nor does the serpent-like coil of the insidious gourd, nor the tenacious grasp of the wild fig.

Even so shall "the righteous flourish" like the palm-tree's inward growth, unharmed by flattery, by envy, or by hate.

It lovelily shows forth,—

Upright stature, evergreen leaves, fair blossoms and abundant fruit.

No "root of bitterness" infects the noble tree, very sweet are the kindly juices contained in its smooth and upright stem. In the East, sugar is made in large quantities from the sap of the Date Palm, the Palmyra, the Coco Nut, and *Arenga saccharifera*, one of the sago palms. The liquor itself, as it flows freshly from the tree is sweet and wholesome, but if left to ferment it becomes intoxicating. Alas, do not even our good qualities require continual watchfulness lest they corrupt and become a snare.

Not only sugar but honey, the yet more ancient emblem of sweetness, has been procured from the palm tree, while sugar was yet unknown. We learn from Rabbinical traditions that the *honey* of the Date Palm, and even the dates themselves were wont to be offered unto the Lord as amongst the "first fruits."

Honey is obtained from the fruit of the Date Palm as well as from the sap of the tree. In Barbary this honey is the "dish of honour" placed before the principal guest.

In South America, a palm of Chili, *Jubea spectabilis* yields abundantly a syrup much esteemed which is sold as, "Miel de Palma," palm honey.

The sap or juice which supplies the inward growth of palms, in some species thus yielding sugar and honey, in others, affords in the starch produced for the formation of their flowers a very precious farina. On sago, the Papuan

word for bread, millions of human beings entirely depend for their subsistence. To obtain this the tree must be cut down, as it is in its very heart that this inestimable treasure is contained.

To many of the righteous is denied in this world all consciousness of their influence for good. But little words fallen from lips long silent in the grave, may, like the "mummy wheat," though for years unfruitful and hidden away, be at last brought to light and bear fruit an hundred fold.

The Sago Palm peculiarly exemplifies the curious and striking analogy suggested by "good fruits" as the produce of an inward growth.

Even as the growth of the palm tree *endogenous* is that of the lily (*Lilium candidum*), leaf after leaf is put forth till its full stature is attained, and the slender but upright stem is crowned with fragrant flowers of purest white.

Though not so richly dowered as the noble chieftains of her class, yet is the fair lily a most precious gift. Her leaves and her roots, like those of the palm tree, have healing powers; but were it only for their spotless hue, these stars of the garden must be dear to all who love to look and think upon "whatsoever things are pure, whatsoever things are lovely."

And though we grieve that our White Lily cannot be the Hebrew Shushan,\* yet doth her name at least remind us ever of one of the loveliest passages of Holy Writ. The blessed Saviour's gentle reproof to the over-anxious.

"Consider the lilies of the field, how they grow; they toil not, neither do they spin:" . . . . . "Wherefore, if God so clothe the grass of the field, which to-day is, and to-morrow is cast into the oven, shall He not much more clothe you, O ye of little faith!" (Matt. vi. 28, 30).

Gracious words to how many troubled hearts have ye not been, as whispered balm breathing out from the lily flower?

\* From whence our pretty English name of *Susan* is derived.

The lily growing like the palm tree is also a type of those whom God loveth.

“When Israel shall return unto the Lord,” “he shall grow as the lily” (Hosea xiv. 1-5).

Ah, even so we must “*return*,” such is not human nature’s natural growth. Through the Holy Spirit alone can we be made as the “trees of the Lord full of sap.” Through Him alone, “strengthened with might in the inner man,” we may “be called trees of righteousness” “filled with all the fulness of God.”

#### FIRMLY ROOTED.

Yet one more distinctive characteristic of the palm tree’s manner of growth, we would notice ere we contemplate the outward graces which are the lovely result of pure and unseen influences.

As sweet and wholesome fruit, “good fruit” can only be borne by “good trees,” healthy and pure, “full of sap,” so vigour and strength to bear such fruit abundantly and to maintain an upright stature are alike the proofs of the tree being firmly rooted.

The palm tree “holds fast” its ground in every soil, the shifting sand, the flooded plain, the arid rock, the mountain steep, the wooded valley’s rich deep soil.

The righteous can have but one firm holding ground, but that shall be given unto them wherever they may be.

Christ “dwelling in their hearts by faith,” they “being *rooted* and grounded in *love*.”

“God is love,” but where in this lower world may we find an image of such love? Where but in a “fountain of living waters,” “a well of water springing up into everlasting life.” In the Old and New Testaments they are set forth as types of His unwearied love by God himself.

A well-spring of water never failing.

Truest and loveliest type of love, in a world where *thirst* expresses best the greatest need of body and soul, even as



in the world to come the torment of hell is represented by the burning tongue, and in heaven we are told we shall thirst no more.

In one case only *thirst* is blessed, when even "as the hart panteth after the water-brooks," the "soul thirsteth for God," for unto that soul "in the wilderness shall waters break out and streams in the desert." And even so to the type of the righteous, to the palm tree's thirsty root is given the never-failing stream, a treasure hid beneath the burning sands.

The wild sons of the desert know that wherever the "Tree of the desert," the Date Palm grows, there they will also find the "diamonds of the desert."

Precious heritage of the children of Ishmael, life-giving streams as old, when from the suddenly revealed well the Egyptian mother sprang with the priceless drops to her dying child, restored by them to be the joy of her troubled life and to become the father of a great nation.

To palm tree dwellers on arid rocks is given the wondrous power of recalling to successive generations the gracious first miracle of our Lord, signifying how His *felt* presence enriches the commonest blessings of life.

Obedient servants, they draw as it were from great jars of stone, water, and lo! men see the vessels on their heads are brimming over with goodly wine. Palm wine from time immemorial known and esteemed.

#### UPRIGHT IN STATURE.

Upright as the palm tree is a proverb in Scripture, as it is amongst the Arabs in the present day. A woman's figure when straight and perfectly symmetrical is likened to the palm tree.

Solomon in his mystic "Song of songs" described the stature of the "Bride" the "Beloved" as like to a palm tree. The pillars of palm trees of the temple of Solomon and that of Ezekiel's vision carry on the analogy to the righteous and to the Church of Christ.

*Upright in stature*, can any epithet be more descriptive of the righteous?

“The *upright* shall dwell in thy presence” (Ps. civ. 13).  
 “I know also, my God, that thou triest the heart, and hast pleasure in *uprightness*” (1 Chron. xxix. 17.)

Upright “*uprising*” as its Hebrew name *Tamar* signifies, the palm tree’s very life is to spring upwards, no spreading abroad of lateral branches, no downward dropping of clinging roots, as with the Banyan, its companion in the East, binding it all too closely unto earth.

Married trees, as they often are, the Hindus call the union “a holy marriage.” The Palmyra Palm, encircled as it is by the strong arms of the Fig, still springs aloft, preserving her uprightness,—her graceful plumes, rising above the stature of her bearded lord, exquisitely illustrating the figure used by Solomon, “A virtuous woman is a crown to her husband.”

One by one the palm-tree’s magnificent leaves shoot forth, their bases merging into the stately stem, which is sometimes ringed, sometimes smooth, either retaining the mark of the petiole or footstalk or not, but ever increasing its erect stature till its full height is attained.

Palms are numbered amongst the very loftiest of trees. The giant *Calamæ*, or Rattan Palms, attain a marvellous height, five hundred feet and upwards. The stately Wax Palm of the Andes (*Ceroxylon andicola*) reaches one hundred and eighty feet, and the queen-like *Areca oleracea*, called by old writers *Palmeto Royal*, sometimes exceeds two hundred feet in height.

No heavy burden, no downward pressure avails to keep it down, to dwarf or distort its noble form and stature.

The stormy wind ariseth. The hurricanes of tropical climes are as mad giants in their fury: they buffet on every side, and forests are bowed down or torn up by their roots; but still one stately tree stands erect. A pillar of strength unshaken and secure, it will not bow or bend; to spring upwards is a necessity of its being.

Such is the glorious palm tree—true image of the athlete, the conqueror—and fitly is it crowned with the conqueror's wreath.

Laurels are the children of colder climes; they are for the victories of this world, but palm-trees are children of the sun. Children of light, soldiers of the cross, the noble army of martyrs claim the earthly image of their heavenly reward.

The conqueror's wreath is ever green.

The ever green palm tree carries on the exquisite analogy throughout: "Blessed is the man who trusteth in the Lord, whose hope the Lord is. For he shall be as a tree planted by the waters, . . . her leaf shall be green; . . . neither shall cease from yielding fruit" (Jer. xvii. 7, 8).\*

Her leaf shall be green, it shall not wither. Ay, even amid the burning sands of Eastern deserts and the "steppes" of the torrid zone of South America, which, during one half of the year is equally parched and desolate, still evergreen is the crown of the palm tree. In the one place it is the feathery Date Palm, in the other the fan-leaved Miriti Palm.

The evergreen crown in both pictures, the brave and contented spirit, even amid trial, showing forth the Creator's praise.

Would any learn their secret? Go dig about their roots, and the silver spring gushing forth shall tell of "streams" that "make glad the city" and the people "of God."

Green branches in all times and amongst all people be-token gladness, and are used as signs of homage; palm branches especially, in all countries where they can be procured.

The natives of the New World met Columbus on its shores waving palm branches in their hands. A mightier conqueror than Columbus, He who has opened to us worlds of immeasurable glory, once only hailed by stubborn men as conqueror

\* It is interesting to notice, in the parallel passage in Psalm i. 3, the same characteristics, only the gender changed, "Ye shall be my sons and my daughters, saith the Lord Almighty" (2 Cor. vi. 18).

and King, was that once hailed on Zion's road with "hosanna" and with branches of palm trees.

And since that day the palm tree's leaves, from all time revered by heathen and Jew, have been also honoured by Christians. They are carried as precious freight from shore to shore. In spring time they deck Christian churches for Palm Sunday; at harvest time the poor Jew weaves with them his simple booth, making shift in dingy city lanes to keep his Feast of Tabernacles.

And throughout earth's sunniest lands living palm trees wave their green leaves of varied shape and size to laud and magnify their Maker's name. "Green things upon the earth" and "fruitful trees" blessing and praising the Lord. True witness-bearers unto Him, showing forth His bounty, so that in many lands poor heathens hold that the wondrous palm tree was an individual gift to them from the very hands of a god.

Oh, that our human lives may so reflect God's dearest attribute of love that to some fellow-creatures' hearts gladdened by us we too may be as a "God's-gift."

Of varied shape and size, the rustle of the palm leaves has for us yet another lesson.

Gladness, cheerfulness of spirit, like all God's inestimable gifts, is bestowed on His creatures in different degrees and measures.

Let those, on whom it has in its fulness been bestowed, bless and thank God, and deal tenderly with those less gifted. Let our green branches wave a gladsome sight to all. We think scorn of those who are niggard of their gold, why should we be chary of smiles, bright looks, and cheery words? There are many to whom they are more precious than silver and gold. Our treasure is not wasted though it be sometimes poured out on a barren soil. The sunshine of a genial nature brightens the more it is spread abroad. The sealed and silent well is sooner dried up than the singing fountain with its sunlit drops.

Joyousness of spirit is the gift of a few, but all God's children must be content. *Evergreen* are palm-tree leaves, though in different species varying in shape and size.

Amongst the palms of the west the Jipati (*Raphia tædiger*) measures from forty-eight to fifty feet in length and eight feet in width. The stem of *Bactris tenuis* is not thicker than a goosequill, and its leaves are proportionably small.

The Great Fan Palm, the Talipat of the East, (*Corypha umbraculifera*) spreads out its magnificent leaves with ray-like leaflets ninety-five or one hundred in number, measuring eighteen feet in length and fourteen in breadth. These leaves have for centuries furnished materials for writing upon. Books made from them contain the religious code of the Buddhists. The ancient Christian Church in Malabar are said to have copies of the Scriptures written upon these almost imperishable leaves.

These "speaking leaves" have yet another whisper for us.

As one by one the palm tree puts forth her leaves, her stature increases till her full height is attained. Is it not even so with the appointed days of men? Each day with us is as a freshly opened leaf, bringing nearer the last of our allotted number. On these tablets that never die our thoughts and words and deeds are written. These never are and never can be such as imperishable books should contain. But who is there that may not strive in something that they think or say or do between the rising and the setting of the sun, to write upon each day, as on an evergreen leaf, their recollection of these three words,—Faith, Hope, and Charity?

"The leaf that shall not wither" tells us of the "crown of life" that these shall wear who are "faithful unto death" (Rev. ii. 10).

#### FAIR FLOWERS.

The flowers of the uprising tree are as a rule less remarkable than her fruit. Deeds not words distinguish the upright

among men. But in no case are the flowers of the palm tree unlovely. The fairest and most beloved of the race have flowers of great beauty and fragrance as well as fruit of great price. The blossoms of the King Palm of the Havana (*Oreodoxa regia*) are described by Humboldt as "shining from far off a silvery whiteness." The flowers of the kindly Coco Nut pass through the several stages of pure white, cream colour, and paly gold. Their fragrance is that of the magnolia. They are of great value as a medicine. How often do kindly and pleasant words "minister to a mind diseased!"

The fragrant flowers of some species of *Chamaedorea* are in Mexico a favourite article of food. The blossoms of the Betel Nut and Ivory Palm have a delicious scent.

#### ABUNDANT FRUIT.

The "tree planted by the waters," "whose leaf shall be green," "neither shall cease from yielding fruit," "bringeth forth his fruit in season"—or according to his season—from infancy to old age.

"A child is known by his doings whether his work be pure." "They still shall bring forth fruit in old age."

Closely doth the parallel still hold good.

For "threescore years and ten," even as the ordinary age of man, does the Date Palm continue to yield its fruit. Nuts are gathered from the Coco Nut Palm when it is four and five years old, and it continues bearing for more than a century.

This fruitfulness from an early period to extreme old age, so long indeed as life itself lasts, is a conspicuous property in almost all the principal species of palms.

The royal race chosen as the type of the righteous bring forth "much fruit," "good fruit." The palm tree is foremost amongst the "fruitful trees that praise the Lord."

The Date Palm of the East (*Phoenix dactylifera*), the original image, furnishes the food of thousands and tens of

thousands in Egypt and Arabia. The deserts of Africa and Asia look to her as the nations of the north look to their harvest fields.

The blossoms on a single spathe of the date tree are twelve thousand. She bears for seventy years, producing three, four, and sometimes six hundred pounds of dates annually.

As forcibly do her sisters in the Old and New World proclaim from east to west the truthfulness of the similitude in this as in every other particular.

The beautiful fan-leaved Palmyra (*Borassus flabelliformis*)—the Hindu *Talá*, the *Lontar* of the Indian Isles—is the chief support of about six millions of the people of India and other parts of Asia.

The Sago Palms—*Metroxylon Rumphii* (or *M. sagus*), called in the Moluccas the Libley tree, and *Arenga saccharifera* (or *Gomuti*)—are valuable beyond all estimation. Sago is the actual staff of life of the Polynesian tribes, the principal and often the only article of food procurable by the natives of the countless islands of the Pacific and Indian Oceans. Sago also affords to the inhabitants of all quarters of the globe a delicate and nutritious food.

The numerous offsets of Sago Palms are used for propagating the species, as the fruit and flower are not perfected in those trees from which the farina is to be obtained, it being in fact the starch intended for the formation of the flower. Seen even in this light, with flower and fruit not perfected, these palm-trees have their peculiar and lovely analogy. Often has the early grave of some sweet child been blessed to those who mourned for the bright promises cut off, and holy influences have spread from tender reminiscences of a loved little one's pure short life.

When allowed to flower, the blossoms on a single spathe of *Sagus Rumphii* have been calculated to be not less than two hundred and eight thousand—or six hundred and forty thousand on one tree.\*

\* Seemann's "History of Palms."

In the Western world this royal race is equally distinguished for the abundance of their good fruits.

A spadix of *Mauritia flexuosa*—the Muriti of the Brazils and Itá Palm of Guyana—when loaded with fruit is a burden too heavy for two men to carry.

The Seji Palm of the Orinoco has in every bunch eight thousand fruits.

The greater part of the inhabitants of Pará and its neighbourhood look to the Assai Palm (*Euterpe oleracea*) for their daily meal, supplied to them throughout the year according to the soil and aspect of the various trees.

The Indians of the Amazon find in the magnificent Peach Palm (*Gulielma speciosa*) delicious and nourishing fruits in clusters of seventy and eighty together.

The nuts of the Coco-nut Palm (*cocos nucifera*) which relieve both hunger and thirst, grow in clusters of from five to fifteen; there are sometimes twenty clusters at a time on the tree in various degrees of ripeness. In favourable situations these nuts may be gathered at almost every season of the year.

But it is not from one excellence or the other, but from the happy combination of so very many admirable properties that the Scripture-honoured palm is so distinguished from the rest of the vegetable world in the incomparable analogies it affords.

Whilst in her *abundance* of good fruits, the palm tree bids us be earnest, strive, be diligent, she also whispers, be not cast down or easily discouraged, for behold the marvellous variety of this abundant fruit.

Look on the luscious date, the taste of which, when fresh, has been likened to “sugared cream flavoured with orange flowers.” Its honey-dropping pulp is on the outside of its seed, so that a child can help itself to its sweet food.

See now the large rough coco-nut, but little attractive in its exterior, but how precious are these strong coarse fibres; how many a need will they supply? The hard shell, too, affords a drinking-cup, for the nectar inside, which it keeps



so deliciously cool, and a bowl for the delicate, almond-flavoured white jelly.

How different to both of these the long oval-shaped fruit which the Doum Palm of Egypt (*Hyphæne thebaica*) affords, in look and taste, so like gingerbread, that it is called the "gingerbread tree."

In the palms of the West, the Assai's purple fruits, the size of our English sloes, are slightly acid in flavour, and yield a creamy beverage much esteemed.

Those of the Peach Palm, growing in gigantic clustres, are gorgeously coloured with crimson and gold, and taste like Spanish chestnuts.

Those of the Miriti are the size of apples, with a brown reticulated covering like fir cones. Eaten before they are fully ripe, they are farinaceous, resembling plantains; like them with age they become pulpy and sweet.

The fruits of *Ænocarpus Baccaba* yield a delicious beverage. They are like plums, deep violet, with a whitish bloom.

Those of the magnificent Inaja (*Marimiliana regia*) are brown and sub-acid.

*Astrocaryum murmurum*, one of the thorny palms, bears a small yellowish fruit, mealy, and melon-like in scent.

*Bactris maraja* produces fruit resembling bunches of black grapes.

The fruits of *Elæis melanocca*, an oil palm of the West, and *Elæis guineensis*, the African oil palm, are produced in great abundance. They are small, of a brilliant gold colour, partly overspread with vermilion.

The fruits of the Eastern palm *Palmyra* are the size of an ostrich's egg. They are of a rich brown, towards the base of a golden hue. They grow in huge clusters, one of which is a load for a man.

The farina of Sago Palms, and the delicious vegetable mis-named cabbage, afforded by the leaf bud of *Areca oleracea*, and many other palms, must also be included in the variety of their good fruits.

Nor should we limit to food alone the glorious catalogue of the palm tree's good fruits and good works. Here we need only glance at the contents of her rich and seemingly inexhaustible treasury. Leaves, flowers, fruit, and fibre, stem and root, all bringing forth some kindly gift to man.

Bread, wine, milk, honey, oil, and wax, valuable medicines, pens and paper, and books, needles and thread, weapons of various kinds, musical instruments, articles of domestic comfort infinite in number and variety, hammocks, mats, baskets, bags, the cradle for the young child, the mother's holiday suit, the father's working dress, cooking utensils to prepare the daily food, the house to shelter in life, the shroud and coffin to shelter in death.

The bride's garland, the conqueror's crown, the evergreen branch for the loved one's grave, telling of the Eden beyond the tomb.

“Servant of God and friend of man.”

What other member of the vegetable world could reckon up a tithe of such good offices so various and comprehensive?

Strangely, indeed to the palm tree is given, as to the tree, “so full of sap,” the power to produce the three good gifts promised to man in the preceding verse of the psalm.

“*Wine*, that maketh glad the heart of man; *oil*, to make his face to shine; and *bread* which strengtheneth man's heart.”—Ps. civ. 15.

On one of these gifts as most significant, let us dwell for a moment. Offspring of sunny skies, Children of Light. Light seems a peculiarly appropriate gift from the palm tree's royal race.

The oil which they yield in such abundance is a precious boon to those especially who dwell in northern climes, where the long dark nights of winter would be dreary indeed if uncheered by artificial light.

This great need of mankind is supplied by many various sources, but by none more excellently and abundantly than by many species of palms.

The African Oil Palm and its sister in the West, the South American palms, *Attalea Cohune* and *Acrocomia sclerocarpus*, and the coco nut of both hemispheres, are amongst those to whom we are most indebted for oil. The Wax Palm of the Andes (*Ceroxylon andicola*) and *Copernicia cerifera*, especially beautiful palms, afford valuable wax, which burns with a brilliant light.

In Ceylon the spathes and dried leaves of the coco nut are used as torches. This palm, indeed, not only yields in abundance a pure clear oil, but also furnishes in the shell of the nut, if gathered before it has ripened into hardness, a semi-transparent lamp.

Strangely suggestive in the tree chosen as the type of the righteous, the lamps of the righteous never wanting for oil.

Another singularly illustrative picture is brought before us in the story of the discovery of Guyana, where Raleigh and his followers, as they explored its mighty rivers, wondering, beheld fires gleaming out from the tops of tall trees.

When the Orinoco overflowed its banks, the Indian tribe of the Guaranis took refuge in the Miriti, or Ità Palms. Amid their branches, on mats woven from the fibres of their leaves, and coated with damp clay, they lit their household fires in security.

And still do wanderers on the river of life—hearts that have found no resting-place—wondering gaze on those who carry their lights burning on high, safe in their refuge from the water floods.

Above, ever above, the troubled stream of earthly cares gleam out the lamps of the righteous.

Children of Light, “Let your light so shine before men that they may see your good works and glorify—not the poor lamps of clay where light shineth out of darkness, earthen vessels, whose ‘excellency’ is not of themselves—but that they may glorify your Father which is in heaven.

Has not the infinite variety of the palm tree’s good fruits,

as typical of the good works of the righteous, a lovely lesson for us, full of joy to loving and meek souls?

A lesson in spiritual truth again and again set forth in Holy Scripture by parable and precept, as it is again and again illustrated by the great book of Nature.

The rose-lipped daisy at our feet, in making glad the heart of one of Christ's "little ones," fulfils her mission as faithfully as does the venerated oak, the pride of our sea-girt isles, from whose strong timbers Britannia's ships of war are built.

"One star differeth," indeed, "from another star in glory;" but the great God who has made us so different one from another, and has apportioned to each such varied lots in life, requires not from his frail children an impossible uniformity of good fruits either in measure or kind.

To loving hearts yearning to do something for His dear sake, who hath given them their all for this life and eternity, like a strain of heavenly music, sweet and clear, comes from the far distance of centuries gone by, the gentle Saviour's words, "She hath done what she could."

Our Judge is in heaven, not on earth. Oh, let him read his name upon our hearts, and then the "widow's mite," "the cup of cold water," will be precious in his sight, even as the "alabaster box of costly ointment." Nay, "a word fitly spoken" shall be "as apples of gold in pictures of silver."

But we must be *very sure* that our offering is of *our best*.

Do we not read in the blessed book how various are the "fruits of the Spirit" though all "lovely" and "of good report." In God's "great house there are vessels of silver," as well as "vessels of gold."

Go forth, O formalist, to the garden and the field. The long bright summer day will have waned ere ye have exhausted the catalogue of the lovely varieties of flowers ye shall find.

Go to the forest; gather your lapful of leaves. Can you find any two exactly alike in shape? Go again when the

fever flush of autumn is on those dying leaves. Are there two exactly matched in colour?

The works of Omnipotence are illimitable in their variety, and he alone, the great Creator, knows the countless differences of mortal beings' capacities and the hindrances they meet, invisible, perhaps, to their closest companions. And He who doth so know, blessed be his holy name, for that sweet name is *Love!*

Oh, how unlike man's iron rules—man's fearful Procrustian bed.

The strong-minded look down upon those who are as children in this world's wisdom. They have no sympathy with weaknesses, no pardon for inconsistencies. The tender-hearted and impulsive shrink away too demonstratively from natures opposed to their own, too often undervaluing the real worth which a forbidding aspect conceals.

God's own dear children not unfrequently forget *how* wide the cloak of charity should be.

Zealous Martha could not see that Mary "served" though only sitting at her Saviour's feet. It was to Peter that the Lord's rebuke was given, "What is that to thee? follow thou me!" And the great prophet Elijah, "very jealous for the Lord God of Hosts," knew not of "the seven thousand in Israel" who had not bowed the knee to Baal.

" God doth not need

Either man's work or his own gifts--who best  
Bear his mild yoke they serve him best. His stats  
Is kingly; thousands at his bidding speed,  
And post o'er land and ocean without rest--  
*They also serve, who only stand and wait.*" \*

" He prayeth best who loveth best  
All things both great and small;  
For the dear God who loveth us,  
He made and loveth all." †

"Wisdom is justified of all her children," were the blessed Saviour's words when the carping Pharisee alike rejected John the Baptist and himself.

\* Milton.

† Coleridge.

How strongly were they contrasted to each other.

The one a grand but stern impersonation of human virtue, coming "in the spirit and power of Elijah," clad "in raiment of camel's hair," girded with "leathern girdle," his food "locusts and wild honey"—the honey of the Date Palm distilled from the palm-groves of Jericho\*—preaching in the wilderness, "neither eating bread nor drinking wine."

The other, the all-glorious perfection of Love incarnate.

"Gentle Jesus, Saviour mild." To Him who came to save mankind the wilderness and the mountain were unfrequent resorts—he lived amongst men. The busy, cheerful shores of Galilee's bright sea, the streets of Jerusalem, the crowded synagogue; nay, even the publican's feast, were the scenes of his gracious ministry.

His first exercise of divine power was the turning of water into *wine*, at the marriage festival to which he had been *bidden*; and twice repeated was his miraculous supply of *bread* to hungry thousands, *listening to his word*.

The mission of the Prince of Peace was to "go about doing good." None were afraid to draw near unto him; his feet were washed with the tears of a sinful woman, and infants forgot their shyness to nestle in their Saviour's arms.

The sweet fruits of the heavenly Vine hang low—the smallest in stature, in faith outstretching the hand, may gather of them.

Perfection is with God alone. Omnipotent power, infinite wisdom, immeasurable love, asks only for the heart; power, wisdom, and love, know what each heart is able to bring forth.

Of princely Abraham—of Moses, "mighty in word and deed," God demanded sublimest sacrifices.

The father of the faithful was commanded to slay the child of promise, and the leader of Israel's hosts on the borders of the promised land had to resign the possession of it.

\* Josephus; Stanley's "Sinai and Palestine."

From the widow of Sarepta the Lord of the universe, through the mouth of his servant, asked but a little oil and a handful of meal.

In each case it was the devout proof of their sincerity. In one case the sacrifice was redeemed; in one it was enforced as a punishment and a warning; in the other it was changed to a blessing.

To Nathan and the dauntless Elijah God entrusted perilous messages to be delivered unto kings in their wrath; and so, too, should Samuel, when grown to man's estate, fearlessly utter terrible words before Saul; but as a child, his bidding was simply to warn the too indulgent Eli of coming sorrows he had entailed on himself.

To captive Nehemiah was assigned the great task of obtaining a heathen monarch's consent to the rebuilding of fallen Jerusalem.

The little Jewish maid, a captive too, had a woman's gentle mission to fulfil—to strive, through the influence of her he loved best, to lead a mighty warrior where he might be healed of a fearful disease.

To the Assyrian lord "a great thing" was appointed for him to do, though it seemed not so in his eyes or the eyes of other men. But the searcher of hearts knew that no greater thing could be required as a test of his necessary faith, than for him, a conqueror, in his hour of triumph to bow his pride at a Hebrew's bidding, and seek his simple cure in a river of that conquered land, so altogether little in his eyes.

Our good God would have us but account to him for the talents he himself hath given. He knows how utterly empty and destitute we are of ourselves.

The faith of intrepid Daniel, which in the lions' den brought forth such glorious fruit, was as wholly and absolutely God's gift as the loving trustfulness which made sweet Ruth cling to her dead husband's Israelitish mother, and declare that she would have no other God but hers.

The fervour of Peter, the tenderness of John, the energy of Paul, the active service of Martha, and the silent adoration of Mary, each one with more or less of earthly alloy, were still as offerings of love—"good fruits," "acceptable unto God."

Sweet is the task thus to turn from the one to the other of the two glorious books our Father hath given to us for our teaching and our solace on earth.

Abroad to look on his lovely creations, and listen to the psalm of praise ever ascending to the throne of God. At home to linger over the bright characteristics of those who, through faith in their unseen Captain, Christ the Lord, have gotten the victory, and who now, with angels and archangels, swell the exultant harmony of the redeemed's song.

Very sweet it is to think on those we ourselves have loved, who, "faithful unto death," now wear the "crown of life," thus realizing, while yet on earth, the glad "communion of saints."

"One family, we dwell in him—  
 One Church above, beneath;  
 Though now divided by the stream,  
 The narrow stream of death.  
 One army of the living God,  
 To his command we bow;  
 Part of the host *have crossed the flood,*  
 And part *are crossing now.*" \*

Sweetest of all to look around and see in living beauty, close beside us, dear ones who have "set as a seal upon their hearts" the name of Christ as their "beloved;" men, women, and children, fulfilling their mission upon earth, bringing forth good fruit continually.

Oh, that throughout the whole world the watchword of all baptized in Christ, made real members and branches of the tree of life, might be, as that of the crowned Palm tree,  
 "Servant of God and Friend of Man."

Varied as her fruits are the soils in which she brings them forth.



The great families of the vegetable kingdom are generally confined to particular soils.

The willow seeks the water-courses ; the oak strikes its roots deeply in a strong, rich soil ; a barren-looking, chalky land suits best the beech ; the forest which the ash loves, the elm avoids, frequenting the neighbourhood of men—the hedge-row and the village green ; while the pine and the fir crown mountain precipices, reigning amid perpetual snows, like unloved kings, a chilly atmosphere surrounding them continually.

But the loving palm tree asks no peculiar soil. Her royal race, as divided into different families, adorn mountain and plain, sandy desert, forest, and sea-shore. Nay, coral reefs but just emerged from the ocean waves are quickly crowned with groves of Coco-nut palms, at once the mariner's beacon and his garden of delight in the midst of the vast loneliness of the wide-spreading sea.

Are we, too, like that lovely palm tree, making of the spot of ground assigned to us a garden of delight ? Do voyagers on life's ever-changeful sea look back to hours spent with us as hours of refreshment—blessed hours ? Have the weary and the tempest-tossed been sent on their way rejoicing through the sweet influence of our kindly looks, and words, and deeds ?

And yet more, though rude winds buffet our heads and surging billows lash our feet, do we unflinchingly uphold the ensign of the Lord, so that the soul of some fellow-man saved from shipwreck by the sight may bless us to all eternity ?

To the palm tree rich earthly gifts are as nothing. Born to minister delight to all, she asks for herself only such things as are necessities of life, and at the same time the peculiar and direct blessings from above—light and water.

Those two great gifts, which our Father in heaven bestows alike on all created beings and things. "He maketh the sun to rise on the evil and the good, and sendeth rain on the just and on the unjust" (Matt. v. 25).

What a gracious significance is there in that these two blessings, so illimitably bestowed, should have been chosen as the types of the two great spiritual gifts—"the sun of righteousness," "the water of life."

Earthly necessities given unasked to all, that all may be continually reminded that what is needful for eternal life shall never be refused.

"Sun of righteousness," "water of life." Without them the righteous cannot flourish; for none are righteous, none have life in and by themselves.

The tree which shall not "cease from yielding fruit" must have the warm unclouded sunshine of the tropics—no winter's frost must check the ever-ripening sweet fruit.

"The leaf that shall not wither" must have the never-failing water-spring.

Children of light, and thirsting for heaven's crystal dews, the palm trees have no other need on the spot of ground appointed for each. Their royal race are amongst the "blessed that sow beside all waters."

Go, seek them now on every variety of soil, and on all—so that the sun shines bright above—ye shall find some member of the crowned palm tree's race, each one repeating their great charter as of old, the charter of three thousand years old, by which they reign—"The righteous shall flourish like the palm tree"—and by the lesson of their lovely lives teaching all the secret of true royalty of soul which all may win and wear.

As a sentinel on the fiery desert, holding a perilous post, "faithful unto death"—watching, aye watching, till the hidden "streams break out" and the "wilderness prepare a highway for our God," behold the ancient and time-honoured Date Palm of the East, girt about with reverence, dear to all mankind, eloquent to Christian ears of many a Scripture truth.

A watcher by the troubled sea, is the graceful Coco-nut Palm, her only footing on the shifting sands; yet even there doth she "hold fast."

Travellers tell of Coco-nut Palms in the Mauritius, where hurricanes of wind are sudden and violent, which, though half-wrenched from the ground, yet hold to what little soil is left about their roots, and live on—though unable to upraise themselves entirely again, still wearing their ever-green crown.

The glad Palmyra is as a queen in the east, the burning plains of India her wide domain.

In the dense forests that clothe the foot of the Himalayas the giant Calameæ uprear themselves. On the sides of those “mansions of snow,” a dwarf Fan palm—a species of *Chamærops*—shows itself, like a hardy mountaineer.

The Doum Palm of Egypt dwells as a mourner in a city of the dead, where fallen statues of colossal grandeur speak to us of the majesty of Egypt’s departed things.

The Oil Palm of Africa, significant of her glorious mission in a land of slaves, changes by her presence the sterile sea-coast of north-western Africa into scenes of beauty and delight.

Where the mighty rivers of the Amazon and the Orinoco, with swelling floods, overflow their banks, “there are virgin forests of lofty trees, whose stems are, during six months in every year, from ten to fifty feet under water.”\* They are the Miriti or Itá palms (*Mauritia flexuosa*). “With a heart for any fate,” these noble palms, which thus in some places afford a refuge from the floods—the Guaranis living in their branches—are in others, as on the burning steppes of South America, a shelter from the heat. “Were it not for the occasional presence of single individuals of this life-supporting tree (*Mauritia flexuosa*), these steppes would be abandoned to wild animals.”†

And shall human beings ever venture to say they are powerless for good, when single trees can thus redeem from abandonment such perilous wastes as these?

Is there any situation of life, are there any so unblest,

\* Wallace’s “Travels on the Amazon.”

† Humboldt’s “Aspects of Nature.”

that they can do nothing for Him from whom they hope to receive everlasting bliss?

Alas, alas! there are human wastes ever close at hand, where a gracious look, a kindly word, a trifling act of kindness, will go far to redeem them from being utterly given over to recklessness and despair, which are as wild and ravening beasts eating into the hearts of some of our fellow-creatures.

Oh, let us strive to be as the Itá Palm. We see her in exactly opposite circumstances. She is faithful in each.

By the river's bank, where fertilizing waters overflow, she is in prosperity; in glad companionship, she attains the perfection of her being. Her magnificent leaves are the shelter, her abundant fruits are the food, of a nation. Look on her now in adversity: alone in the thirsty desert she languishes; her leaves are drooping and pale, but she still bears fruit. On the scanty pool at her foot her life depends; but, trustful and true, she grudges not to share with man and beast those precious water-drops. Her one talent is not buried.

On the giddy heights of the giant Andes we must seek the Wax Palm, the kingly *Ceroxylon andicola*. There, amid oaks and pines, he reigns the monarch of a savage realm. Cataracts thunder around. His foot, on the brink of a precipice, is firm—his tall plumes towering to the skies, robed, as it were, in vestments of unspotted white, a witness-bearer to his God.

The Peach Palm gladdens the poor Indians of South America, growing by their huts in the forests and on the river banks of Guyana and Brazil.

The diminutive Palmetto Palm is artificially trained and cultured in Mexico for the sake of its leaves, which are plaited into hats.

The *Oreodoxa regia* and the *Oreodoxa* or *Arca oleracea* are the pride of the sunny islands of the West. They are kings and queens in luxurious garden homes.

What matter on what ground our feet shall rest! "Heaven

is above all yet." The uprising tree, seeking and finding its needful blessings from thence, shall have its fit labour of love assigned.

"We need not bid, for cloistered cell,  
Our neighbour and our work farewell."

The little Palmetto, in its cultured, artificial life, fulfilling her mission of usefulness, whispers to us,—

"The trivial round, the common task,  
Will furnish all we ought to ask."\*

The royal *Oreodoxas* show us how lovelily virtue shines forth in high places.

Let us but earnestly seek to do God's holy will, the how and the where he will make plain to us. No lot in life is without its special duties, no spot on earth without its capacities and opportunities for good works.

As varied as the soils on which the palm tree's royal family are found are the infinitely diversified stations and circumstances of life in which the children of God are placed; in all, capable of producing good fruit, various in measure and in kind. The Husbandman knows what His plants, planted in various soils, should bring forth.

In the fiery desert. Faith; Hope, on the shifting sands; in forest and garden—nay, everywhere—Charity, or universal Love.

"The righteous shall flourish like the palm tree."

Let us, then, listen to the palm tree's voice. We live in a world of voices; the whole bright world is full of whispered wisdom. O that the "Ephphatha" of old may be spoken unto us, and, the ears of our soul unloosed, we may delight in the ceaseless harmonies of God's creation.

To many a thing that seemed dumb before, a voice was given by our Lord—a voice that we might hear teaching us high and holy truths. Tree and flower, fisherman's net,

\* "Christian Year."

merchant's pearl, and maiden's lamp—for centuries have they not been speaking unto men?

Favoured children that we are, our school-books are no dingy tomes; they are diverse in shape and size, and some are pictured gloriously—their countless dyes are exquisite. The loveliest lie at our feet, open to all; books for the rich and poor, books for children and for old age; the unlearned and the dim in sight can read therein. Dainty little volumes are they, in green and white, gold colour, violet, rose, and blue. By rivulets, a tiny flower that matches the hue of the sky overhead, as if it had fallen from thence, whispers—Forget-me-not.

The evergreen leaf we have looked on to-day—type of the righteous, and symbol of their reward—is the symbol, too, of the Holy Land; still holy, because still overshadowed by the Cross. The palm tree whispers to us the message it there learned when, in the moonlit air of hill-side Bethlehem, angel voices sang, at the birth of the Prince of Peace, “Glory to God in the highest, on earth peace, and goodwill to men.”

More than eighteen centuries and a half had rolled by, and then the same sweet message rang through the world again. The crystal depths of ocean waked from their slumber of nearly six thousand years, startled into joy, thrilled and vibrated to its sound. Too quickly mute, those wondrous wires never more, perchance, may repeat that heavenly message; but its echoes have never died out from the air we breathe. We may hear them on every side, and out of them has grown the simple watchword for the crowned palm tree as the similitude of the righteous,—Servant of God, and Friend of Man.

Yet ere the *Green Leaf* floats away, to be carried far off by some succeeding wave of thought, which, in the great river of life, follow each other in such swift succession, let us catch yet one more significant and beautiful feature in one of the loveliest members of the palm tree race.

Slender and tall, a green wand springs up from the centre of the leafy plumes of *Areca oleracea*. It is a young undeveloped leaf. Apparently solid, it looks like an emerald sceptre rising out of her magnificent crown. Carried as it is on her head, it may remind us of the "horn" still worn in the East by the women of the Druses. Scripture often alludes to "the horn of the righteous," which should be "exalted." Fitly it shows, therefore, on the lofty palm tree's upright brow.

But it has yet another and more lovely significance. To the Palm of Palestine—the Date Palm of the East—belongs of right the royal charter of the race. The *Areca oleracea* is of the West; but though oceans roll between, and centuries have gone by, it would seem that, true to the instincts of a race, her homage is paid to that land where the palm tree's greatest glory was gained,—her sceptre points ever to the East. To the East, where, yet more gloriously than before, the Day-star from on high shall arise, bringing the dawn of an everlasting day of unutterable gladness to all who are watching, even now, as servants who wait for their lord—as a bride who looks for her bridegroom's coming—who cry, "Say, watchman, what of the night?"

God's blessing on the brave voices which again and again ring out, as the seamen's cheery cry when the storm is at its height! Their fearless tone breathes a new vigour into all. Those are fearless who see their Captain at the helm.

Hark! from all quarters of the globe those fearless voices come. From the crimsoned snows of the Crimea, from the red nursery-floors of India, strong men, soft women, and even babes bearing witness to the truth of God's promise—of strength afforded in the hour of trial.

In the dark chamber of utter extremity, "the doors shut" upon human help, still does the felt presence of the Saviour shine forth, speaking "Peace"—when the fiery furnace is quenched which must try the pure gold of our faith—Eternal Peace!

Even unto the end shall the Scripture text be proved true: —“The righteous shall flourish like the palm tree” till the mission of the palm tree is accomplished,—the glad “multitude” of the redeemed standing in the presence of their God, “clothed in white robes, and palms in their hands” (Rev. vii. 10).







## The Stature of the Beloved.

"O prince's daughter! . . . how fair, how pleasant art thou! . . . This thy stature is like to a palm tree."—CANT. vii. 1, 6, 7.



BY the inspired Psalmist the palm tree was chosen as the similitude of the righteous. By his son, the mighty Solomon, wisest of men—who "spake of trees, from the cedar tree that is in Lebanon even unto the hyssop that springeth out of the wall"—it was chosen also as an emblem of his Beloved.\*

The Songs of Solomon were a hundred and five, this marriage song alone remaining to us. But the "Song of Songs" was not only an earthly love song; the great king on whom so large a gift of wisdom was bestowed wrote by inspiration: his poem was a prophecy.

When the Spirit of the Lord was upon Isaiah, he spake of Judea as a "married" land—"Beulah;"† and again, as having her "Maker" for her "husband,"‡ the Lord of hosts by name. Jeremiah, too, speaking the words of a merciful God, tells of Israel "married" to her lord.§

O wondrous condescension! "The high and lofty One that inhabiteth eternity" deigning, by the use of terms best understood by men, to show forth his loving-kindness unto them!

The household names of "father," "husband," "brother," are used to force, as it were, the conviction upon His mis-

\* In the words of Jesus the son of Sirach, Wisdom speaks of herself as "exalted like a palm tree in Engaddi:" that Wisdom which is as "a tree of life to all that lay hold upon her" (Prov. iii. 18).

† Isaiah lxii. 4.

‡ Isaiah liv. 5.

§ Jeremiah iii. 14.

trustful creatures, of how tenderly, how sincerely he loves them.

The Song of Solomon has almost universally been received as a mystical allegory, the true and the figurative combined, in the manner of Eastern poems. Solomon, who, as prince of "Peace," was one of the types of the coming Messiah, in marrying his "beloved," the "prince's daughter," speaks as a lover: he speaks as a prophet also, presaging that wondrous marriage of the Lord, to be accomplished at the end of the world—the indissoluble union of the blessed company of redeemed people with Christ Jesus their Lord.

Great mystery indeed, that even as a husband should love his wife, so has Christ loved the Church; so doth He still; so will He ever love her, even as bridegroom loveth his bride. So will it be seen by those who now, in the night preceding eternal day, watch for his coming with their lamps burning and "oil in their vessels," as becometh those who, as "children of the light," love light.

As a bride adorned for her husband shall the redeemed stand before their Lord in unutterable gladness—in white robes, and crowns of pure gold upon their heads.

But are we *now*, while life and strength and hope is given us—are we, each one of us, as dutiful and loving brides, seeking to adorn us as we know our Lord would have us adorned?

"With the ornament of a meek and quiet spirit"—"mercy and truth" as "jewels" about our necks—our wedding garment not made from the "filthy rags" of our own righteousness, but looking for that "white robe" which can only be given by the Bridegroom himself, the Lord Jesus. For even now, ere the cry is heard, "Behold the Bridegroom cometh!" here one and there one is summoned away to await in bliss that day when the Lord of hosts will make up his jewels.

Even now doth the "reaper, whose name is Death," "transplant for the Lord of Paradise," flowers into "fields of light."

Even now our Lord himself is amongst us, "in his garden" of this lower world, gathering "lilies."\*

Are we like the Bride as a "lily among thorns?† Is our "stature" "like to a palm tree?" If so, then we shall be counted amongst the "beloved."

Flourishing like the palm tree—"all members of one body," yet all members having "not the same office"—"having gifts differing according to the grace that is given to us."

The truthfulness of the similitude as applied to the righteous as individuals, is equally true as applied to the Church of Christ.

The Church—not the outward and nominal Church, in which as in a field the wheat and the tares grow together, till the Lord of the harvest comes—but the true Church—the blessed company of the faithful upon earth. Is it not the glorious numbering together of God's chosen ones, "the righteous," wherever they may be?

Palm trees—types of the beloved, children of light, dwellers in the regions of the sun, but there confined to no peculiar ground, rooted in various soils—would seem to point at the glorious truth that the grace of God hath no such narrow limits as chary mortals lacking charity too often dare to set.

In shining letters, behold the charter of each *faithful* band, however insignificant its numbers may be, if faithful in the sight of an all-seeing God.

"Where two or three are gathered together in *my name*, there am *I* in the midst of them."

*His name*—your watchword, O true soldiers of the Cross. Why seek for "Shibboleths," with stern intent to slay?

His name—on helmet, shield, and sword. "Strong in the Lord," and be the silken banner what it may that floats above your head, the powers of hell shall not prevail against you!

What! think ye that the form and fashion of your flag,

\* Cant. vi. 2.

† Cant. ii. 2.

which is but the earth-worm's spinning, could avail to loosen one joint of that proof armour in which ye shall be clothed, if in *sincerity* and *whole-hearted truth* ye are followers of Jesus?

Flags and ensigns there must be, else where were order and discipline? And dearly does each brave soldier love, and gladly would he die in defence of, his colours.

Some banners, too, are brighter than the rest. The Cross, as on England's Church banner, dyed crimson in ancestral martyrs' blood, and carried by her gallant sons "far as the breeze can bear, the billows' foam," is matchless in many eyes. But should the most glorious of standards come as a *wall* between those who in all faithfulness serve the same Master, follow the same great "Captain of their salvation," and in God's eyes fight side by side, through the stern conflicts and unceasing perils of Christian warfare?

Hark! 'tis the trumpet's sound? It speaks of embattled hosts marshalled the one against the other in terrible array.

On the one side, behold our island-kingdom's sons—a gallant band!

Gem-like, the many-coloured ranks glitter and glance in the noontide rays—rich blue, vivid scarlet, and dusky green—the light of their true steels shimmering through them all!

The helmets of the horsemen, too, gleam out beneath dancing plumes of crimson, black, and white.

High over all float proudly to the breeze the separate colours of each brave regiment. A varied cognizance is on each, but the Cross and the Crown are on them all.

In that magnificent spectacle, the eye is not bewildered by the infinite variety of colour, harmonizing, as they do, into one glorious whole, even as the dauntless spirits of the men unite to form one indomitable force. Those intrepid corps, to whom their individual "colours" are inexpressibly dear, who would die to defend them from one hostile touch, are they not as one man against the general foe?

If traitors be there, they will cast them out; but shall true hearts wrangle about the hues of their ensigns and uniforms? Divided amongst themselves, would victory be theirs? Ah no.

In Great Britain's conquering troops, in each gallant breast, there is one determination to overcome—one inspiration—their duty to their country—on every lip is one name, their Sovereign's name, omen of success—Victoria!

“*As an army with banners*”\* are Scripture words, describing the beloved, the bride.

The glorious palm tree—earthly remembrancer of the “tree of life which is in the midst of the paradise of God”—repeats its sweet lesson here to the Churches, as represented by the Bride.

We see the separate species of the royal race inhabiting distinct localities, affording various products, differing sometimes in outward graces of form; yet through all such differences preserving still the characteristic marks of the “uprising” trees whose “crown fadeth not away.”

Inward growth, firm root, upright stature, good fruit, and ever-green leaves.

Upright stature none can obtain who are not rooted and built up by *faith* in Christ. As a green-leafed tree by the water side none can be who rejoice not in *hope* of the premises of God's word. Good fruit none can bring forth who are not filled with the “fruits of the Spirit,” the first of which is *love*.

Will the day ever return when, as of old, we may hear, “Behold those Christians how they love one another?”

Meanwhile the mission is plain of all who love their Lord. Let each one who has found a refuge from the troubled waters of life's unquiet sea, look forth from their precious ark, and seek to woo back the errant dove.

Alas! will the dove with the olive branch never return till the ark rest on the everlasting hills of Jerusalem which is above?

Pilgrims and palmers of different race and name, yet journeying all to the "better country," should there not be kindly fellowship between us all?

Should not the "children of light" claim kindred, though seas may roll between the respective lands of their birth?

The seed on which the blood of martyred saints have been poured out, has brought forth fruit in various lands. To good trees bringing forth good fruit have been allotted different destinies.

See where the giant Andes rear their snow-capped summits to the skies! Mountains rent apart shuddering look down into gulfs of unfathomable blackness; like the strange shapes of some fearful dream fantastic rocks start out from amidst continuous clouds of misty spray, overhanging the wild torrents that leap and foam on every side.

Behold how calm in fearless majesty stands there the crowned tree. With foot unshaken on the precipice's brow, upright in stature, he dauntlessly "holds fast."

The Wax Palm of the Andes has an erect and lofty stem, which is of singular whiteness, being encrusted with wax. It is seen from afar, like a column of fair marble. Its superb diadem is of a vivid and unfading green; the under surface of the leaves has a silvery hue.

Does not this Mountain Palm Tree, in its unshaken attitude and in its singular whiteness, remind us of the Church of the Waldenses? In her mountain home a faithful witness-bearer to the truth; unshaken by cruel persecutions, clothed in the white robe of the saints, she is seen from afar. Must she not be loved and honoured by all who love God's word? To preserve that word in its integrity the blood of her children has crimsoned the Alpine snows amongst which she dwells.

We read of palm trees in the Western world which do not,

like the generality of their race, congregate with other trees. They love to form forests by themselves, admitting no strangers there. Of this kind are the Cohune Oil Palms, which cover large tracts of land in Honduras.

Forming a singular exception to all tropical forests, the Cohune groves are free from all undergrowth.

The sunbeams love to linger in the Cohune palm groves of the West, each fair illumined stem rising in upright, simple uniformity, like pillars of light. Living trees, building a lovely temple to the Lord.

May the sunshine of God's presence ever make glad the blameless communities of the excellent Moravian Church. In their primitive mode of life they are true-hearted and sincere. In adopting restricted forms of life and a somewhat exclusive fellowship, their labours of love include all mankind.

But there are social palms, and to them more important missions are assigned.

To the motherly Sago Palms, to the "married" Palmyra, millions of human beings look for their daily food. The palm trees never fail of their mission.

God grant that from the beloved walls of the Protestant Churches of England, Scotland, and America, none may ever be sent hungering away. Enriched with peculiar blessings, may they ever feed on the pure word, and delight in spreading abroad the good gifts afforded to them.

On islands in the great sea the kindly Coco-nut Palm loves to dwell. On her, much heathen people depend for their all. She is, too, a beacon to wandering ships, and wrecked mariners bless her for the food and shelter she bestows.

It is said that the abundance of these palms in the countless islands of tropical seas is greatly owing to English hands. In their constant repassing to and fro, sailors of English ships seldom fail to plant these nuts on every island where they touch. Charity is ever twice blessed; the fruit-

bearing trees are often enjoyed by their own wandering fellow-countrymen, sometimes in after years by themselves.

Oh, would that in every land the print of an Englishman's foot had always to tell of some good work like this! Oh that words from English lips, falling on uncultured ground, might always be as good seed springing up and bearing good fruit!

May the missionary and colonial Churches that England has planted all over the world be blessed, not only to the heathen, but to her own children also.

In likening the Beloved—the Church of Christ—to a palm tree, it is in one particular especially, that the likeness is pointed out—her *stature*.

What is the stature of the palm tree? Upright—“uprising,” as its Hebrew name, “Tamar,” signifies.

Her name is significant indeed; *uprising*—springing upwards to her God. Looking not on this side or on that; looking not unto herself, but looking up—upwards to her crown.

It is this oneness of purpose in her growth that, in the palm tree, achieves such magnificent results.

No lateral branches weakens its upward tendency; no downward dropping roots binds it too closely to the earth, thereby lowering the standard it should attain; no changefulness or inequality of purpose distorts its symmetrical straightness.

To spring upwards is the one aim of its life—the necessity of its being; and only thus the palm tree's fair stature is attained.

And so too, only so, can the bride attain like stature. She too, must not look to the right or the left, to others or herself; but only upwards to her Lord.

“Looking unto Jesus” should be engraved on the door of every material church. “Looking unto Jesus” must be written on every heart that hopes to be numbered amongst the true spiritual church. We read of churches in tropical



lands built altogether of palm trees ; pillars and walls built up with the unwrought stems, and the roofing made from the plaited fronds.

Such a church stands in some marshy rice lands in Bengal—the Protestant church of Jangera.

Near a succession of magnificent cataracts formed by the Orinoco, is the Indian village of Maypures. On a grassy eminence near the village stands a little church, built also of palm trunks. It is a church of the Jesuits.

Many of the zealous men that worship there, we may hope, hold a purer faith than the dangerous doctrines they profess. Secresy and deceit are weapons that Jesuits use, and they defend their use. To serve the interests of their order they think it well to soil their lips with falsehood. Their name, which desecrates the Holy Name from which it is derived, has passed into a proverb for dealings that are insincere.

“*In secret have I said nothing,*”\* were the words of our Lord. He bade us be as “little children,” or we should “in nowise enter into kingdom of God.”† “*Simplicity*”‡ is “in Christ ;” “*guile*§ was not found in his mouth.” “The Lord is a God of *truth*.” Jesus said, “I am the way, the *truth*.”|| “The Spirit of *Truth*” was promised to guide us “into all *truth*.” Oh, that in that palm-tree church of the cataracts, a “beam” would “cry out of the wall!” Oh, that the typical palm tree could lift up her voice to say that the stature of the bride, the Church, must be even as her Lord’s !

But she cannot of herself “add one cubit to her stature.” “Looking unto Jesus” thus only, can the upright stature be attained ;” thus only true uniformity be reached.

Alas for the garments parted at the foot of the cross ! foreshowing the dissensions and separations that should arise. But the “seamless coat” is still our sure hope. Let all with jealous care guard it from sacrilegious hands. Oh,

\* John xviii. 20.

† Luke xvii. 18.

‡ 2 Cor. xi. 3.

§ 1-Pet. ii. 22.

|| Jer. ii. 11 ; John xiv. 6 ; John xvi. 13 ; Hab. ii. 11.

let no shreds and patches worn by mortal man come near the unsullied spotless robe of Christ!

With the robe of His righteousness shall the bride be clothed. Let her seek to "grow as the lily, to flourish like the palm tree, and so attain the "stature of the palm tree."

Leaf by leaf put forth, hastening the time when He who is the crown of her life shall appear.

The palm tree's crown is her life, unlike all other trees, making no lateral shoots. If deprived of her crown, she dies.

"Faithful unto death," the righteous, each one, shall receive for themselves "a crown of life."

To the bride prepared for her husband shall be given the marriage crown uniting her to Him; her hope in this life, her joy through all eternity.





## The Temple of Solomon.

"And he carved all the walls of the house round about with carved figures of cherubim and *palm trees*, and open flowers within and without. And for the entering of the oracle he made doors of olive tree. The two doors\* also were of olive tree, and he carved upon them carvings of cherubim and *palm trees* and open flowers, and overlaid them with gold, and spread gold upon the cherubim and upon the *palm trees*. So also made he for the door of the temple posts of olive tree. . . . And the two doors were of fir tree. . . . And he carved thereon cherubim and *palm trees* and open flowers, and covered them with gold fitted upon the carved work."—1 KINGS vi. 29, 31–35.

'And the greater house he ceiled with the fir tree, which he overlaid with fine gold, and set thereon *palm trees* and chains."—2 CHRON. iii. 5.



THE Temple of Solomon! The colours may be laid on the palette, but where is the pencil to dip into them? None but a master's hand could dare attempt, with those gorgeous hues, to portray the most magnificent work of Solomon's magnificent reign.

Solomon—whose name is a proverb among all nations for wisdom and splendour—the traditions of whose greatness yet linger in the dazzling creations of oriental romances. In the splendid East his name is still—though tens of centuries have gone by—pre-eminent over all for magnificence. The followers of Mahomet believe that to Solomon was given absolute dominion over the genii world—creatures of their imagination, of terrible power by land, and sea, and air; but one talisman ever compelled their instant submission—Solomon's seal-ring, composed of brass and iron.

\* "Or leaves of doors" (marginal reference). The former "doors" supposed to mean door-posts. Verses 33, 34.

But in the Sacred Volume we find a real and abiding testimony to his greatness. When the Son of God himself would illustrate the highest pitch of human grandeur, he spake of "Solomon in all his glory."

His kingdom was small in geographical extent, compared with the vastness of Assyrian, Persian, Grecian, and Roman empires, and also to the broad girdling of the globe that is subject to our own island-kingdom's rule. But, in that it was the inheritance of God's chosen people—that its capital was Zion, the "city of the great king," enjoying the favour of the Most High, and the promised cradle of the Messiah—the kingdom of Solomon, in all the elements of real greatness, outmatched all others before or since.

What would, therefore, be the unparalleled splendour, the absolute perfection of the great work which, bequeathed to him as a solemn charge by his dying father, was to be the crowning glory of his reign? The permission accorded that he should perform such a work was, as he humbly acknowledged, an undeserved mark of the divine favour.

"Who is able to build Him an house, seeing the heaven and heaven of heavens cannot contain Him? Who am I, then, that I should build Him a house, save only to burn sacrifice before Him?" (2 Chron. ii. 6.)

Well might the young prince be at first almost overwhelmed with this great honour. He knew how passionately it had been desired by his father, to whom his own "house of cedar" was a grief, while the "ark of God" dwelt "within curtains."

But, touchingly as the poet and warrior king alludes to this deep disappointment, in his dying charge to his son, it had not chilled his zeal for the great work which another should accomplish. With the whole-heartedness of his warm temperament he had thrown himself into so much of the undertaking as he was permitted to share. David said—"Solomon my son is young and tender, and the house that is to be builded for the Lord must be exceedingly magnifi-

cal of fame and glory throughout all nations. I will therefore now make preparation for it. So David prepared abundantly before his death" (1 Chron. xxii. 5).

He tells his young son—"Behold in my trouble (or poverty\*) I have prepared for the house of the Lord an hundred thousand talents of gold, and a thousand thousand talents of silver, and of brass and iron without weight, for it is in abundance; timber also and stone have I prepared, and thou mayest add thereto."

"Requisite labourers were also provided; workmen" in abundance; "hewers and workers of stone and timber, and all manner of cunning men for every manner of work." David also commanded all the princes of Israel to help Solomon his son.

Himself supernaturally gifted, the young prince brought the full freshness and untiring energy of the spring-time of life to his noble task of executing and perfecting the beautiful designs of his father, suggested to him by Divine inspiration.

Rendered into English money, £1,223,629,344, 9s. 8 $\frac{3}{4}$ d.† was the sum of gold and silver provided by David in his comparative poverty, for this great work.

The whole of the magnificent framework of this temple, and many exquisite details, are to be found in the Sacred Chronicles, while additional information may be collected from uninspired sources. The Jewish historian Josephus asserts, that in his day there still existed, in the archives of Tyre, letters that had passed between Solomon and his ally, Hiram, king of Tyre, respecting the building of his Temple. Josephus thus speaks of it:—"It was a wonderful one (temple) indeed, such as exceeds all description in words; nay, if I may so say, is barely believed upon sight."

Not only was the edifice in itself transcendently fair, but in the excellence of its position it was unrivalled.

\* Marginal reference, 1 Chron. xxii. 14.

† Fleury's "Ancient Israelites," p. 180.

Countless vessels brought from afar the precious gems and metals, the fragrant woods and costly stones that were required; and the very ground on which it was to stand was made to assume the form best suited to the grand design.

Great valleys were filled up with earth. We read that in one part the ground was raised more than seven hundred feet, so as to bring the outer temple, or "Court of the Gentiles" to within a few cubits of the middle court, or Court of Israel, which was again a little below that of the "Court of the Priests."

A significant feature this, in the very ground plan of this Temple. In the reign of Solomon (whose name signifies "peace"), it was designed that by Jewish labour in the first instance, should be accomplished the mighty enterprise by which the "valley" should "be filled up," bringing the Court of the Gentiles on a level with Israel's Court.

Prophetic type of those blessed labourers of the Hebrew race who should, in the name of the Prince of Peace, go forth amongst the Gentiles, and commence the work of bringing out from amongst them a redeemed people, by means of whom should be completed the grand design of a living temple to the Lord.

The Tabernacle was raised by Jewish hands alone, but Gentile joined with Jew in the completion of Solomon's Temple; type of the world-wide gospel of Christ.

The foundation of the building was laid B.C. 1012, being the fourth year of Solomon's reign—those previous years having been spent in completing the superb preparations commenced by his father.

In seven years and six months it was completed. But to accomplish so enormous a work in so short a time, 183,000 persons were employed upon it. Of Canaanites, 153,000; of Jews, 30,000—10,000 at a time serving in monthly rotation.

But even with these numbers, the rapidity of its erection remains to this day a marvel, as compared with other great

edifices. The Temple of Diana at Ephesus is said to have been two hundred and twenty years in building.

Many strange and remarkable circumstances combined in the building of Solomon's Temple, such as never before or since have combined. One striking peculiarity was, that the stones, timber, and metal-work were made ready before they were carried to the spot; "so that there was neither hammer or axe, nor any tool of iron heard in the house while it was in building" (1 Kings vi. 7).

No sound of human tool; but seldom sound of human tongue. The workmen chosen for their skill were gathered from all parts of the world; of different races and languages, their communication was mostly by tokens and signs.

The mighty Temple was raised amid a strange, impressive stillness. Is it not so even now? Around us, about us (may we not humbly trust) within us, higher and higher, holy fabrics arise to heaven; the mighty work of the Spirit goes on individually, collectively, building up spiritual temples to the Lord.

Each one upon whose "heart" the name of Christ as their Beloved is "set as a seal"—whose "body," temperate and pure, is made meet "temple for the Holy Ghost."

Brought from afar, made meet for the master-builder's use—the fashioning of each unseen by its fellow—many shall be gathered together in the great day, as lively stones building up a spiritual house.

Clamour and noise ever attend, and not unfrequently mar, the works of men. Confusion, uncertainty, and haste, wait on their steps, too often baffling the grandest designs of human skill and energy. But silent, gradual, and sure are the irreversible workings of an invisible, Almighty hand.

Softly from their dew-bespangled bed, violets with the blue eyes of infancy spring up; they smile through spring's sunshine and showers, and then lay down their sweet heads and die. As noiselessly the vigorous pine-shoots force their way through the stern soil on the steep mountain side apportioned

for them to do battle upon through a long lifetime of storms. All silently, too, amidst the ocean waves, the coral insects do their hidden work, and lichens gather ; winged birds and rolling billows bring the appointed seed, and, lo ! an islet garden has upsprung, to make glad the bosom of the unquiet sea.

The Temple of Solomon, in all its indescribable glory, has long passed away ; nay, on the site of its successor, a mosque of the False Prophet stands. The material building is no more ; its stones have crumbled into dust ; so, too, centuries on centuries gone by, have the human hands that upreared that costly pile. Yet have these silent workmen (it is said) left behind them a strange and lasting memorial of themselves.

Let us look on a battle-field of but a few years ago. The fair-haired children of the North meet the dark warriors of the East, hand to hand in deadly encounter. Two eager spirits are opposed to each other. Brave as he is, the English stripling, fresh from his mother's arms, is no match for the bearded Moslem, the hero of a hundred fights, in the full vigour of his age. He has grasped the boy's golden curls, his scimitar is raised to slay, when, without a word, his weapon drops as if the strong arm were paralyzed. Hastily his turban is unwound to bind up the lad's gaping wounds—the fierce enemy has become a tender friend. No word has passed between these two, each is ignorant of the language of the other, of different race, of different creed, they only knew that they were foes, but now as brothers they stand side by side. A token and a sign has done it all.

A sealed book to women are the Secrets of Freemasonry, yet may the daughters of each Christian land find in the supposed origin and broad outlines of the institution one thought at least of surpassing interest.

Great epoch as it forms in the world's history, the meeting together of people from all lands to join in the construction of the Temple of Solomon, how significant the contrast it suggests to that earlier assemblage of builders.



Met in defiance of their Maker, those who in unity of impious design had joined together, were baffled; their oneness of speech destroyed, they became altogether confounded. The Tower of Babel, or Tower of Confusion, was for long a terror and a warning to the nations.

When next the children of men, in unusual numbers, met together to handle the trowel and the measuring line, they spake in different tongues, and strangely fell their words on one another's ears. But their unity of purpose was now for good, not evil. It was a temple to Jehovah, the Lord God Omnipotent, they had met together to build, and the Great Architect of the universe bestowed on them a blessing. A bond of brotherhood was then knitted which nearly three thousand years has not unloosed.

All the respective ranks of workmen, however, separated as individuals by difference of language and race, were enabled to communicate with facility by signs and tokens invented for the purpose.

The higher the rank attained by any, the wider the field opened out to him of such symbolical language.

By such an admirable system alone could the harmonious working together of such an immense body of men of different countries, creeds, and tongues, have been accomplished, and the completion of so splendid a structure effected in so short a time.

This new and peculiar bond of union had, too, its moral effect. Temporal advantages so apparent were suggestive of the higher spiritual blessing of brotherly love.

It is said that the illustrious sages gathering from all parts of the world at Jerusalem to gaze on the mighty works of Solomon, and to listen to his wisdom, sought admittance into the mysteries of this language of signs and symbols. Returning to their own homes, they carried with them the secrets of Freemasonry, and thus the institution was spread over the face of the whole world.

Magnificent throughout were the appointments of this

House of God. In the time of Solomon thirty-eight thousand Levites were devoted to the service of the Temple. Four thousand of these were singers and musicians, "those that praised the Lord with instruments," cymbals, psalteries, and harps. How superbly must David's triumphal songs have been rendered by this chosen body of sweet singers.\*

As in a citadel "mighty men of valour" were appointed to guard the gates, to go their rounds by night, and by day to give notice by sound of trumpet of the proper hours for the various solemnities, they were also at all times to enforce reverence and order amongst the vast crowds of assembled worshippers.

Each of the four Captains of the Gates had under them a thousand men. In the Temple was preserved the armoury of David, a man of war from his youth.

Still in the house of God do His children find trusty armour wherewith to gird themselves for the continuous battle of life.

A square of half-a-mile in circuit is said to have been covered by the Temple and its various courts. But even as Judea in Solomon's reign, though not largest in extent, was first amongst the kingdoms of the earth, so the grandeur of the Temple was not measured by its size.

Costly, too, as were the materials intrinsically in themselves, and in their lavish abundance, their value was immeasurably heightened by the exquisite workmanship with which they were fashioned.

We read of sculptures in the Palace of Solomon that were marvels of beauty; trees and plants covering the stone, "their leaves wrought so prodigious thin and subtle, that you would think they were in motion." †

In the consecrated adornments of the Temple the zeal of the rival workmen, each seeking to surpass his fellow, would inspire them to achieve still greater excellence.

\* To the Temple Guards were entrusted the musical instruments, which were of exceeding value.

† Josephus.

But the crowning glory of the Temple was that its design was from Heaven itself.

The gold and jewels which encrusted the dazzling walls were no vulgar adornments as solely displaying wealth. Each sparkling gem, each delicate tracery of goldsmith's work was pregnant with meaning; each leaf and flower had their part assigned in the grand significant whole as distinctly as the "precious corner stone, its sure foundation," so magnificent and rare in size.

Built up in silence, it was in itself a Speaking-Temple. Voices were around and about on every side, the stone crying "out of the wall," "the beam out of the timber" answering.

Yet are they all passed away,—the gold, the jewels, the marbles are not,—but in the "speaking leaves" that have so long outlasted the more solid materials of their own times, were handed down to us the story of the crumbled stones and shattered gems. We find in the songs of David and Solomon the key-note of many of the lavish adornments of the Temple.

This magnificent work was in itself of short duration. Gorgeous as were its materials, they were of earth; skilful as were the builders, their hands were human hands,—"dust thou art, and unto dust shalt thou return" is stamped upon all finite things. The works of men's hands, however splendid, must be like themselves, perishable; but not so the spirit that conceives, it is immortal, and so must its works be, whether for evil or for good.

The design, therefore, of this matchless Temple, inspired as it was by God, still lives,—the building of nearly three thousand years ago rises up before our eyes as we read the description of it in holy writ, the songs of David and Solomon serving as illustrations of the unexplained meaning of many parts.

The first great Temple built up in honour of the one true God, example and shadow of heavenly things, is pregnant

with themes for solemn thought. Each part was significant to the Jew, are they not also to the Christian ?

For us the "rent veil" of the latter Temple has a more glorious significance than aught besides ; but the veil of the first Temple, similar to that of the Tabernacle, was supposed to be emblematic in itself both in its fabric and colours. White linen, woven from the fibres of flax, was said to represent the earth ; purple, a dye obtained from a shell-fish, signified the sea ; blue was typical of the air ; and scarlet denoted fire. Not unapt seems such allusion to the elements, curtaining, as with resplendent veil, the glory of their great Creator. In this wondrous Temple of old, the individual woods which were so especially chosen may be supposed to have had some meaning also. If the elements were typified by the veil, the wood selected, each in itself significant, may have emblemized the four quarters of the globe, where, in the latter days, true worshippers of God would be found.

The fir-tree chosen for strength, betokening the hardy North. The olive tree, gladness and peace, is of the sunny South. The almug, or alghum, considered incorruptible, if, as it is supposed to be, *Lignum vite*, then so rare, is common in the Western world. The cedar tree, synonymous with all that is excellent, was the glory of the East.

As a type of the Church the bride, the descriptions are identical. "The king's daughter all glorious within : her clothing of wrought gold ; her garments of fragrant smell," \* "her cheeks comely with rows of jewels." † Such was the interior of the Temple,—walls, ceilings, and floors of fragrant woods, overlaid with fine gold, and garnished with precious stones.

But of neither of the four trees whose timbers were selected, was there any representation to be made ; nor was one living tree allowed within the sacred precincts of the Temple. Linked in men's mind with idolatrous practices, neither groves

\* Ps. xlv. 13, 8.

† Cant. i. 10.

or single trees approached the House devoted to the one true God.

And yet, upon the porch and within the holy House, there was *one tree*, and only one represented.

Emblem of light and victory throughout the world, the Gentile builders would have acknowledged the fitness of palm tree pillars in a house of God, but to the children of Israel the crowned tree was yet more eloquent.

Was it a memory? The tree of the covert, the tree of the desert, the tree of the city-key of Palestine, the Israelites' first conquest in the land of promise?

Was it a prophecy? The tree which Zion, duteous for one day, should lay at Messiah's feet? The tree then set up in the Temple of Judea's glory, which should in after times be the emblem of her land in captivity?

A memory! a prophecy! And more, yet more than all of these, a place in God's temple was assigned to the tree in which David had seen the similitude of "the righteous," in which Solomon should see the stature of the "beloved."

Let us listen to the palm tree's voice as tens of centuries gone by, she spoke from carved walls, ceilings, doors, molten sea, and pillars of the porch.

In the porch stood two mighty pillars of exceeding height and majesty of form. Jachin, "He shall establish;" Boaz, "In it is strength."\*

Pillars commemorative of God's promise made unto David that his throne should be established for ever,—the promise fulfilled in the coming of Messiah, Son of David, whose kingdom is everlasting. Commemorative also were they of the two guiding pillars of the wilderness, typical as they were, cloud and fire,—sorrow and joy, each of them, if God's children see therein a Father's hand, guiding them safely through life's wilderness.

Of the wreathen work that encircled the chapters of these mighty pillars, the ornaments mentioned by the sacred writers

\* 1 Kings vii. 21.

are "net work" and "chain work," "ply work" and "pomegranates." But the Jewish historian Josephus describes the network as "interwoven with small palms—covering the lily work."

Palms and lilies joined together, even as we have seen, they are alike in their manner of growth. The pure lily and upright palm, lovely and significant tokens to greet us at the entrance of the Great Temple.

But the palm tree not only "grows as the lily," but as the tree of victory it is crowned as a conqueror, as in after times it was chosen as the image of the athlete or contender for victory.

The *athletæ* of the Greeks fought not like the gladiators of degraded Rome for casual hire. Maintained by the public treasury, theirs was an adopted profession, commenced sometimes in infancy. Their lives were temperate and self-denying, even as the runners mentioned by St. Paul, "temperate in all things." Those of unblemished character alone were admitted to the public games. They chose not their opponents: it was decided by lot, even as in the Christian's battle of life the trials and temptations we must overcome cannot be of our own choosing. A finger held up sufficed as token of submission. Alas! so with us too: our great Enemy is well pleased at first to accept our smallest concession. In each combat the victory itself was its own reward, followed by the crown so eagerly desired. The leaves of the "wild olive-tree" formed the Olympic crown. The leaves were wrought in gold, and in the victor's right hand was placed a palm-branch. "Him that overcometh will I make a pillar in the temple of my God."\*

We have seen the crowned and conquering tree on the pillars of the porch. The evergreen trees by the waterside were carved too on the borders of the great "molten" or "brazen" "sea" which contained the pure water required for the cleansing of all things in the temple.

\* Rev. iii. 12.

Look on it now carved on the *outer* doors, the leaves of which were of fir-tree, emblematic of strength. Made strong through faith, the upright seek to enter the courts of God.

Next on the *inner* doors of the oracle behold the palm trees carved now on the wood of the olive tree, symbol of gladness and peace. The heavenly courts once entered, all is gladness and peace for evermore. And now they surround us on all sides: on the walls and on the ceilings palm trees still side by side with the "open flowers," the flower perfected, the lily flowers together within as they have been together without.

Yet more palm trees are represented side by side with "cherubim." Shining angels, albeit unseen, do stand *without* beside the "*contenders for victory*," "ministering spirits to them who shall be heirs of salvation."

But *within* the everlasting doors the earth-born palm trees are "overspread with gold;" the crown of pure gold is won. The eyes of those who carry the palm-branch will in heaven be opened to behold the glorious company who for so long have been standing side by side with them. All clad alike in effulgent robes, they rejoice together in the presence of their God.





## The Temple of Ezekiel's Vision.

“And it (the temple) was made with cherubim and *palm trees*, so that a *palm tree* was between a cherub and a cherub; and every cherub had two faces; so that the face of a man was toward the *palm tree* on the one side, and the face of a young lion toward the *palm tree* on the other side: it was made through all the house round about. From the ground unto above the door were cherubim and *palm trees* made, and on the wall of the temple.”—EZEK. xli. 18, 19, 20. *Vide* also chap. xl.



THE Temple of Solomon, magnificent without, dazzling within, the chief glory of its royal builder, Jerusalem's proudest boast!

Alas! for human triumphs, children's writing on the sand—the coming wave shall sweep it all away.

How grandly the completed Temple shone!

A few short years and it was rifled of its treasures: they became the spoil of Egyptian robbers. Warning after warning still disregarded, till the mighty tempest of God's wrath broke over the devoted city. Fired by the Babylonian torches, the building itself was destroyed,—polished marble, fretted stone, carvings of fragrant woods once overlaid with fine gold and encrusted with gems,—lay an undistinguishable mass of blackened ruins.

The streets of Jerusalem were silent as the grave. Judea mourned as a woman forsaken;—where were her sons and daughters?

Where were the people that “joyful and glad of heart” kept the Feast of Tabernacles twice seven days at the dedication of Solomon's Temple?

Were there none among their descendants who had learned



the king's noble prayer? none to cry unto the Lord its touching burden?

"Hear thou in heaven thy dwelling-place," "and when thou hearest forgive!"\*

"By the rivers of Babylon" the captive children of Israel wept when they remembered Zion.

Well might they weep, and the sweet singers "hang their harps upon the willows," for their sorrows were even as the thorns and briars which a man's own wilful hand had planted in his pleasant garden. How had God blessed them and made them to prosper, but, stiff-necked and rebellious as they were, they had drawn down on themselves the lightnings of God's wrath.

But amongst the captive Hebrews God had his faithful servants still. Two especially, who, in the different lots assigned to each, stood forth with equal bravery unswerving in their fidelity to him, who in trouble and joy alike they knew as their best and truest Friend, their Father and their God. Brave spirits both; each day unknowing what the morrow would bring forth, they carried their lives in their hands, ready at all times to give them up sooner than be for an hour traitors to their God.

One captive, the royally-descended Daniel, glorified his God in high places. His blameless life and admirable character endeared him even to the hostile kings whom he served. Honoured, trusted, and "greatly beloved" by God and man, the glorious privilege was his of gaining from the lips of the pagan monarch an acknowledgment of the supremacy of Jehovah. Miraculously preserved from the hideous death he so bravely encountered, his days were ended in peace, though still a captive in a stranger land.

As true a soldier of the Lord of Hosts, Ezekiel of the sacerdotal race was zealous too in his Master's cause. He ceased not to jeopardy his life, and fell at last by the hands

1 Kings viii. 30, 39.

of his own degraded countrymen, provoked to anger by his righteous zeal.

Far from the sumptuous court of Babylon, where Daniel held an honourable post, did the widowed prophet on the lonely banks of Chebar feel that for him there was nothing to do? Conscious of his great gifts of eloquence and earnestness of purpose, did Ezekiel's eager spirit chafe because of his enforced retirement? Oh, no!

By Chebar, a river of Mesopotamia, considered as one of the "rivers of Babylon," a river therefore of captivity, is the prophet's appointed place. Not his to make the walls of palaces give back Jehovah's praise, but the lonely river-bank he can and will make vocal to his name.

As he walked by the waters with kindling eyes, snatching from the overhanging willows the harp of his country, he sang. Not as an hireling singer, to win praises from his haughty conquerors; not as one who speaketh "smooth things" to lull into unmanly torpor the souls of his dejected countrymen. No: with a heart swelling with noble indignation he sought to vindicate the honour of his outraged God. Reproaching his fellow-captives with their past and present idolatry, he strove to rouse them to better things; and then, remembering Zion, he wept—the slow unwilling tears wrung from men's eyes when manhood's self gives way beneath intolerable grief.

Zion, lost Zion, the beautiful city, scene of his happy childhood, how changed now! That day of horrors, when he looked upon it last, will its hideous memory ever pass from his brain?

Zion!—her walls cast down; her streets resounding with the tramp of armed men; her palaces destroyed; her Temple in flames; her boys and girls chained captives, driven away by the fierce conquerors, striking back at the miserable parents attempting to follow; fathers with white lips cursing their unnerved arms; and shrieking mothers beseeching some kindly sword to end their agony!

“Remember Zion!”—well may the strong man weep!

The harp-strings quiver beneath his hand, smitten across with unmeasured force, wildly, passionately. Grand music bursts from full vibrating chords, borne on the listening waters, echoing far away, as with a trumpet's call it strikes upon the startled ear of some degenerate countryman, bidding him too “remember Zion.” So now the measure changes. The unutterable sadness of the cry is piteous and tender as a loving woman's reproach.

“Turn ye, turn ye from your evil ways; for why will ye die, O house of Israel? why will ye die?”

“As I live, saith the Lord God, I have no pleasure in the death of the wicked, but that the wicked turn from his way and live: turn ye, turn ye!” “Why will ye die?” “Why will ye die?”\*

Again and again the sobbing notes go forth, till the harp drops from his hands, the strong man trembling as a reed before the blast.

The storm of passion has gone by. He snatches up the harp again: he looks to heaven. The sunset splendours of an Eastern sky stream on his face, and then—yet more effulgent glories which are to come—the promised brightness of Messiah's reign gleams on his spirit's raptured sight.

Again the harp-strings speak, but tremblingly and low. The vision is dim from excess of splendour.

But from amidst ineffable light glimpses of glory are vouchsafed to us.

On the “high mountain” the magnificent temple which shall be built.

The healing waters, the great river of life.

The tree “whose leaf shall not fade,” whose “leaf” shall be “for medicine.”

The city whose name shall be “Jehovah-shammah,”—  
“The Lord is there.”†

\* Ezek. xxxiii. 11; xviii. 31.

† Ezek. xl. 2; xlvii. 9; xlvii. 12; xlviii. 35.

## THE TEMPLE OF THE VISION.

In the far East, on the western coast of Hindustan, travellers tell of a city of ruins. It has seemed to some as a "city of enchantment:"\* ruins of magnificent buildings, luxuriant tropical vegetation on every side, but no signs of human life.

Chief amongst those superb monuments of other days is a stately cathedral. The massive walls remain of hewn stone. The outline of the vast edifice may be distinctly traced; the shape too of the windows is defined; but that is all. It is roofless. There is no interior, no sculptured arch or pillar of wood or stone; but instead, tall palm trees rise at intervals. Their slender upright stems shoot high into the air, bending their crowned heads each to each from either side; their plume-like branches meet and interlace; while in the intervals of space left by the palm-tree pillars shining columns seem to stand. It is but the lustrous atmosphere of tropical noonday, whose particles are like shredded gold.

Place a child within that grand skeleton; bid her look upwards with dazzled eyes; and then direct her tiny fingers to build up yon stately edifice.

Even as that little child would know her task was hopeless, so does the writer feel it impossible for her to trace, from the grand outline revealed in Ezekiel's vision, the perfected whole of that magnificent temple. Nor would she dare, through all its mysterious and shadowy revealings, to pronounce upon its real and entire significance.

A grand outline is all that is given us. Strict measurements; the length, width, height, foundation, and thickness of the wall, exceeding greatly the size of Solomon's Temple. But except the tables of "hewn stone" and the "altar of wood" no materials are given. No brass or iron, marble or fragrant woods, no gold or gems, no veil, no adornments are spoken of; no "pomegranates," no "lily work,"—with one

\* Bassein.

only exception, and this one adornment is repeated again and again, even as in the description of Solomon's Temple. Each *gate* of the temple "had palm trees, one on this side, and another on that side, upon the posts thereof."

In the house itself "from the ground unto above the door were cherubims and palm trees made, and on the wall of the house."†

In both temples, palm trees, as types of the righteous children of light, are placed side by side with the shining angels that stand before the throne of God.

Doubtless this temple is typical throughout, even as was the former, of that spiritual temple building up around us, though unseen, to be made visible in its fair perfection in that day when the number of the elect shall be completed; when the redeemed Church, as a bride adorned with her jewels, shall be for ever united to her Lord.

But we also believe, with one of our most gifted and most earnest-minded divines,‡ that this vision will be literally fulfilled, this temple actually built, and within its walls the Messiah acknowledged by Jew as well as Gentile.

But the secrets of the future are with the Most High; the duties of every day are with ourselves. And ordinarily they are very plainly set forth, or will be so, if with a true heart we earnestly beseech his guidance.

Our lot, as yet, is in this lower world—a grand and glorious temple, also, of our God, which his own hands have fashioned and upraised.

The temple of the vision hath a home lesson for each of us. The palm-tree pillars ask of us, are we as pillars here? Have we the upright stature of the palm tree, which alone can fit us to be pillars here, and hereafter to be within the gates and within the "house not made with hands, eternal in the heavens?" That stature we cannot attain of ourselves, but it shall be given to all who are firmly rooted in faith.

\* Ezek. xl. 26. † Ezek. xli. 20. ‡ "Israel's Future." Rev. Capel Molyneux.

Palm trees (the incomparable type of the righteous), in both temples as pillars upholding the house of God, are joined in their holy happy work with cherubim—shining angels from the bright company of heaven.

Glad thought, but very solemn. Is our daily work fit work for them? In our goings out and our comings in dare we desire their company?

Would it be joy to us could a beam of light from the unutterable glory of God's throne reveal to us close at our side one in white robes, holy and pure, with clear angelic eyes?

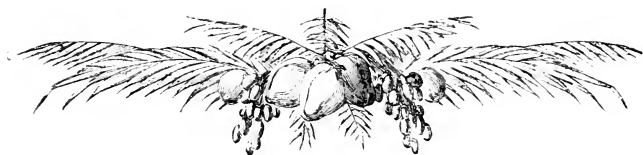
We repeat those words by rote, "Thou God seest us." Let us seek to realize them. Let us begin by realizing the presence of his servants. Through the day-time's busy haunts, through the night-hours' still repose, would we wish to have angels always with us—to see them by our side, to feel that our every thought, and word, and deed, was known to them?

Would this be a glad thought to us? If so, happy are we. We may then feel sure, however humble our daily work may be, that we are doing God's work on earth, even as the bright angels do his will in heaven. We may know we are working *together* with them.

Death, which is the unveiling of the spiritual world, will have no terrors for those who love to feel angel companionship on earth. Ministering spirits are they, leading conquerors through Christ to the Celestial City's gates of pearl.

Beyond the grave is the Tree of Life. Paradise regained—the cherubim's flaming sword is sheathed—and those made perfect in love shall stand equal in glory to those whose name signifies "Fulness of knowledge."





## Bethany—"House of Dates."

THE HOME OF THOSE THAT JESUS LOVED.

"And he entered into a certain village: and a certain woman named Martha received him into her house. And she had a sister called Mary, which also sat at Jesus' feet, and heard his word."—LUKE x. 38, 39.

"Now a certain man was sick, named Lazarus, of *Bethany*, the town of Mary and her sister Martha. Now Jesus loved Martha, and her sister, and Lazarus."—JOHN xi. 1, 5.



WE look not now to temples and to types—the Saviour of mankind himself has come!

Star-crowned Bethlehem has rejoiced in the fulfilment of the promise made to her seven centuries before, that she should be the earthly cradle of the Lord of Glory. The home of David the shepherd-king was also the appointed birth-place of the Good Shepherd, whose flock should be gathered out of all nations, whose fold should be the Paradise of heaven.

The moon-lit air of hill-side Bethlehem caught the sweet echoes of the herald angels' song,—“Glory to God in the highest; on earth, peace, good-will toward men.” The star-crowned village beheld the lovely Babe receive the homage of the Eastern sages, types of the Gentile world, the wide Christendom that was to be.

Nazareth looked on the child-life of Jesus, “increasing in wisdom and stature, in favour with God and man.”

The wilderness witnessed the mystery of the Temptation.

The smiling shores of Galilee's bright sea, the streets of Jerusalem, and all the cities and villages around, each in

their turn, had been the scene of our Lord's gracious ministry.

At length, in a "certain village," taking its name from its groves of Date Palms, Jesus has found a home—a place of temporary rest between his toilsome journeyings to and fro!

Bethany, Village of Palms, thy glory has out-lived that of the stately City of Palm-trees. Of Irhat-temarim, or Jericho, the City of Moon-worship, not a stone remains to tell of its "fenced walls."

But Bethany, sweet village, smiles safely still. "A wild mountain hamlet, screened by an intervening ridge from the view of the top of Olivet, perched on its broken plateau of rock, the last collection of human habitations before the desert hills which reach to Jericho, this is the modern village of El-Azarieh, which derives its name from its clustering round the traditional site of the *one house* and *grave* which give it an undying interest."\*

Time hath passed lightly over the consecrated ground where last the feet of Jesus trod—the home of those that Jesus loved—the scene of his grandest miracle. With reverent finger even the wild Arab points to the "rocky knoll" a little way out of the village, where a few stones, unwilling to fall away from the hallowed walls, are honoured as the remains of the "House of Martha."

"The sepulchre is a deep vault, excavated in the limestone rock in the middle of the village. This spot has been a place of remarkable veneration in very early ages, the 'Crypt of Lazarus' being mentioned in A.D. 333, and also by Jerome about seventy years later, as the site of a church, successive monasteries also having been built on it."†

A *house* and a *grave*—the wide wide world can give its children nothing beside; but if like the house of Bethany it be a home for Jesus—and like the grave of Bethany, the

\* Stanley's "Sinai and Palestine."

† Roberts' "Holy Land," quoting from ancient authors.



sleeping-place of Jesus' friend, unspeakably blessed shall both of them be!

Hallowed by the past, for palm-crowned Bethany there are glimpses of a glorious future revealed.

When the Mount of Olives shall cleave in the "midst," an "highway shall be there," the "way of holiness; the unclean shall not pass over it," but "the ransomed of the Lord shall return, and come to Zion with songs, and everlasting joy upon their heads" (Isa. xxxv. 8-10).

This new highway for the feet of the righteous must pass by the Village of Palms. The great river of healing waters, traced in Ezekiel's vision\* as issuing from under the threshold of the magnificent temple "eastward," where its brimming banks are described as overshadowed by unfading trees, takes its course by the palm groves of Bethany.† How fit it seems that so it should be!—the Saviour's glory first revealed on the only spot on earth where dutiful love ever welcomed him—where, parted from those he loved in the act of blessing them, he should first return to consummate the blessing.

From palm groves restored to happy Bethany, rejoicing multitudes shall gather once more homage-branches to strew in his path, whom all the nations of the earth shall then acknowledge as their King.

Ah, would that Bethany's palm groves, living still, could have kept for us the tender lessons they heard,—no jarring note of sneering scribe to mar their heavenly harmony; could display to us the pictures they beheld,—no scowl of envious Pharisee to darken the light of those hallowed home-scenes.

We weep when we remember Zion; we cannot but love Jerusalem; but our love is saddened by reproach, and heart-aches mingle with our memories of her.

\* Ezek. xlvii. 1-12.

† In acknowledging her deep obligations to the author of "Memories of Bethany" for that and many previous inestimable works of his, the writer desires to say that the whole of this chapter was sketched out before she saw his far more complete work on the same subject.

As the gentle Saviour traversed her streets, the shadows of malicious scribes and Pharisees, "laying wait for him," gloom ever behind, the picture continually darkening to the end. Sorrows endured for us—fierce cries and hideous mockery—the purple robe and crown of thorns—till on the cross the Sacrifice complete—earth is convulsed and heaven itself obscured.

But the palm groves of Bethany are bathed in light; sun-lit the quiet village lives in our memory.

An earthly home was Bethany, so sorrow's foot-prints must be there—sorrow, and tears, and a sepulchre. But it was sorrow that had hope in the end; they were the tears of those that Jesus loved, and of the compassionate Saviour himself, as the dew of heaven watering the earth that it should bring forth good fruit; and the sepulchre was an opened sepulchre.

None need shudder to look within: from thence streams forth a radiance as of the Morning Star, heralding the fuller glory of Easter Morn.

Bethlehem's air is resonant with the sweet notes of an angel choir—the birth-song of the infant Christ; but over Bethany still sweeter melody for ever floats—the last accents of the risen Saviour: the cross endured, the grave rent, the ransom completed, the victory won!

Palm-crowned Bethany, redolent of peace and joy, in thought we travel back to that far off story of thine. With the sisters we stand at the house-door, or go forth upon the road which leads from Jerusalem, swift-footed and with straining eyes, eager to catch the first glimpse of the coming Saviour.

Do we so watch for him even now in our own homes? If we do, he will surely enter there and abide with us.

"A man of sorrows, and acquainted with grief," up that long ascent he journeys, heart-weary and foot-sore, after the long day's thankless toil. But home peace awaits him at Bethany. As they issue from beneath the palms, the

Saviour smiles to recognise from afar the sisters and Lazarus, his "friend."

Good trees bringing forth good fruit: how significant are the sweet fruits of the Syrian palm tree of the lovely lives of those dwellers in the House of Dates!

The upright trees, crowned with abundance of pleasant fruit, are the more forcibly brought to mind from the contrast they afford to the evil tree farther off on the road to Jerusalem. The barren fig-tree, with its false show of leaves—accursed; a double warning of impending doom—to the traitor Judas, present at the time, and the hypocrite Pharisee rulers of that nation whose deserved ruin was at hand.

Who has not imagined to themselves that opening scene at Bethany? Martha hurrying to and fro, in her haste growing impatient, in her impatience becoming unjust;—gentle and pure-hearted Mary, child-like, sitting the while at Jesus' feet. The silent service of an entirely devoted heart was incomprehensible to one like Martha, who only recognised the visible, the outward service of her hands and feet.

She loved the Lord, but not with the high and holy love of her sister's more exalted nature. In Mary's perfect love all thought of self was lost. Did her sister, in her ungentle haste, seek to bring on her the reproach of her Master? She attempted no self-defence. In his hands to whom she had given her heart she left her cause, and nobly was her trust redeemed.

Could we but think so, how often is it our "strength to sit still!"

We murmur when our words are wrested, our actions misunderstood; but if we always "sat at Jesus' feet," we should learn meekness, even as sweet Mary of Bethany learned.

Like the dove of old, she held her path above the troubled waters of life's anxious cares. The tossing spray might fleck her shining wings, but had no power to weigh them down or stay her buoyant flight

But Martha flung herself into the surging waves. Safely

to walk a sea of worldly care demands an especial gift of grace. Too often, like Peter, thinking ourselves strong, we go forth seeking for trials of faith which are beyond our strength. If we wait till Jesus, unasked, bids us come, then will his right hand hold us up.

We read of no repetition of either of Martha's grievous faults. We may feel sure the sisters of Bethany were both amongst the weeping daughters of Jerusalem that lingered at the cross, that hastened to the sepulchre.

From their own village Martha and Mary may have beheld the glories of the Ascension; and we may well believe that, in such solemn scenes, the character of Martha would be spiritualized and enabled to realize the invisible. In the felt presence of her glorified Master, she would diligently seek to disencumber herself of all that hindered her running the race set before her, so that when the angel messenger came, repeating to her her own old words, "The Master is come, and calleth for thee," she would joyously, with good hope, arise to meet her dear Lord in heaven.

Another picture from the home in the Village of Palms: Love's offering, mixed with faith—the "alabaster box of very precious ointment," the fragrance of which has gone forth into all lands, a witness for the truth of God's word.

"She hath done what she could." Gracious words! Oft have they stayed the tears of disappointed hope, and comforted, in baffled hearts, the fruitless yearnings of impulsive zeal. Through all time they shall be as music to all loving and lowly spirits.

Though man's stern judgment may condemn, Jesus still sees and graciously accepts all that we offer of our best.

Faith crowned the offering of Mary's love, as in the world's earliest days it made the excellence of the sacrifice of Abel's lamb.

The nature of her offering, and the time chosen, evidenced in her a faith surpassing even that of the Lord's disciples—faith in him as the atonement soon to be offered up for the

sins of the whole world. Peter shrank from the mention of the coming cross; but Mary in spirit went forth to meet it. Her woman's tender heart made strong by love, she tearlessly anointed her dear Lord for his burial;—in that she poured it on his head, anointing him also as a king.

Repentant Magdalene dared only anoint the Saviour's feet, mingling the ointment with her tears, wiping them, even as Mary did, with her long dishevelled hair, unbound—with Eastern women a token of grief.

Again was gentle Mary reproved for a misconstrued act of love. Painful must have been her surprise at the disciples' "indignation;" but her Lord's approval soon changed her distress into joy. Again she had left her cause in his hands.

But we linger too long at the home. Death and the grave await us without. But the grave of Bethany is the triumph of the Christian mourners, even as the tears of Bethany are their best comforters.

At Bethany, Jesus, as conqueror, stood before the gates of the stronghold of the King of Terrors. In his own citadel of the grave the Lord of Life grappled with Death, and from the jaws of the sepulchre the bound prey was wrested forth.

The stone was rolled back by human hands. Even in the exercise of faith, obedience taught to use all possible means.

At Christ's own sepulchre the stone was rolled away by angel hands unseen, for earthly might was powerless there.

From Bethany's grave Lazarus came forth, to be his sisters' comforter in the dark hours near at hand—to be a witness and a reminder to them, to himself, and to all the world, of the almighty power of Him who "for a little while" they should not see.

Is there a Christian home where tears have not fallen on the Bible page that tells of Lazarus' grave?

In our island race how often are the "graves of the household" not in our own villages, but far apart! North and south, east and west, earth holds the lumps of clay where once so brightly shone the light of many an English home.

It may be that with some of us a palm-crowned island of the West has been even as the palm groves of Bethany to the sisters of Lazarus. There our darling may have been laid down in the full flush of manhood's early prime.

Not for us, like those glad sisters, to see the heavy stone that had crushed all gladness from our hearts rolled back from the brother's grave.

Not for us to see the wrappings of the tomb unwound from the beloved form—to see, as they saw, the dear eyes smile again—to hear, as they heard, the joyous voice once more.

The palm trees of the West droop over the still shut grave. Only at heaven's gate shall the tender brother's voice be heard again.

The cold marble is unconscious of farewell kisses and tears ; but the sacred words engraved thereon enter into the mourners' hearts. Still, still do the Saviour's words sound sweet,—

"I am the Resurrection and the Life: he that believeth on me, though he were dead, yet shall he live" (John xi. 25).

Sorrowing sisters, *our* "brother shall rise again."

The sweet name of Bethany may be lost in the modern name of the village—El-Aziriyeh (from El-Azir, *Arab.*, "Lazarus."\*) Its palm groves, too, may have passed away for a time. But so long as a Christian household exists, the one house and the one grave of the Village of Palms will live imperishably in loving hearts.

Were it only for the remembrance that its evergreen branches over-shadowed the opened sepulchre of Lazarus, the palm tree would be dear to the followers of Him who hath redeemed us from the power of the grave.

The Date Palm, the Phoenix of the ancient Greeks, spoke to them through a fable of a bird rising from death to life. The descendants of the Syrian palm trees, as living witnesses, speak to us of a reality—of the risen man they beheld.

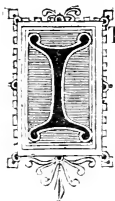
\* Roberts' "Holy Land."



## The Palm Branch of Earth.

### CHRIST'S TRIUMPHAL ENTRY INTO JERUSALEM.

"On the next day much people that were come to the feast, when they heard that Jesus was coming to Jerusalem, took branches of *palm trees*, and went forth to meet him, and cried, Hosanna! Blessed is the King of Israel that cometh in the name of the Lord."—JOHN xii. 12, 13.



It is a rugged mountain path. The soil is rocky. Loose stones heaped together here and there make it a toilsome road to pass over. To the left the ground falls suddenly away, but the steep declivity looks fair. Fig trees, with broad leaves of glistening green, clothe and conceal its slippery sides. On many of these full-leaved trees there is no fruit; they are barren. On the right slopes upward from the rugged road a lovely mount. The fragrant myrtle, the fruitful olive and palm tree, make it a garden of delight.\*

But see! two mighty crowds are streaming to the spot from opposite sides—a joyous and triumphant multitude. Their shouts are those of victory, and the symbols of victory—palm branches—are in their hands.

They have met—the people from the city, the people from the village. But one spirit influences both. Their mingled shouts are pealing to the skies; they cast their palm branches of homage to the ground; they spread their garments in the way; and again and again the rocks give back their loud, exultant cry.

\* Again, for the picture of the road from which her sketch is taken, the writer acknowledges her obligation to the author of "Sinai and Palestine."

Who is that they greet? Palm branches are for victory.  
A conqueror?

There looks no conqueror there. One rides, but meek and lowly. He sits on an ass's colt.

Those that ride on white asses, says the song of Deborah the prophetess, are those who "sit in judgment."

A judge?

Nay, but he hath no guards, no retinue. A few poor men press lovingly around him, gazing upon his countenance with eager looks, although his "visage is marred,"—"a man of sorrows, and acquainted with grief."

See, now, the winding of the road reveals Jerusalem, the holy city, and the cry of the rejoicing multitude rends the air: "Hosanna to the Son of David! Blessed is he that cometh in the name of the Lord! Hosanna in the highest!"

Son of David? of the royal race? a judge? a conqueror?—a king? Ay, Lord of lords, and King of kings! the Prince of Peace—Christ, the anointed!—Messiah—Saviour—God!

Who is He? The mighty dead, one of Israel's own prophets, shall tell thee; a voice which nearly five centuries before had gone forth! Long had its echoes slept; but now they wake again, and roll their living thunders on each startled ear!

"Rejoice greatly, O daughter of Zion; shout, O daughter of Jerusalem: behold, thy King cometh unto thee. He is just, and having salvation; lowly, and riding upon an ass, and upon a colt, the foal of an ass."\*

Thy King, O Zion! thy Redeemer—"Shepherd of Israel"—"Star of Jacob"—the Sun of Righteousness which should arise with healing on his wings."

Jerusalem, Jerusalem, how often would He "have gathered thy children" under those saving wings! but thou "wouldest not;" and now that at length ye are moved to say, "Blessed be the King that cometh in the name of the Lord," the

\* Zech. ix. 10.



end draweth near. The hour is at hand when the Son of man shall be betrayed into the hands of sinners.

Christ cometh as a conqueror to meet the cross; for on the accursed tree his victory shall be completed. Death swallowed up in victory, risen from the sepulchre, Christ shall become "the first-fruits of them that sleep." "As in Adam all die, so in Christ shall all be made alive."

Shout, then, ye sons and daughters of Jerusalem, and clap your hands, ye little ones whom Jesus bade come unto him, for in him "your redemption draweth nigh."

Those gracious feet that went about doing good—those kindly hands which, laid upon the sick, had relieved them from their suffering—they must be wounded unto death for you. The tender voice that ever spoke to cheer, to comfort, and to teach "things which belong to everlasting peace," ere long will utter that bitter cry at the sound of which the shuddering rocks shall be cleft, and the face of nature be darkened with dismay.

So gather around him tenderly now, all ye whom his never-failing compassion has so often caused to rejoice. And ye most blessed little ones, who have been taken to his arms, well may your grateful mothers, lifting you up on high, clasp your tiny fingers round the palm leaf ye too shall wave in his honour.

Look ye all upon him tenderly, and from swelling hearts let the cry of welcome go forth pealing aloud, to meet the answering homage of the sky.

A day of triumph, closed in tears, in pitying tears, Jerusalem, for thee, who gave one little day of gratitude to Him whose life was the ensample, whose death the ransom of the whole world.

The Babe of Bethlehem in his cradle received the homage of the Gentile world, presented through the Eastern sages, who, in their offerings of myrrh, gold, and frankincense, confessed him to be Saviour, King, and God.

Judea's homage, latest then, even as it tarries now, was, when it came, significant also.

Palm branches unto Him, sole "covert" in life's wilderness.

Palm branches, telling of the desert's saving springs, to Him the fountain of living water.

Palm branches carried by all partakers in the Feast of Tabernacles, in double remembrance of Succoth, their first night of freedom, and of the City of Palm-trees, their first possession in the Promised Land—to Him who, though they knew it not, was the true Joshua through whom alone they could enter the heavenly Canaan

The woman of Canaan herself might lay at her Deliverer's feet the palm branch, of universal significance in all lands, as a token of gladness, and light, and victory.

Pass on, rejoicing multitude; ay, even to the temple gates conduct in triumph your anointed King.

Ah, sorrowful thought! but five days hence—ere those lovely palm branches have withered on the road—the cry of the multitude will have changed. To-day they repeat the angels' song, "Hosanna in the highest;" then it will be as the hideous cry of fiends, "Away with him, away with him, crucify him."

"Away" with the Lord of light and life—teacher, friend, physician, shepherd, priest, and king! "Away" with Jesus, and give unto us Barabbas!

Christians, as we have been called from infancy, our baby brows marked with the cross,

"In token that we should not fear  
Christ crucified to own,"

do we ever choose Barabbas rather than the holy Jesus? Do we not, whenever we choose to serve Mammon rather than God? Do we not, whenever we knowingly, wilfully turn away from the pure and perfect law of God, to follow the devices of our own hearts, whose imaginations are evil continually?

Ah! too often, we fear, some who have followed the Lord to the temple on God's holy day, and there carried the palm branch of praise to do him honour, have changed their cry ere the week has come round, almost as madly as the blind Jews.

Hosannas and palm branches forgotten, they have bowed down to the golden image that a stronger than Nebuchadnezzar sets up in the busy marts of men.

How strangely agitated by this thrilling and unexpected scene must the loving disciples of our Lord have been! Those shouts of welcome, that homage as to a conqueror and king, how unreal it must have seemed! They had companioned with him in poverty and peril, on the lonely mountain, on the storm-tossed sea: they had been with him when the Gadarenes besought him to "depart;" when the people of the village in Samaria would "not receive him;" twice in Jerusalem they had seen "stones" taken up to "cast at him;" but never before had he been acknowledged as king.

As Christ the consoler, the sick and the sorrowful had crowded about him; but now they came not for healing or help, but only to do him honour.

We read, "These things understood not his disciples at the first." Even to them, the chosen followers of Jesus, many things were dark till the bright rising of the Easter Sun. To them the glad light streaming from the unsealed sepulchre was as the dawn of a new day. "The stone was rolled away," and the fountain of living waters sprang up. Taught by their risen Lord himself, they then discovered the well-springs of truth in every Scripture page.

They have recorded for us the lessons they received; and again and again, through the long sadness of the Holy Week we catch the echo of Palm Sunday's joyous cry, till bursts the full harmony of Easter morn—"Christ is risen!"

The early Christian Church received the palm branch as a type of the resurrection—victory over the grave. Emblem

also of light, we will bear it about with us through the week from one *Sun-day* to the next.

Pilgrims of old, when bound for the Holy Land, chose for their staffs the wood of the hallowed palm tree. While it supported their sometimes sinking steps, it reminded them of their vow to fulfil the enterprise they had undertaken—a *palmer's* vow, which could not be abandoned.

Are we not bound by our baptismal vows to set our faces Zionwards? As pilgrim *palmer*s seeking the heavenly Jerusalem, shall we not cherish the palm branch? The mountain path is rugged and steep by which we must go to meet our Lord; but if our staff be from the uprising tree, it will be both strong and straight, and will never fail us.

The ever green branch, type of many a holy truth, may be our sweet remembrancer upon earth of the ensign of victory we hope one day to receive at the hands of Christ the conqueror.

Again and again did the watchman of the night, in the old dispensation, take up the warning cry, "Prepare ye the way of the Lord." The prophet of the Highest caught the glad echo from the last of the prophets of the law, "Prepare ye the way of the Lord."

And still, albeit unheard by many amidst the din and tumult of an over-busy world, the warning cry goes forth; not as yet trumpet-tongued, but as a "still small voice, '*in which the Lord is.*'" He speaks to every child of man. To all He says, "What dost thou here?" "Prepare to meet thy God."

Yet again, hark! "Every tree that bringeth not forth good fruit is hewn down and cast into the fire."

The duteous Earth keeps watch. The rolling seasons, as they pass, behold her fulfilling the work assigned to her; supplying fit food for the vegetable creation, so that each tree may perfect its bud and flower, its fruit and seed.

The crowned trees keep watch. They watch from the mountain-tops; watch from sea-girdled isles; watch from

crowded forests; watch from fair garden homes; from arid deserts watch; heedfully, lovingly, all watch.

Some keep a double watch. The Desert Palms have silver wells to watch; hidden springs, unsealed at times to slake some wanderer's burning thirst; but still the music of their gushing streams is held back. Not yet these crystal waters may be loosed to flow abroad and swell creation's harmonies of praise. Not yet. But the Desert Palms keep watch.

For yet again: "The desert shall prepare a highway for our God." "The glory of the Lord shall be revealed, and all flesh shall see it together."

Then shall "the wilderness and the solitary place be glad."  
"The desert shall rejoice and blossom as the rose."

For "in the wilderness shall waters break out, and streams in the desert." "And the ransomed of the Lord shall return and come to Zion with songs and everlasting joy upon their heads; and sorrow and sighing shall flee away."\*

A Festival of Palms is yet to come!

\* *Isa. xxxv. 1, 6, 10.*





## The Palm Branch of Heaven.

“Lo. a great multitude, which no man could number, of all nations, and kindreds, and people, and tongues, stood before the throne, and before the Lamb, clothed with white robes, and palms in their hands.”—REV. vii. 9.



HE upright crowned tree, typical below of high and holy truths, is at length glorified above.

Him that overcometh is made partaker in Paradise regained of the Tree of Life.

Conquerors through Christ carry in their hands the palm branch of victory and gladness.

A close and intimate connection runs through the whole of the analogies suggested by this sacred tree. The *first* mention of it is most significantly linked with the *last*.

In the Feast of Tabernacles, not only were the leafy booths or coverts in which the children of Israel were to dwell for seven days, woven of “boughs of goodly trees, branches of palm trees,”\* with “willows of the brook,” but all who took part in the festival also carried in their right hands a palm branch entwined with willow and myrtle.

A foreshadowing, it would seem, of the heavenly palms which the “great multitude” shall carry in their hands.

It has been noticed how clearly the three great feasts ordained by God for his people to observe, are connected with the ingathering of the fruits of the earth in different seasons, which were to be offered up with thanksgiving to Him from whom all good gifts come. In each of these festivals a deeper meaning may be discerned.

\* Lev. xxiii. 42.

The first was the Feast of the Passover, or "Feast of Unleavened Bread." It was when the lamb without blemish was slain. All were to partake of it with girded loins, shoes on the feet, and staff in hand, as men attired for a journey. Well for us if in life's journey we go in the strength of that meat—feeding on the unleavened Bread of Life.

"On the morrow after the Sabbath," the sheaf of the first-fruits of the harvest (barley harvest) was to be waved before the Lord. \* *On the morrow after the Sabbath*, which was "an high day," succeeding the sacrifice on the Cross, our Eastern Morn beheld the "first-fruits" of the "resurrection of the dead," even Christ our Lord.

The second was the Feast of Pentecost, counting fifty days from the "Feast of Weeks," counting "seven Sabbaths" from the Feast of the Passover. † On it the first-fruits of "wheat" harvest—"bread of the first-fruits" baked with leaven—were to be offered to the Lord. The deeper meaning of this festival has also been fulfilled, when on the Day of Pentecost, our Whit Sunday, by the descent of the Holy Ghost, marvellous gifts were vouchsafed to the apostles.

The preaching of Peter was followed by the conversion of "three thousand souls" in one day. A noble "first-fruits" of the multitude of many nations which should be gathered in. The kingdom of heaven likened unto leaven—these loaves of fine flower baked with leaven—a promise of the far-spread leavening there should be. These loaves of *bread* of the *first-fruits* were as the loaves which fed the five thousand, besides women and children, of which no fragments should be lost.

The third, the Feast of Tabernacles, was the gladdest of all: then were they especially bidden to "rejoice before the Lord", ‡ as well they might, remembrancer as it was of their escape from captivity, even as the Passover was of

\* Lev. xxiii. 11, 10.

† Exod. xxxiv. 22; Jer. xxiii. 15, xx. 17.

‡ Lev. xxiii. 40.

deliverance from death. To it was also joined a special service in remembrance of their first possession in the Land of Promise: carrying palm branches in their hands, the worshippers passed before the altar seven times, trumpets sounding the while. And yet again the Feast of Tabernacles included thanksgiving for the ingathering of the harvest, when they should have gathered in their labours.

The first two feasts as fulfilled in gospel festivals, are remembered ever by the Christian Church. But let us not *forget* the third glad feast, though it has as yet had no answering festival amongst the followers of Christ. How could it have, when as yet unfulfilled is the promise made to *all* God's labourers, that "he that soweth to the Spirit" should "of the Spirit reap life everlasting."\*

Many who have "sown in tears" have "reaped in joy;" many labourers have entered into their rest, dying in the Lord. But not yet is the *harvest* fully ripe. Many labour yet—planting, watering—praying God to give the increase. Glorious thought,—“labourers together with God!”

The Feast of Tabernacles—the feast of the ingathering of the fruits of the earth, which was in the end of the year—the month ushered in by the Feast of Trumpets—it has not yet come to the followers of Christ.

But shall not the palm branches, carried in the hands of all who took part in the Jewish feast—"palm branches entwined with willow and myrtle"—tell us when it shall be gloriously fulfilled? Partly foreshadowed in Christ's triumphal entry into Jerusalem, this feast of great joy, will it not find its complete fulfilment when, at the bidding of the crowned Lord of the harvest, "He who sits on a cloud" shall thrust in his sickle on the earth, "and the earth shall be reaped." †

Wheat and tares—children of light, children of darkness.

At that great harvest-time, when the everlasting "covert" shall be gained, the "more perfect tabernacle not made with

\* Gal. vi. 8.

† Rev. xiv. 15, 16.



hands"\* then shall the "Feast of Tabernacles," the Festival of Palms, be fulfilled. With joy unspeakable, all who shall take part therein, "clothed in white robes," shall carry "palms in their hands," crying hosanna to their King!

But will the glorious palm branch be given to *all* who at the sound of the trumpet shall arise to judgment?

Does the coward, the deserter, the rebel, find favour at an earthly monarch's hands?

Our Queen's cross only rests on brave and loyal breasts. Victoria's precious badge is only for the valiant and the true!

Dare any think more lightly of the King of kings? Is the faint, faltering service of half-hearted loyalty meet offering for him?

No common courage or constancy must be theirs who press forward to gain an everlasting prize. No common victory is theirs. In earnest and entire devotedness to God, striving through faith in Christ to overcome the wiles of the devil, the temptations of the world, the evil of their own hearts.

But to "him that overcometh" will be given of "the Tree of Life." † Ensign of victory, how blessed none upon earth can know! We read of "gates of pearl" and "streets" of shining "gold;" of the "crystal river," and the "sapphire throne." Dazzling imagery, indeed; but oh, how faint and dim are all earthly images will be seen in that day when the transcendent glories of "the kingdom prepared from the foundation of the world" shall be made known to those who hear the joyful words, "Come, ye blessed of my Father!"

Our chief joy will be the presence of the Giver of all joy.

But may we not, in all humility, be permitted to imagine to ourselves also the perfection of every happiness, the complete fulfilment of all desires, according with the excellency of the Divine Nature?

Does it not seem accordant to divine wisdom and love that every better property of our human nature, purified here and fitted for the atmosphere above, shall in our future home find

\* Heb. ix. 11.

† Rev. ii. 7.

their glad development, their appointed exercise in unspeakable joy?

Affection and intellect both, here sanctified, be there glorified, even as the seraphim and cherubim are supposed to signify angels excelling in love and in knowledge.

The bliss of love perfected and imperishable, all can understand: human hearts leap up to catch the music-echoes of the word. May we not hope that all that is pure and holy in earthly affections, perfected in glorified spirits, will remain, to add another source to the unspeakable bliss of heaven? A shining exhalation as it were, "a mist from the earth," as in the old Paradise, going up to water "the whole face of the ground," brightening the flowers of the Paradise above.

And there is bliss in knowledge, too, which in heaven shall be inseparably joined with love. We cannot certainly know of what nature, but we can feel how bright, how wide those fields of knowledge must be, which lie beyond the eternal gates. Even on earth, where some degree of toil must be connected with it, there are many who have a quiet but deep joy in acquiring knowledge, an exquisite though silent delight in each new source of high and noble thoughts—golden keys unlocking treasure chambers without end.

Have we not read of, or perchance may even know of some whose pleasure in study is so intense that their book-room is to them the world.

There, all unconsciously, they grow old, grey hairs and wrinkles gather on their brows unfelt. Absorbed in Learning's wide and noble pursuits, tracking events, footprints of history in the grand march of centuries gone by, they wot not how, with muffled feet, Time swiftly steals around their own arm-chair the narrowing circle of their appointed days.

Such precious treasures of thought are contained in books that miser-sages are content to contemplate them for their own sakes,—they do not care to circulate their hoards. But to others, wealth of all kinds looks dim unsunned in

heaven's light: to them the tiniest wells of knowledge seem more blessed when unsealed and flowing abroad. If the lips of one little child has tasted with pleasure of its cool clear drops, no rivulet has sparkled in vain.

This bright bright world of ours, how fair it is! But brighter, fairer far, the boundless expanse over which angelic visions range. The starry splendours of our night to them are countless worlds, moving harmonious in their bidden spheres—a radiant company of peopled orbs. We may not prove it, but love doubts not that the extremest ends of space are vocal to the Almighty's praise.

While fiery comets are dumb to us, and to our sages' eager questionings the dazzling strangers will vouchsafe no answer—to men their origin, their errand, and their end unknown—angelic eyes may track their shining course. Wise purposes are revealed to them where all is mystery to us, for they can read the "writing on the wall."

Yet, oh! not wholly dumb to us is the comet's glittering sign—God's finger-mark upon the sky. Some message it must have to every child of earth; of joy to some—another glorious creation from a Father's hand; to others a startling wonder—a bewildering thing of dread.

In the bright realms above, all Wisdom's paths, though measureless, are sure. The wisest here are sometimes baffled in their search, and some attractive road has scarce been opened up ere mists arise, and the vexed wanderer has to retrace his steps. Nature has mysteries to which no human hand may ever find the clue; but in the light of God's presence all that is good and beautiful and true will be made clear to us.

And Love, how boundless are her spheres of joy! to commune with the glad company of glorified spirits, the great redeemed family of earth—all that in human form has been noblest, wisest, best, and dearest.

To commune with angels, offspring of light! To us it may be given to share their glorious tasks—on shining

wings to speed off to far-off worlds that we call stars, doing the bidding of our Lord! Or, dearer still, appealing to our old sympathies, on glad commissions sent to homes of earth!

Even in our own old homes a gracious God may give us work to do for Him—works of joy unmixed with fear of failure. No human imperfections then will mar Love's service; no blinded eyes from quickly starting tears; no ears bewildered by heart-beats that are too loud and fast. Angels of little ones, we may in heaven behold our "Father's face," having on earth the sweet task to guide an infant's steps into the path which leads to the eternal throne. Unseen to kiss the childish tears away, to soothe the childish grief, to be beside when tempting fiends draw near, bidding the little heart "be true," "be brave;" and when the victory is gained, see joyfully the dark shapes depart. Then, at our Master's bidding, plant in the sweet bosom of the babe the "good seed," which shall "spring up" and bear fruit "an hundred fold." Oh, in the service of a God of love how countless and how various may be the kindly offices vouchsafed us to perform!

It may be ours to rouse a fainting Hagar in the wilderness, and through some human hand point out the fountain of pure water, the stream of eternal life.

Or, on the eve of battle against fearful odds, to strengthen the heart of some grand old warrior, like Joshua of old, like our Havelock of yesterday (whose proud motto was *fidelitur*),—to show him unsheathed the glittering sword of the Lord of Hosts, in whose strength he should surely prevail.

Veiled in cloud, or clothed in fire, we may be commissioned to guide the onward progress of a people chosen of God, or bid to carry healing to some stream beside which a prayerful watcher stands. To some "blameless" Elizabeth convey the glad answer to some cherished prayer; to some meek Mary who has "found favour with God" bear a message of great love.

By the loved one's grave, to comfort those that weep with

the blessed words, "Fear not,"—"He is not here, but he is risen."

To show a praying Cornelius "what to do."

Led by Love's shining hand, when we seek to do even here somewhat of angels' work, Heaven draws more near. Brightening the lot of others fails not to brighten our own. The more earnestly and faithfully we strive to perform God's will on earth, the more fitted we may be for higher, holier, happier work hereafter.

Varied as will be that heavenly work, so must our destinies be varied here. Each several tool must be fashioned according to the service that the Master will require from it.

Oh, how this simple thought would ennoble our every trial, great or small, could we but remember that each and all are fitted and apportioned to the end! We cannot know what are God's purposes for us, in this life or in the world to come; but if we are God's servants we may be sure the "Lord hath need" of us.

Without even the cheering brightness of this sublime hope, worldly wisdom itself has been brought to confess how necessary trials and disappointments and self-denials are to insure even a hope of safety to man's immortal soul.

In that city of the world, where Pleasure is the peculiar object of worship, there has been of late years a new version of the fearful tale of man selling his soul to the devil. The prince of darkness demands not now, as of old, that his bond should be signed with his victim's blood. He asks no written compact; he bids him only receive all his gifts, obtain the fulfilment of all his wishes—enjoy without a check all that the natural heart of man desires. For thus, towards the close of the sixth thousandth year of the world, the devil is supposed in his wisdom to see secured to him, without fail, the soul of the lost and wretched man.

Is not the terrible drama true?

If it has become so plain even to worldly wisdom now, why

there must be disappointments and trials upon earth, how much more vividly does a light from the eternal world reveal the wisdom which appoints diversities and apparent inequalities in the destinies of human beings !

Freely ransomed as we are by the blood of Christ—saved by faith—must we not need the discipline of life as suited to our various characters and temperaments, to prove that faith, and work in us a fitness for a glad eternity of serving God ?

How clearly do we see why to the one gate many paths must lead !

Patiently, bravely, cheerily, fellow-pilgrims all, let us then press on. The Celestial City is before us. Shall weariness oppress, or danger daunt, or grief utterly cast down those whose bright hope it is to win the Tree of Life in God's bright Paradise above ?

The Tree of Life !

Let us carry great ensigns, and our lives shall be great.

Let us openly enlist under the colours which we truly wish to defend. Let no suggestions of unworthiness keep us back. Oh, if we wait till we are worthy, we shall tarry till the last trumpet sound ; and then—it will be too late ! We must then be found on the one side or the other.

Do earthly commanders expect their recruits to bring the well set-up frames and steady bearing of long-trained veterans ? Never ! They only ask a healthy frame, a loyal spirit, and a willing mind. And our great Captain asks less—not more. He will not reject us, however weakly our bodies may be. If we are whole-hearted, docile, and true, he will do all the rest. If we give ourselves to his service, he will himself make us fit for it. He will furnish the weapons ; he will teach us how to use them ; and he will give us the victory.

In days of old, in the days of chivalry, a lady's glove carried on breastplate or helmet, was sufficient inspiration for the performance of gallant deeds.

Was not Christ's ensign laid on our baby brows? Shall our baptismal cross be meaningless? Brave brothers! is it knightly never to draw the sword, never to strike one stroke for him whose cognizance ye bear, when his enemies, hidden or avowed, are on every side?

Ask of your Leader what he will have you to do, and your appointed work will be set before you.

Dear sisters, we too have our work; but let us never be tempted from our allotted paths. They may sometimes run side by side with those of men; they never rightly can be the same. Let the strongest-minded of women but think, had God required man's service from her, would he not have sent her into the world as a man?

But fair fields and wide are open to us. The Lord of the harvest hath need of many labourers. The sharp sickle is not for us, but our hands may be busy still. Are there no hurtful weeds about us that we may pluck up? no stray ears of corn we may gather out of the way of being trodden down? Into many a woman's veil has good measure been poured out. Ruth the gleaner sits beside the reapers.

The story of the battle of *Jehovah nissi*—"the Lord my banner,"\*—has significance also for those whose natural powers, or whose circumstances of life render them incapable of carrying out the fervent desires of their hearts to do some great thing to further the good cause.

In that battle-field victory swayed to and fro, not from the influx of fresh hosts on either side, but according as the hands of one who took no part in the conflict were held up in prayer or drooped down in weariness.

If the *Lord is our banner*, sister, have we not a sweet lesson here?

Into no field of strife should women's footsteps stray; but it is for us, *trustful* and *true*, to strengthen the hands of the righteous. It is for us to hold up our own in earnest and unwearied prayer.

\* Exod. xvii. 15.

The weakest woman's voice may be as the voice of one of the "children in the temple"—as the voice of a "babe perfecting praise."\*

The weakest woman's hand may be as the hand of one of the "little ones" in the crowd going forth to meet the Lord, carrying a palm-branch in her hand.

\* Matt. xxi. 15, 16.







