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BIRDS AND NATURE.

ILLUSTRATED BY COLOR PHOTOGRAPHY.

VOL. XI. MAY, 1902. No. 5.

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CONTENTS.

"HARK, HARK, THE LARK!"

A little lyric, as clear as water,
Sweeter voiced than the river daughter,
Or Dryope's moan,
Rang from the heart of the truest singer,
And straight the sound was the magic bringer
Of joys unknown.

For night had fallen and day had risen,
And, breaking through his eastern prison,
The glad sun shone;
And all was fragrant and sweet with morning,
And to the sky, the sad earth scorning,
The lark had flown.

And, faintly heard from the coast of heaven,
The song of the glad strong seraphs seven
Was earthward blown,
And echoed, with a strange completeness,
(As a small bloom treasures infinite sweetness),
In the lyric's tone.

And the marvelous freedom of the dawning
Breathed large through the gates of life,
Wide yawning,
Far open thrown;
And the trembling thrill of incarnation
Awoke the earth to the new creation
Of Beauty's own.

—Edward O. Jackson.

THE LITTLE GREEN HERON.

(*Ardea virescens.*)

Oh, give me back my thicket by the marsh!
Let me see the herons wade
In the watery glade,
And let me see the water-fowl go by
Glimmering against the sky.

—Maurice Thompson, “In Captivity.”

The Ardeidae, or the family of herons, egrets and bitterns, includes about seventy-five species, which are world wide in their distribution, though much more common in temperate regions. So widely scattered are the species of this family, whose Latin name means heron, that most persons who are deeply interested in the study of bird life are more or less familiar with their habits. The large size of the herons, together with their long bills, necks and legs, renders them conspicuous and demands more than a passing glance from even the casual observer. Many bodies of water in retired locations will harbor at the proper season one or more species of this interesting family.

One of the smallest of the herons, and one of the most common in many localities, is the Little Green Heron, familiarly known to the rural Hoosier boy as the “Schytepoke,” and to others as the “Poke.” It is not the purpose to give a description of this bird; those of our readers—if there be any—who are not familiar with it will find minute descriptions of it in all the standard manuals. However, a few observations on its nesting and feeding habits may be of some value and interest.

In central Indiana the Little Green Heron arrives from its winter residence in Florida, or farther southward, about the last of April, and immediately begins nesting, selecting, if convenient, second growth timber, especially if there be a thicket of undergrowth. But if these conditions be not at hand, it seems to prefer, as a site for its nest, an old abandoned orchard, or at least one somewhat remote from human habitation, but not very far distant from a stream or pond. In the fork of some tree ten to twenty feet above ground is collected a considerable sized but irregular and loose bundle of rough sticks. In this by the middle of May, or at times even earlier, it lays from three to six greenish blue eggs, about an inch and a half long by an inch and a quarter in diameter. The period of incubation cannot be long, as some years young almost ready to fly can be found before the last of May. We have never found more than one nest in the same immediate vicinity, but, according to Ridgway, it sometimes nests in colonies.

For the remainder of the summer this is a social bird, at least to the extent that the whole family remain together, wading the water, stalking along the banks or perching on trees, bushes and logs. At this time it displays some curiosity when a person comes warily into its haunts. Its long neck is stretched to its limit as the bird endeavors to keep an eye on the intruder, and at the slightest suspicious movement on the part of the latter, its long wings are raised in readiness for flight. Remain perfectly quiet, however, and it again resumes its occupation, apparently unconcerned; but let a sudden movement be made, and then it awkwardly but quickly flies away, uttering meanwhile a discordant squawk.

GREEN HERON.
(Ardea virescens.)
About ½ Life-size.
FROM COL. CHI. ACAD. SCIENCES.

It is quite interesting to see one of these herons feeding. It will wade along the edge of a pond or stream, very slowly lifting its feet out of the water and carefully putting them down again. Its neck is folded so that it almost disappears, the head being drawn back against the shoulders. At last it sees an unwary minnow swimming lazily along. Slowly and carefully it leans its body forward and downward toward the water, the long legs looking and acting almost like stilts; still more slowly the head with its long, stout beak moves cautiously toward the water surface, very much like a young turkey seeks to capture a grasshopper. Then suddenly, as if a spring had been set free in its neck, the head is thrust downward until the beak, or more, disappears beneath the surface, but only to reappear immediately with the struggling minnow or sunfish between its mandibles.

The prey secured, the bird now walks to an open spot on the bank several feet away, if possible, from the water so that the fish cannot flop back into its native element. With a blow or two from the bird's bill the fish is stunned and in another moment has started head first down the heron's throat. As the latter stretches its neck, the descent of the fish is plainly to be seen until it reaches the body of the bird. If the heron is not yet satisfied with its meal, the same performance is repeated until at last it flies to some overhanging limb—usually a dead one—of a tree where it wipes its bill and finally flies away. By the last of August or first of September it has gone on its southern journey, and Indiana knows it no more till spring.

HENRY H. LANE.

THE HAND THAT STRUCK THEE DOWN.

The hand that struck thee down
  Could not have known
That thou hadst songs unsung
  And flights unflown.

But ours will be the loss—
  No more at morn
Will sound the reveillé
  From thy wee horn.

Thy form will not be one
  That flits the air,
As one that trusts in God
  And knows no care.

Then when the shadows creep,
  And light grows dim,
We'll list, but never hear,
  Thy vesper-hymn.

The hand that struck thee down
  Could not have known
That thou hadst songs unsung
  And flights unflown.

—J. D. LaBarre Van Schoonhoven.

THE GOBBLER WHO WAS LONESOME.

A HISTORICAL FACT.

Turkeys are social creatures and, like some boys and girls, do not like to be left for any length of time to find their food or their pleasures alone.

Big Tom was a mammoth gobbler of the bronze family, which stands high in Turkeydom. Big Tom loved to have a group of admiring mates and social equals about when he spread his jaw and sang his song. Some taller bipeds who spoke a different language said that his song of "gobble-obble-obble" was not pleasing. This remark may have been the reason why Big Tom's wattles grew so scarlet each time he sang, but it is to be doubted.

When the spring days had grown long three hen turkeys came off their nests with broods of turkey chicks, too valuable to the farmer to be left entirely to the turkey mother's judgment and care. Hence these various broods, numbering in all twenty-seven chicks, were penned into tiny homes and fed on food furnished by their master.

Big Tom watched these proceedings for about one week, and then evidently rebelled at the taking of his kingdom away from him.

He first persuaded one brood to follow him into a field where grasshoppers bounded and abounded. This brood he kept over night housed under his great wings. His success pleased him, for in a few days a second brood was discovered to be missing, and two hen turkeys were idling away their time talking over their troubles or happiness through the bars of their wooden prisons.

But the climax was reached when in a distant field a few days later Big Tom was found chaperoning a party of twenty-seven young tourist turkeys of a very tender age, through a field where insect food was too plentiful for the farmer's profit, but just right for sturdy bronze turkeys, both young and old.

The farmer attempted to drive his majesty, Big Tom, back to his quarters near the barn, but the young turks disappeared at their father's first warning cluck or signal, and Big Tom showed plainly that he resented interference with his own plans for his children's future.

The farmer returned to the house alone and finding the three turkey hens calmly gossiping through the slatted fronts of their coops, gave them their liberty, and went back to planting his crop in the distant field, where he found Big Tom happy with his party of young adventurers.

Big Tom never allowed one turkey chick to return night or day to its coop or its mother. In the fall, the farmer and his boys counted twenty-seven well grown turkeys perched on the fence back of the barn, with his majesty, their father, half way down the line, where his eyes could take in all their doings.

The hen turkeys had gone about their own work, raised other broods and brought them up in coops with various losses, but Big Tom of the red wattles has always been celebrated in that locality from that year down to the present date as the best manager of a turkey ranch ever known.

At Thanksgiving time Big Tom's good qualities were enumerated by a large party gathered at the farmer's table, and if his majesty could have heard the flattering remarks his pride would have perhaps caused him to give back an answering "gobble-obble-obble."

Mary Catherine Judd.

VARIED THRUSH.
(Hesperocichla naevia.)
About ½ Life-size.
FROM COL. CHI. ACAD. SCIENCES.

THE VARIED THRUSH.
(*Hesperocichla naevia.*)

The Varied Thrush is one of the most beautiful members of the family of thrushes. Its range is somewhat limited as it frequents only the coastal regions of the northwestern part of North America. In winter, however, it may be found in California and is occasionally seen as far south as Lower California. As a straggler, it is sometimes noticed in the New England states.

Mr. Mitchell says that the Varied Thrush reaches the Columbia river in its southward flight some time in October. He also states that “at this time they flit through the forests in small flocks, usually frequenting the low trees, on which they perch in perfect silence and are at times very timorous and difficult to approach, having all the sly sagacity of the robin.” In fact this bird, which is often called the Western Robin, is not only much more shy and retiring than our well known eastern friend, but their song is also very different, “consisting only of five or six notes in a minor key and a scale regularly descending.” Mr. Townsend speaks of the song as being louder, sharper and quicker than that of the robin and adds that its song just before its northward flight, in the spring, is pleasant. Its song is seldom heard except from the tree tops, and in summer, as a rule, only from the deeper forests.

Dr. Suckley describes the Varied Thrush as he studied it in Oregon and Washington. He says: “In winter it is a shy bird, not generally becoming noticeable in the open districts until after a fall of snow, when many individuals may be seen along the sand beaches near salt water. They are at such times tame and abundant. I suppose that they are driven out of the woods during the heavy snows by hunger. It may then frequently be found in company with the robin, with which it has many similar habits. At this time of the year it is a very silent bird, quite tame and will allow near approach. It appears to be fond of flying by short stages in a desultory manner, sometimes alighting on the ground, at other times on fences, bushes or trees.”

Mr. Cooper, speaking of the bird as he found it near San Francisco, says that they begin to appear in October, when “they are usually timid, but toward spring come more familiarly around houses and utter their shrill, low notes, which seem much more distant than the bird itself really is. If pursued they hide, and sit unmovable among the foliage.”

The bird is also known by several other names, such as the Spotted, Golden, Painted or Columbia Robin or

Thrush, and sometimes it is called the Thrush-like Mockingbird. A marked characteristic of the male is the black crescent on the breast.

Mr. Davie describes the nest as found by Dr. Minor in Alaska: “Its base and periphery are composed of an elaborate basket-work of slender twigs. Within these is an inner nest consisting of an interweaving of fine dry grasses and long gray lichen.” The eggs are said to be a light greenish-blue, slightly sprinkled with spots of a dark umber-brown.

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MISSOURI SKYLARK.

(*Anthus spragueii.*)

“What thou art we know not
What is most like thee?
From rainbow clouds there flow not
Drops so bright to see,
As from thy presence showers a rain of melody.”

—Shelley.

When the umber skylark is struck into glory of plume and of song by the rising sun, we can conceive that the song is indeed “the nearest approach, in animal nature, to the ringing of the hydrogen bells in the physics of light,” and that when “the music soars within the little lark and the lark soars,” he is almost an involuntary agent, the song, like the summer, owing its creation, as George MacDonald tells, to

“The sun that rises early,
Shining, shining all day rarely;
Drawing up the larks to meet him,
Earth’s bird-angels, wild to greet him.”

Although the skylark, more than any other of the aerial tribes, “holds the middle rank ’twixt heaven and earth, on the last verge of mortal being stand,” the fate of the Missouri skylark is more unhappy than that of a prophet, for, being so little known in comparison with his deserts, he is almost without honor in his own country or any other. Yet it was so long ago as May 19, 1843, that Audubon, near the headwaters of the Missouri, celebrated in his journal the glad tidings of his discovery: “Harris and Bell have returned, and, to my delight and utter astonishment, have brought two new birds, one a lark, small and beautiful.” And again, on June 22, he writes: “The little new lark, that I have named for Sprague, has almost all the habits of the skylark of Europe. Whilst looking anxiously for it on the ground, where we supposed it to be singing, we discovered it to be high over our heads, and that sometimes it went too high for us to see at all. When this species start from the ground they fly in succession of undulations, which renders aim at them quite difficult. After this, and in the same manner, they elevate themselves to some considerable height, as if about to sing, and presently pitch toward the ground, where they run prettily, and at times stand still and quite erect for a few minutes.”

On June 24 he continues: “This afternoon I thought would be a fair opportunity to examine the manners of Sprague’s lark on the wing. The male rises, by constant undulations, to a great height, say one hundred yards or more; and, whilst singing its sweetest sounding notes, beats its wings, poised in the air like a hawk, without rising at this time, after which, and after each burst of singing, it sails in divers directions, forming three-quarters of a circle or thereabouts, then rises again, and again sings. The intervals between the singing are longer than those the song occupies (the latter about fifteen to twenty minutes), and at times the bird remains so long in the air as to render it quite fatiguing to follow it with the eye. Sprague thought one he watched yesterday remained in the air about an hour. Bell and Harris watched one for more than half an hour, and this afternoon I gazed upon one, whilst Bell timed it, for thirty-six minutes.”

In November, 1873, Dr. Coues discovered this pipit in considerable numbers, and continues Audubon’s enthusiastic description: The ordinary straightforward flight of the bird is performed with a regular rising and falling like that of the titlark; but its course, when startled from the ground, is exceedingly rapid and wayward. At such times, after the first alarm, they are wont to hover around in a desultory manner for a considerable time and then pitch suddenly down to the ground, often near where they rose. Under these circumstances they have a lisping, querulous note. But these common traits have nothing to do with the wonderful soaring action and the inimitable, matchless song of the birds during the breeding season. It is no wonder Audubon grew enthusiastic in describing it. 203

“Rising from the nest or from its grassy bed, this plain-looking little bird, clad in the simplest colors, and making but a speck in the boundless expanse, mounts straight up on tremulous wings, until lost to view in the blue ether, and then sends back to earth a song of gladness that seems to come from the sky itself, to cheer the weary, give hope to the disheartened, and turn the most indifferent, for the moment at least, from sordid thoughts. No other bird music heard in our land compares with the wonderful strains of this songster; there is something not of earth in the melody, coming from above, yet from no visible source. The notes are simply indescribable; but once heard they can never be forgotten. Their volume and penetration are truly wonderful. They are neither loud nor strong, yet the whole air seems filled with the tender strains and the delightful melody continues long unbroken. The song is only heard for a brief period in the summer, ceasing when the inspiration of the love season is over, and it is only uttered when the birds are soaring.”

Baird, Brewer and Ridgway tell that Captain Blackiston found this skylark common on the prairies of the

Saskatchewan, and described the song as consisting of a quick succession of notes, in a descending scale, each note being lower than the preceding. The bird then descends to the ground with great rapidity, almost like a stone, and somewhat in the manner of a hawk sweeping on its prey. He also saw these birds in northern Minnesota.

Some one says that the larks, those creatures of "light and air and motion, whose nest is in the stubble and whose tryst is in the cloud," are well-known as the symbol of poets and victim of epicures, and Burroughs, to whom they are a symbol, says: "Its type is the grass where the bird makes its home, abounding, multitudinous, the notes nearly all alike and in the same key, but rapid, swarming, prodigal, showering down as thick and fast as drops of rain in a summer shower." This of the skylark of Europe. But he adds: "On the Great Plains of the West there is a bird whose song resembles the lark's quite closely, and it is said to be not at all inferior—the Missouri Skylark, an excelsior songster, which from far up in the transparent blue rains down its notes for many minutes together. It is no doubt destined to figure in the future poetical literature of the West."

Yet all that has been written of the "Star of music in a fiery cloud" by Burroughs and by Wadsworth, Shelley and the rest, might properly have been indited to the "Musical Cherub" of the Big Muddy Valley, when, climbing, "shrill with ecstacy, the trembling air," he "calls up the tuneful nations," and the same celestial pilgrim might have appeared to Eric MacKay:

"In the light of the day,
Like a soul on its way
To the gardens of God, it was loosed from the earth;
And the song that it sang was a pæan of mirth
For the raptures of birth."

JULIETTE A. OWEN.

THE MASTER'S PROTEST.

My song consists of all the notes
That flow from feathered songsters' throats;
My heart is thrilled with all their pain,
Their sorrow, love, and joy again.
They have but taken of my song
A measure, which they warble long.
So let my protest now be heard—
O call me not a Mocking-bird!

—Hildane Harrington.

THE SHORT-BILLED MARSH WREN.

(*Cistothorus stellaris.*)

Because of its shy and retiring disposition and its apparent dislike to take wing the Short-billed Marsh Wren is not very often seen. It is usually found closely associated with its first cousin, the long-billed marsh wren, from which it is distinguished by the markings on the back and its short bill.

It inhabits the reeds and tall grass of our marshes of the central states and ranges as far north as Massachusetts and Manitoba to as far west as Utah.

After spending the winter in the southern states it reaches this locality about the last of April or the first of May. The marshes which it inhabits prevent close observation. But the fact that nests have been found with eggs in as early as the last week of May indicates it arrives about the last of April.

The nest is a loose, globular affair situated in the top of a tussock of grass or in rushes some twelve or eighteen inches above the ground or water. It is composed of coarse grass closely interwoven with fine blades and fibers, making a compact structure. The inner part is lined with fine materials, such as soft down, cat-tail blossoms, etc. At one side, sometimes ingeniously hidden, is a small round entrance. The nest resembles very closely that of its first cousin in shape and location, but can easily be recognized by the eggs, which are pure white.

This little bird sometimes builds a number of nests, but lays eggs in but one. Whether it does this because it enjoys the occupation, or for the purpose of producing a "blind," no one can say. A number will nest in the same locality, thus forming quite a colony.

Its song is quite different from that of the long-billed. Mr. Gault says: "In the manner of delivery it forcibly reminds one of the song of the dickcissel, although, of course, it is not near as loud. They are quite shy, but would allow one to approach within forty or fifty feet of them, when they would dart down into the thick grass, from which it was almost impossible to dislodge them."

Mr. Washburn, in speaking of this bird in the Red River valley, gives some interesting accounts of its peculiarities. "In a large marsh * * * I found a colony of these wrens, which by my presence was thrown into most excitable

activity. They are at a disadvantage when on the wing, these appendages seeming scarcely able to support their obese bodies, for they fly as though weighted like a bee returning to a hive heavily laden. Instinctively they fly toward the friendly support of some tall weed where, as if feeling more secure on their feet than in the air, they resume their antics, hanging their heads downward, twirling their tails, jumping from one weed to another, and each bird apparently communicating its restlessness to its neighbor, until the whole colony is in a state of ferment. They do not alight gracefully like most birds, but seem to tumble into the weeds."

Unless one is very cautious and persevering he is not able to observe the activity of these wee bits of bird life. He can wade into their very midst and can hear them chattering within a few feet of him without seeing them or at the best getting but a glimpse of one. But if he conceals himself and remains quiet for perhaps a half hour his efforts may be rewarded.

Ilk happy bird, wee helpless thing,
That in the weary months o' spring
Delight me to hear thee sing,
What's come o' thee?
Where wilt thou cower thy chittering wing
And close thy e'e?

—Burns.

J. Rollin Slonaker.

SHORT-BILLED MARSH WREN.
(Cistothorus stellaris.)
Life-size
FROM COL. CHI. ACAD. SCIENCES.

TWAIN LOVES OF JEREMIAH.

"Do not leave me, I beg of you," implored old Jeremiah, standing guard over the opening in the fence. "Believe me, there are dangers outside of which you know not. Snakes frequent the tangle of these weeds and swine lie in wait."

"Stay, if you are afraid. Stay, anyway," she answered, curtly, and vaulting over him, she went through the fence and called her ten children from the other side.

Jeremiah struck his white head in the dust, praying her to return. He lunged at the fence and fell back, baffled, his feet beating the air. He floundered upright and ran, entreating, along the fence, his head thrusting between the interstices. The obdurate fair one paid no heed. She was talking baby talk to her followers.

Jeremiah, after exhausting every maneuvre to get through, over or under the fence, resigned himself to the

inevitable and began looking around for entertainment. He is a great gander to keep something going on. A trim black pullet passed the orbit of his vision and he sauntered up to her.

“Good evening, Miss Dominie. You are looking charming.”

Miss Dominie tossed her head. “Perhaps,” she cackled, “but I can only charm you in the absence of Mrs. Cochin.”

“What do I care for Mrs. Cochin?” protested Jeremiah, and he looked Miss Dominie over with the eye of a connoisseur. She was certainly well bred and she carried herself erect. This was because she had been raised a pet, but Jeremiah ascribed it all to her aristocratic lineage and thought complacently that if any ill fate overtook Mrs. Cochin, Miss Dominie would be a close second in his affections. “Mrs. Cochin is too old,” he added.

“And that is a good thing for you,” retorted Miss Dominie. “She is too old to be particular and she may tolerate you. For myself, I draw the line at ganders. Chickens are good enough for me.”

“You talk like a preacher,” suavely answered Jeremiah, “and I agree with you. They are good enough for me, too,” but Miss Dominie had darted around the big coop and was lost to view. At that moment Dollie came out of the house carrying a bucket of water and went from pan to trough, pouring the chickens a fresh drink. With cries of delight, Jeremiah fluttered in her rear, paddling and throwing the water, making it an undrinkable mixture for the chickens. Suddenly his eyes dilated, his neck straightened and stiffened, his wings slightly lifted and his large feet passed each other in rapid succession, fence-ward. Dollie’s father was coming from the barn, walking stiffly, his arm pressed against an aching back. His eye caught Jeremiah’s and the pursuit began. The man forgot his lame back and plunged forward, gathering small stones which he aimed at Jeremiah. Round and round the fence they went, the man throwing stones and execrations; the gander gabbling, ducking, dodging until he bethought himself of the haven of gooseberry bushes, scrambled under them and into the orchard, through the hedge into the open where, joy inexpressible, Mrs. Cochin and her ten fluffs were tumbling in the dog fennel.

“At last I have found you, my beloved,” gasped Jeremiah, and he rounded up the chicks and drove them into the orchard. Mrs. Cochin followed, protesting. She even flung herself at Jeremiah, with many a cluck and scratch; but Jeremiah had constituted himself head of her household and, serene in the consciousness of right, he took the family through the orchard, under the gooseberry bushes and back into the yard.

Jeremiah knew that a little of him went a long way with Mrs. Cochin, yet he never lost hope that his persistent devotion would win her favor. He had been a lone gander many years. There was not another feather of his kind in the poultry yard. It was sometimes marveled that he did not take to the ducks, his next of kin, fat and wabbly, with raucous voices. It was so much easier to love Mrs. Cochin, the perfection of grace and beauty.
She was large and stately. She wore always a buff robe that flashed in the sun like burnished gold. Poor Jeremiah fell easily a prey to her unconscious wiles and consecrated himself, body and soul, to her personal attendance and protection.

Jeremiah’s first concern, again inside the yard, was to reconnoitre for his friend, the enemy. He was nowhere in sight and Jeremiah turned pleadingly to Mrs. Cochin. “Let us make up,” he urged. “Your coldness is killing me. I honestly think I have not long to live.”

“Diet yourself,” suggested Mrs. Cochin, her feminine intuitions connecting cause and effect. “And don’t be a goose.”

Mrs. Cochin went scratching in a flower bed. Ignored, he followed at a respectful distance, hissing at the pup who ambled near, striking a cat whose lithe body was poised for a spring at one of the chickens, and frightening away a brood of ducklings. All afternoon the faithful sentinel executed his self-imposed duty, and finally followed his charmer across the yard to the old workshop.

“Do not go in there,” he cried, sharply.

For answer Mrs. Cochin tripped over the threshold, clucking to her chicks. She flew upon the work bench, thence to a rafter and settled herself as if for the night.

“What do you think I am going to do with these chickens?” grumbled Jeremiah, trying to arouse her maternal solicitude. “Let the rats catch them, I don’t care. They are not my chickens.”

Mrs. Cochin looked down. She drooped a wing and shut an eye. Her attitude indicated that she would take proper care of her offspring as soon as their company had taken his welcome leave.

Again Jeremiah went through the scene at the fence. He gabbled his vain protestations. He groveled in the dust. He flung his unwieldly weight against the work bench and made many futile attempts to rise to Mrs. Cochin’s superior elevation.

“You distract, humiliate me,” he hissed. “Your heart is no larger than your head. You may stay there. I wash my feet of you,” and suiting the action of the word, he waddled into the water trough and fluttered there.

The black pullet drew near. She was really a comely creature, Jeremiah thought, and he stopped fluttering. If it were not for the fatal glitter of Mrs. Cochin’s blonde beauty, he might learn to care for demure Miss Dominie. He didn’t know but he could, anyway, and gracefully curving his kingly neck he approached her.

“Good evening, Miss Dominie. You are looking very charming.”

Miss Dominie pretended not to hear. She was too young to be entirely unmoved by his apparent admiration and she felt vaguely sorry for him; but the sun was very low and the sand man had passed her twice. She was looking

for a spring bed on one of the low limbs of the cottonwood tree. Jeremiah followed her, babbling the story of his wretched loneliness, until they unwittingly crossed the path of his enemy, the man. Jeremiah's voice sank to a whisper and he hid behind a tree. Jeremiah is a goose about a good many things, but he knows when to lay dead.

The black pullet brushed against him and his heart warmed—but she was only enflight to the limb overhead. She leaned forward and spoke to him, drowsily: "I am sorry, Jeremiah. It is the old story and I can only advise you to get used to it. Don't you give up. Remember, you can have anything in this world you want if you keep after it until you get it; that is one of the fixed laws of the universe. I think you will find Mrs. Cochin in the end coop now. I saw Dollie gathering the chickens into her apron and carrying Mrs. Cochin by the wing. It might be well to excite her jealousy. You may say to her that I have at last consented to be yours. Tell her that you have come to bid her a final farewell. Give her back that scar she made on your neck and assure her that I am a jealous god and object to your even passing the time of day with her."

Jeremiah hastened to the end coop. Between the slats he recognized the profile of his beloved, hovering her fluffs. He tried to get his head inside, but the openings were too small and he could get in only as far as his eyes.

"I have come to say farewell," he breathed, hoarsely. "I have found one younger and fairer than you." His soul revolted when he said "fairer," for Jeremiah hates a lie, and even if Miss Dominie be a diamond it cannot be denied she is of the charcoal variety. "I may see you sometimes," he continued, "for I do not expect to leave the farm, and I wish you to know that the bright particular star of my life has blazed out and henceforth I am hers alone."

Jeremiah gushed on, rapturing over his new attraction until he half convinced himself; gushed on, rapturing, until Mrs. Cochin lifted her head and struck him with her bill.

"You make me very tired," she said. "If you have any respect for your lady love, keep your mouth shut about her. Don't let everybody know you are a goose. Of course, you would be just as big a goose if you kept your mouth shut, but everybody wouldn't know it. Even a gander owes that much to himself: not to let it get out how big a goose he is."

Saying this, she tucked her head and sang a soft lullaby to her fluffs, and their faint, sweet "peep, peep," lost in a low croon of content, sounded to forlorn Jeremiah like music behind the locked gates of paradise.

Sadly he clambered upon the back of an old wagon seat, half way between the end coop and the black pullet; and the friendly dark came down; and old Jeremiah lost the ache of self in the oblivion of sleep.

Emily Frances Smith.

THE ORIOLE.

A flash of gold and black against the sky,
  A perch upon the orchard's topmost bough,
A strain of such unmingled ecstasy,
  The lingering echoes thrill the silence now.

A hanging nest so beautifully shaped,
  So softly lined, close woven, firm and strong,
A bright-eyed mate to brood above the eggs,
  And listen to that rhapsody of song.

A deep serenity of blue above,
  A bubbling joy within beyond control.
Of hopes fulfilled, of Summertime and love—
  Once more the golden story, Oriole!

—Lulu Whedon Mitchell.

THE ORCHARD ORIOLE.

The first of May finds the trees and shrubs well clothed in tender green, the air laden with the perfume of many blossoms, and bird life abounding. The number has been rapidly increasing since the coming of the meadow lark and robin that proclaim the approach of the moving host. Since their songs of joyous anticipation first were heard reverberating through field and orchard, almost every day has brought some new arrival, till now the air is alive with feathered creatures and hilarious song is rife. With ever varying motions they search for food and sport among the tree branches, or course through the vault of heaven. Nidification is now in progress in various stages of advancement, according to the species of bird.

But many of our summer visitors are still absent, yet just now is the season that one of the most interesting should make his appearance and join in the general jubilee. This is the Orchard Oriole, and he is among the gayest of the gay of all this merry throng.

Being a soft-billed bird, or insect eater, he defers his migration until insects have become plentiful. He is remarkably uniform in migration. Wintering south of the United States, he enters our borders about the last of March and with unusual regularity steadily makes his way onward till he reaches the northern limit of his range the latter part of May.

In the southern states arid southern portion of the middle states east of the Rocky mountains this Oriole is one of the most abundant and familiar songsters that frequent the orchards and gardens.

He is a very conspicuous bird in both plumage and song. Although not quite so brilliantly attired as his cousin Baltimore, his coat of chestnut and black is very noticeable. His song is loud and gushing and resembles that of the rose-breasted grosbeak enough for the superficial observer to confound the two, but to the trained ear there is a decided difference. The notes, though uttered with force and rapidity, are varied, clear and sweet. His sojourn with us is short, but while here his rapturous refrain is heard almost incessantly. This sprightly bird is seldom, if ever, inactive, but with ever-moving pinion he flits from branch to branch, from tree to tree, and even when giving forth his gushing melody he quivers and sways.

Orchard Orioles are masters in the art of nest-building. The nest, a beautiful basket-like structure about three inches across and the same in length, is attached to half-upright or horizontal branches. Usually it is half pensile, though some are wholly pendent. It is always made of blades of long, slender grasses woven together in a most wonderful manner and lined with plant fiber and feathers. As the grass is invariably used while fresh and green, the nest is of a more or less green hue at all times, and consequently difficult to detect among the thick foliage. The four or five bluish-white eggs are spotted with a purplish color. At first the nestlings are fed on tiny insects and later on beetles and grasshoppers. The number of noxious insects a pair of these birds will destroy in a season is almost incredible.

ADDIE L. BOOKER.

PRAIRIE WARBLER.

(Dendroica discolor.)
About Life-size.
FROM COL. CHI. ACAD. SCIENCES.

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THE PRAIRIE WARBLER.
(*Dendroica discolor.*)

This beautiful little Warbler cannot fail to awaken an interest in bird life in the mind of any person whose privilege it is to observe it in its chosen haunts. These are the shrubby pasture lands and the open woods of the eastern United States. It is more common in barren, sandy places of the Atlantic coast, where it seems to find an insect food suited to its taste. It not infrequently visits orchards, when in bloom, especially those in retired localities. Wilson, who wrote enthusiastically of the Prairie Warbler, says: “They seem to prefer open plains and thinly-wooded tracts, and have this singularity in their manners, that they are not easily alarmed, and search among the leaves the most leisurely of any of the tribe I have yet met with, seeming to examine every blade of grass and every leaf, uttering at short intervals a feeble chirr.”

Dr. Coues was also an ardent admirer of this little bird and during his college days frequently hunted and studied its habits. He found the “inflection of the Prairie Warbler’s notes a much more agreeable theme than that of a Greek verb,” and possibly quite as profitable. He says: “There was a little glade just by the college, a sloping sandy field run waste with scattered cedars, where we could be sure of finding the Warblers any day, from the twentieth of April, for two or three weeks. Ten to one we would not see the little creatures at first. But presently, from the nearest juniper, would come the well known sounds. A curious song, if song it can be called—as much like a mouse complaining of the toothache as anything else I can liken it to—it is simply indescribable. Then perhaps the quaint performer would dart out into the air, turn a somersault after a passing midge, get right side up and into the shrubbery again in an instant.”

The flight of the Prairie Warbler is neither strong nor protracted. Yet it is one of the most expert fly catchers among the Warblers. It is not a social bird and it is very seldom that more than two or three are seen together. A peculiar characteristic of this Warbler is that it does not try to lead an intruder away from the vicinity of its nest. Mr. Nuttall speaks of removing two eggs from a nest and replacing them in a short time. Each time he removed the eggs the female bird returned to the nest.

The Prairie Warbler is prettily colored. The back is marked with reddish-brown spots on an olive-green ground. Beneath the eye of the male there is a streak of black which is absent in the female. The throat and under parts are a rich yellow color, with small spots of black on the sides of the neck. The female is duller in color.

The nest is nearly always placed in the fork of a branch of either a tree or shrub and never far from the ground. A wild rose bush is sometimes selected. Mr. Welch describes one that he found in such a place. It was mainly constructed of “the soft inner bark of small shrubs mingled with dry rose leaves, bits of wood, woody fibers, decayed stems of plants, spiders’ webs, etc.” These were elaborately woven together and bound by “cotton-like fibers of a vegetable origin.” The nest had a lining of fine fibers and horse hair. He also calls attention to the upper rim of the nest, it “being a strongly interlaced weaving of vegetable roots and strips of bark.”

Mr. Nuttall describes the nest as not unlike that of a summer yellow-bird. He speaks of one that he examined as “being fixed in a trifid branch and formed of strips of inner red cedar bark and asclepias (milkweed) fibers, also with some caterpillar silk, and thickly lined with cud-weed down and slender tops of the bent grass (Agrostis.)”

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It is difficult to understand why this bird should be called the Prairie Warbler, unless it is in order to distinguish it from those species that frequent less open places. A much more appropriate name is the Chestnut-backed Yellow Warbler. Though it is found in open places, this little bird would easily elude observation were it not for its peculiar notes, which Mr. Chapman describes as “a series of six or seven quickly repeated zees, the next to the last one the highest.”

APRIL BIRDS AND FLOWERS OF THE MISSISSIPPI GULF COAST.

Fickle April, with its sullen showers and teasing, wayward moods, its alternate days of warm sunshine and chilling rain, still leaves us who live north of the fortieth parallel in doubt whether summer really intends to come or not. Not so on the gulf coast; langorous breezes incline one to take life easy, the sun high overhead has the true June fervor, and, if further evidence is needed to convince us, ripening strawberries and blooming roses tell us that summer is here. Gardens filled with huge, flaming amaryllis, fragrant calycanthus and a thousand and one shrubs strange to the northern eye, greet us in every yard. In front of the houses and along the streets, their purple fragrance welcoming every newcomer, stand the China trees, the haunt of busy bees and their indefatigable pursuer the kingbird, or bee martin.

In the lowlands a short distance back from the beach, the azaleas (Azalea nudiflora) are just dropping the last of their pink bloom, a bouquet thrown at the feet of all-conquering summer. Here and there in these jungles of yupon, bay, buttonwood, etc., appears a shrub clad in a filmy white mist. If this be the season for weddings, it must be that this is the bride that greets our eyes. A delicately beautiful bride she is, with arms that toss in the slightest breeze and now and then coyly shove aside the cloudy veil to take a farewell glimpse at the world she

leaves.

The natives do not take this view of this shrub (Chionanthus virginicus). They have dubbed it “grand-daddy-gray-beard.” Usually popular names have much to justify them, but in the instance just mentioned, and that of the brilliant red flower which gazes at us from the underbrush, they are suggestive of African superstition rather than Saxon sentiment. The melancholy local fancy sees in these flaming orbs only the power of evil, hence the name “Devil’s eye.” If I could be assured that the devil’s eye is really as beautiful and kind in its expression as its floral representative I would be willing, like Emerson, to call its possessor “the dear old devil.”

Let us go back to the beach and stroll along the shell road, which parallels the shore all the way from Gulfport to Biloxi. Perhaps the glare of the white road is not pleasant to the eyes, but the deep green of live oak and long leafed pine is restful, the mingled fragrance of the salt breeze of the gulf, the resiny odor of the pine and the blossoming wisteria charm the senses and lull us into rapturous content. Only a few of the trees and shrubs which border the highway are of the kinds familiar to observers in Ohio and Illinois. Now and then a water oak or a sweet gum appears; but otherwise in the cypress, pine or live oak of the larger growth, or in the palmetto, Spanish dagger and rattan vine of the undergrowth, the eye looks in vain for old acquaintances.

The live oak certainly has individuality. Shorter and more spreading in its habit of growth than most of its kind, its limbs are gnarled and knotty, strong and muscular with its wrestling with the hurricanes that sweep the bosom of the gulf. It loves the white sand just a few feet above high tide, where it stands as a protector for the weaker growth between the tossing waters and the great pine forest. As is the case with human beings, this vigorous conflict with its surroundings does it good; for no place in the South that I have been have I found the live oaks as plentiful or as vigorous as on this strip of barren sand.

The birds know a good thing when they see it; hence they are well represented here at this season of the year. Our old acquaintance of the Maumee Valley, the Maryland yellow throat, with his cunning black mask and his cheerful if not wholly musical “Wichety, wichety, wichety,” greets us from a perch on a rattan vine, but on our nearer approach dives down into the palmettos, where only the noise made by his tiny feet indicates his whereabouts. Two other warblers, the hooded and the redstart, a little belated, perhaps, have stopped here on their way north to the old nesting grounds on the Kankakee and the Hudson. The most numerous as well as the most conspicuous element of the bird population is the summer tanager, whose intensely scarlet coat adds a touch of vivid color very grateful to the eye. Nearly every oak contains one of these redcoats, whistling a solo for our benefit or discussing the details of housekeeping with his more sober coated little wife.

Almost as numerous as the tanagers, and even more interesting, are the orchard orioles. Their song has more of the fire and ring of true music, a compensation probably for the comparative dullness of their garb. In nest building the orchard oriole is an artist. I remember one day finding in a small water oak a nest so carefully woven out of excelsior as to make me think the bird could knit if he would only turn his talent in that direction. Where twine and excelsior are not easily obtained, no doubt they utilize the long streamers of Spanish moss which hang from half the trees in the gulf country.

Flying about in the gardens, as tame as robins on northern lawns, or sharing the live oaks with the tanagers and orioles, are a multitude of mocking birds. There must be something in Maurice Thompson’s suggestion in “By Ways and Bird Notes” that along this coast the mocking birds find those berries and seeds best adapted to develop a high degree of musical ability and artistic expression, for these birds certainly surpass their brethren found a few hundred miles to the north.

Besides these land birds there are a multitude of sea birds more conspicuous on account of noise and numbers than bright coloring or attractive ways. The herring gull is very plentiful on this coast, wherever sand flats and shallow water offer attractive feeding grounds. It is a pleasant sight to see a dozen of these pearl gray creatures turning and wheeling, as free and easy as the wind. Just in shore from where the gulls are flying are some fish crows, a thoughtless, noisy set, contented to feast on the crabs and stray minnows which have eluded the watchful gulls. At the edge of the water, just where the wavelets of the receding tide curl and swish before turning back to join their fellows, a couple of sandpipers are running a race, now and then stopping to pick up some tidbit left by the water. A shadow flits along the sand. We look up. A great fish hawk or osprey soars seaward. He sails past the noisy crows, past the graceful gulls and steers for Ship Island, that line of darker haze where sky and ocean meet. Truly, April is the season to visit this coast.

James Stephen Compton.

BIRTH STONES.

From the earliest times and among all peoples there seem to have been sentiments and superstitions connected with gems. The ancient use of gems is proved by their being found in the oldest tombs of Egypt and by their mention in the earliest books of the Bible, and no less ancient seem to be the mystic properties and powers ascribed to them.

Not only was the power of driving away evil spirits and producing all sorts of “luck” long attributed to them, but as late as the beginning of the eighteenth century reputable physicians were accustomed to mix fragments of them in their medicines and to use them as charms. The study of the uses of gems in this way forms a subject of much interest, but we may confine ourselves here simply to the custom which made a particular gem appropriate to a corresponding month of the year.

The first arrangement of gems into a group of twelve of which we have any record is that in the Book of Exodus. Here in the twenty-eighth chapter, verses 17-19, are prescribed in order, twelve precious stones, which shall be set in the breastplate of the High Priest. The list is repeated in the thirty-ninth chapter of the same book, verses 10-12. In the context it is prescribed that the stones shall be set in four rows and that upon them shall be engraved the names of the Children of Israel, one for each stone. As to the particular stones as they are known to the modern world, which are indicated by the Hebrew words, authorities differ, but in the authorized version of the Bible they are given as follows:

Sardius, topaz, carbuncle,
Emerald, sapphire, diamond,
Ligure, agate, amethyst,
Beryl, onyx, jasper.

It is not probable, however, that these names indicate in each case the corresponding stones of modern usage. Thus it is quite unlikely that the Hebrews could have engraved a name upon the diamond even if they could have obtained one of sufficient size. Again, the words emerald and carbuncle are undoubtedly interchanged in the above list and the ancient topaz is known to have been the modern chrysolite. In the revised version the word jacinth is substituted for ligure and amber is given as a marginal rendering for the same. There are also given marginal renderings for others of the gems, as follows: ruby for sardius, emerald for carbuncle, carbuncle for emerald, sardonyx for diamond, chalcedony for beryl, and beryl for onyx. The modern equivalents of the terms recognized by secret orders which use them in symbolism are:

Carnelian, chrysolite, emerald,
Ruby, lapis-lazuli, onyx,
Sapphire, agate, amethyst,
Topaz, beryl, jasper.

Two lists of precious stones quite similar to those of the Book of Exodus are given in other places in the Bible, one in Ezekiel 28:13, where “every precious stone” is said to have been the covering of the King of Tyre, and again in Revelation 21:19-20, where twelve different precious stones are mentioned as garnishing the foundations of the wall of the Holy City. The names and order of these in Ezekiel are, in the authorized version, as follows:

Sardius, topaz, diamond,
Beryl, onyx, jasper,
Sapphire, emerald, carbuncle.

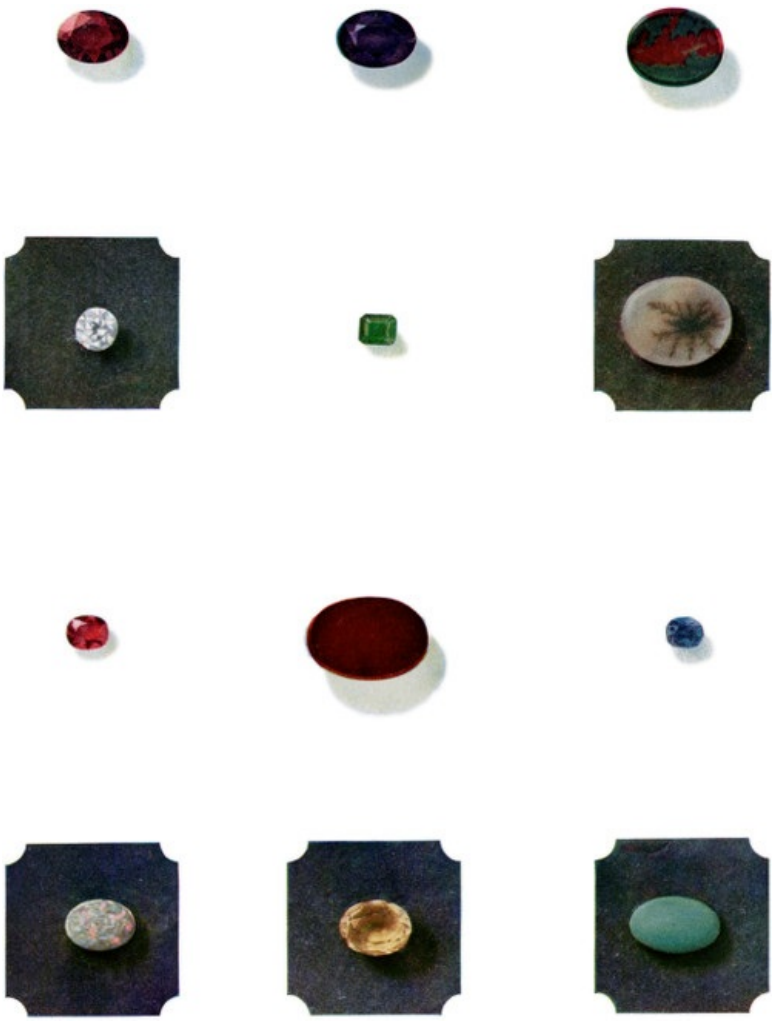
To these the Septuagint adds the following:

Chrysolite, ligure, agate.

The revised version gives marginally, ruby for sardius, carbuncle for emerald, and emerald for carbuncle. In Revelation the list as given in the authorized version reads as follows—

Jasper, sapphire, chalcedony,
Emerald, sardonyx, sardius,
Chrysolite, beryl, topaz,
Chrysoprase, jacinth, amethyst.

The marginal renderings give lapis-lazuli for sapphire and sapphire for jacinth.



BIRTH STONES.
GEMS LOANED BY FREDERICK J. ESSIG.

Top row:
Garnet (January.)
Amethyst (February.)
Bloodstone (March.)
Second row:
Diamond (April.)
Emerald (May.)
Agate (June.)
Third row:
Ruby (July.)
Sardonyx (August.)
Sapphire (September.)
Fourth row:
Opal (October.)
Topaz (November.)
Turquoise (December.)

Though in each of these lists only twelve precious stones are mentioned, there is nothing to indicate that their use was in any way connected with the months of the year. Just when it became the custom to designate each month by a particular gem or how the custom originated is impossible to determine. The custom seems to have sprung up in modern Europe some time during the fifteenth or sixteenth century. Whether it originated in the twelve gems of Aaron’s breastplate as many believe, or was introduced by astrologers from the Arabians as others think, is not yet known.

The modern practice of considering the stone of each month especially appropriate to persons born in that month is probably still more recent in its origin. In former times gems could be possessed only by rulers or the very wealthy, so that their general use in the above manner was not possible. But now that nearly every one can own a gem of some kind the possession of “birth stones” and the attachment of special sentiments to them has become common. The custom is a pretty one, and is to be commended, for the stones are imperishable and the sentiments ascribed to them represent the accumulated traditions of many ages, races and peoples.

As to the particular stone which is to be considered appropriate to each month usages differ. Such differences have doubtless arisen from the desire to introduce gems which were formerly little known or unattainable on account of their cost, as substitutes for stones formerly prized but now held of little value. Thus the precious opal now much admired was hardly known in former times. By some it is now used as the birth stone of the month of October, while others retain the beryl. The diamond has been introduced in modern practice in quite a similar

way. The carnelian and chrysolite by some still used for the months of August and September are stones held of little worth at present, and hence others are usually substituted. The particular order and kind of stones adopted in the accompanying plate is given in accordance with some verses quoted in a pamphlet first published by Tiffany & Company, of New York, in 1870. The author of the verses is not known, nor is it known by just what authority these gems were chosen. The choice, however, seems as satisfactory as could be made. Some of the verses have been quoted in previous numbers of this magazine, but they may here be given entire:

JANUARY.

By her who in this month is born,
No gems save garnets should be worn;
They will insure her constancy,
True friendship and fidelity.

FEBRUARY.

The February-born shall find
Sincerity and peace of mind,
Freedom from passion and from care,
If they an amethyst will wear.

MARCH.

Who in this world of ours their eyes
In March first open shall be wise,
In days of peril firm and brave,
And wear a bloodstone to their grave.

APRIL.

She who from April dates her years,
Diamonds shall wear, lest bitter tears
For vain repentance flow. This stone
Emblem of innocence is known.

MAY.

Who first beholds the light of day
In spring’s sweet flowery month of May,
And wears an emerald all her life,
Shall be a loved and happy wife.

JUNE.

Who comes with summer to this earth,
And owes to June her hour of birth,
With ring of agate on her hand
Can health, wealth and long life command.

JULY.

The glowing ruby shall adorn
Those who in July are born;
Then they’ll be exempt and free
From love’s doubts and anxiety.

AUGUST.

Wear a sardonyx, or for thee
No conjugal felicity;
The August-born without this stone,

’Tis said, must live unloved and lone.

SEPTEMBER.

A maiden born when September leaves
  Are rustling in September’s breeze,
A sapphire on her brow should bind—
  ’Twill cure diseases of the mind.

OCTOBER.

October’s child is born for woe,
  And life’s vicissitudes must know;
But lay an opal on her breast,
  And hope will lull those woes to rest.

NOVEMBER.

Who first comes to this world below
  With drear November’s fog and snow,
Should prize the topaz’ amber hue—
  Emblem of friends and lovers true.

DECEMBER.

If cold December gave you birth,
  The month of snow and ice and mirth,
Place on your hand a turquois blue:
  Success will bless whate’er you do.

The sentiments further ascribed to the above gems are, as given in a pamphlet by Mr. George F. Kunz and published by Tiffany & Company, in 1892, the following:

Garnet.—Insures Power, Grace and Victory to the wearer.

Amethyst.—Deep Love; prevents Intoxication.

Bloodstone.—Courage and Wisdom.

Diamond.—Purity; Preserves Peace, Prevents Storms.

Emerald.—Immortality, Conquers Sin and Trial.

Agate.—Health, Wealth and Longevity.

Ruby.—Charity, Dignity and Divine Power.

Sardonyx.—Conjugal Felicity; Prevents Misfortune.

Sapphire.—Constancy, Truth and Virtue.

Opal.—Hope, Innocence, Purity.

Topaz.—Friendship and Fidelity.

Turquois.—Prosperity, Soul-cheerer.

Oliver Cummings Farrington.

APPLE BLOSSOMS AND THE WARBLERS.

It was a cold, rainy day toward the last of May. The apple trees were a mass of pink and white, but the fast gathering petals on the green carpet told the story; not for long would be wafted in through each window a whiff of such perfume as only Dame Nature, May and Company can distill. Unfortunately, I was in no mood to appreciate the beauties of a spring rain, for it was a very evident fact that the bad weather would prevent our anticipated bird walk. This fact I was bewailing, looking forlornly from the window out into the dripping world, when lo, I found that, contrary to expectations, the mountain does on occasion appear unto Mahomet!

On the lawn north of our house are nearly a dozen apple trees, two of which have branches overhanging the roof. I noticed that the foliage was in livelier motion than is usually caused by an easy shower, and on closer examination discovered that the trees were fairly alive with flitting forms, birds—warblers in all their glory. This was long before noon, and it was but the beginning of a state bordering on ecstasy for me which ended only when darkness fell, as it gave me the opportunity for making the acquaintance of a family, straggling members of which, only, I had met since my interest in feathered friends awakened.

To my delight I immediately brought within range of my glass the little fellow which I had seen the year before in the same tree, and had described in my note-book as "wearing a sun burst of black on a yellow vest." On this occasion he was much in evidence, and the details of his handsome coat could be plainly detected. He is mostly black, and you may distinguish him by the broad white patch on his wings and the yellow breast which is decorated by a black pendant necklace. He is the magnolia warbler.

The chestnut-sided was well represented in the flock, and was an old friend. With us here in New Hampshire, he stays through the summer, but it is only at this season that we are apt to meet him. One recognizes him by his clear greenish-yellow crown and by the clearly defined chestnut streak on either side of his white vest.

Of course the Lord of the Manor is the Blackburnian warbler. To my great delight, he brought his wonderful flaming breast within four feet of me as I sat in one of the upper windows, watching him explore the branches. Mark him well. His upper parts are black, while his crown, throat and breast are flaming orange. He, too, wears a white vest, marked at the sides with black. So beautiful is he that words fail to describe him, while to see him flitting about among the apple blossoms was indeed "a picture no artist could paint."

The next on my list was a discovery, and one over which I was jubilant. He was an elusive little fellow, and led me out into the rain and kept me standing there with the drops trickling down my face as I searched the branches for him. He was the daintiest sprite imaginable, whose blue-gray coat was like satin and whose white breast shading from a yellow throat could not make him conspicuous. It was only when I discovered that his back was a beautiful shade of bronzy-greenish-yellow that I knew he was the parula warbler, the blue yellow back. Then I went to the authorities to learn more about my stranger. Then I read that he wears another distinguishing mark, a brown streak across the throat. Back to the garden I went. Eureka! he satisfied all conditions, and was named! During this shower of warblers the parula was the most numerous species, excepting, perhaps, the chestnut sided.

A redstart came in for its share of admiration, and his beauty deserved it, but his evident appreciation of his own charms as he dashed here and there, opening and closing his fan-like tail, rather detracted from his character as he was viewed alongside his beautiful companions, who, to say the least, are modestly unaware of their charms.

Later, another discovery was made, and one that puzzled us for some time. At the first glimpse of him we said, "Chickadee, of course," for we saw his black cap and his general black and white aspect. Then as he flew to a tree near the window, and we marked every point possible, we found that his back was closely striped with black and white, that his breast and belly were white, and that his wings were tinged with olive and had two white bars. We could not name him, and to my amazement Miss Wilcox did not have such a one in her "Common Land Birds of New England." so not until I went to "Birdcraft" did I learn that my visitor was the black poll warbler. He was always intent upon his own affairs, seemed rather superior to the common herd, and was the last one of the visitation to leave me.

The Maryland yellow throat was here, too, away from his native alders, but seemingly not one bit confused to find himself an orchard bird. Perhaps he was only "going a piece" with his relatives and connections as they journeyed north. He is a beauty, and you may hear him in any alder swamp calling "witchy-titchy, witchy-titchy."

I searched and searched for the black and white creeper whom we often see, but evidently he did not like a mixed crowd, for I did not discover him until several days later, when the main flock had passed on. The rest, however, were on every side, and so tame and confiding were they that a raised sash, or an ecstatic shout to a watcher at another window did not appear to disturb them in the least.

They were voiceless, though, intent upon nothing but dinner, except the redstart, who seemed to take settlement life as somewhat of a joke and, as he careered about, occasionally called to "sweet, sweeter, sweet."

So the day passed, a continual surprise party, and the next day came, and still the flock lingered. But when the rain ceased, and the sun reappeared, they lifted their wings and hastened to pastures new, leaving only a straggler here and there. Will a spring rain this year find them passing over my apple trees? So may it be.

GRACE E. HARLOW.

RURAL RAMBLES.

Over the hills as the pewee flies,
'Neath the glorious blue of summer skies;
Through briery wastes where wild birds dwell,
Deep in the shade of some rocky dell;

Where the pennyroyal and mint smell sweet,
And the blackberry ripens in cool and heat;
Down the winding path by the rippling rill,

By the old-time creek, by the dear old mill;

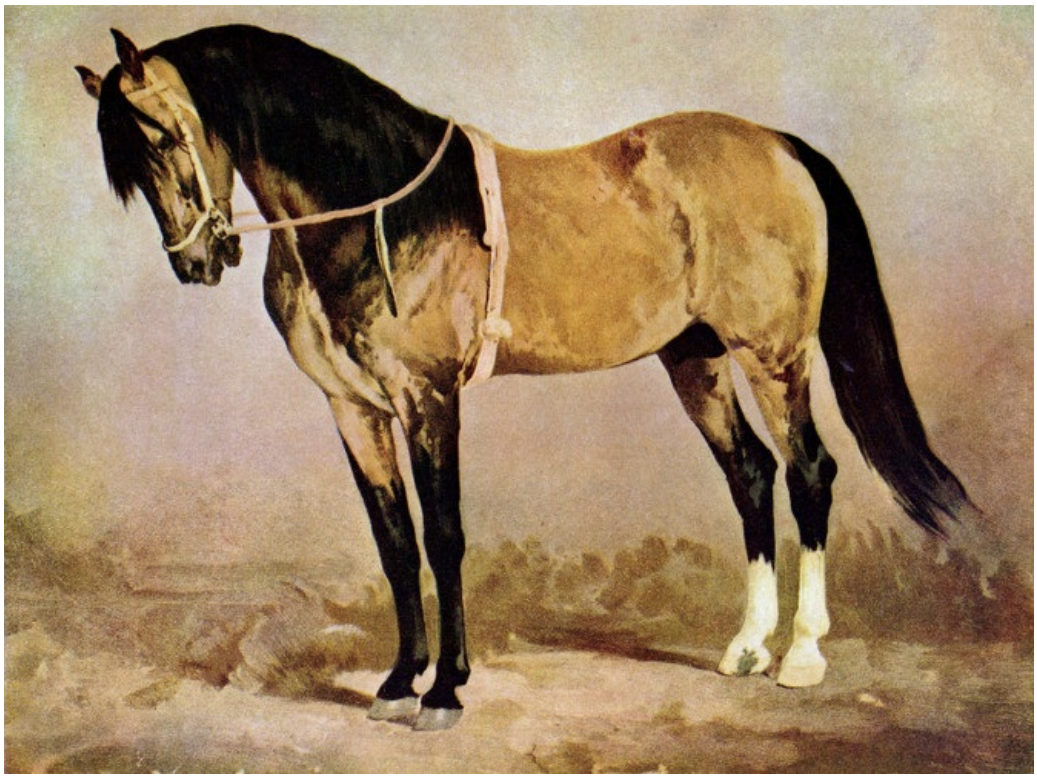
By the vine-clad fence, in the alder's shade
Where woodchucks and merry squirrels invade;
Through spreading fields of daisies bright,
Where butterflies roam from morn till night;

Past upland and hollow whence scents are blown
Of clover blossoms and flowers well known;
Over swamp and marshland where red-wings sing,
While in flag and tussock their nest they swing;

Through ancient orchards, o'er meadows green,
Where roses and buttercups girt the stream;
Away through the woodlands' emerald shade
By sparkling springs, through fern-clad glade,

By old quarry ponds where memories cling
And gay swallows circle on tireless wing;
From dawn's early light till twilight's gloaming,
With scenes ever changing, there's pleasure in roaming.

—Berton Mercer.



THE DOMESTIC HORSE.
(Equus caballus.)
ADAPTED FROM A PAINTING.

THE HORSE.

(*Equus caballus.*)

There are many objects which are so commonly seen that we deceive ourselves by thinking we know much about them, and yet should we make a special study of these same objects, often we would find ourselves woefully ignorant in regard to some of their most distinguishing characteristics.

Every day of our lives we see Horses. These frequently move with exquisite grace and beauty, stepping daintily and proudly as if hardly deigning to remain on earth, but seeming just ready to rise and fly as did the fabled winged horse Pegasus. With rapidly moving feet

"The landscape speeds far away behind
Like an ocean driven before the wind,"

and we look on only to admire and wonder. And yet how comparatively few of those who watch the fascinating motion of a rapidly moving Horse know that the beautiful animal is running on only one toe, for that indeed is all it possesses for each foot. The foot proper extends as high as the apparent knee. This is in reality the wrist or

ankle, and the apparent foot is but a finger or toe corresponding to the middle finger and middle toe of the hand and foot of man. The hoof may be likened to the finger nail. In fact, it is a great, thick, enlarged nail, finishing and protecting the toe above.

The Horse belongs to a great division, known as the odd-toed animals. There are about twenty-five species of these animals now existing and they are divided into four families, the one-toed Horses, the tapirs with four toes in front and three behind; the rhinoceroses with three toes, and the cony family with four toes on their fore feet and three on the hinderfeet. These four families are very different in their ways of living and are so unlike that one would not expect to find them relatives.

The native country of the Horse seems to be nearly the entire northern hemisphere, for fossil remains are found throughout this region, but in America the Horse (never found south of Alaska) became extinct, and for a time there were no Horses on the western continent. After the discovery of America, Horses were imported into the country and in time some escaped from their owners and formed herds which have multiplied until there are a great many wild Horses now roaming over the new world.

In Europe wild Horses also became extinct, but at a comparatively recent date; but in Asia and Africa there seems to be no time when the wild Horses have not been roaming over the plains and tablelands, as free as the wind.

On the steppes of southeastern Europe there are great herds of peculiar Horses, called tarpans. These are indeed freedom-loving animals and one can but feel a certain sympathy with their unwillingness to be tamed. They are a rather small Horse with thin, strong legs, a rather long, thin neck and a comparatively thick, blunt-muzzled head. They have small, brilliant, wicked eyes; the hair is thick and short in summer and inclined to curl; in winter it is longer and coarser and on the chin becomes almost like a beard.

Not content to roam in freedom by themselves, they will, if possible, entice domesticated Horses to join their number. On this account they are persistently hunted, as they do considerable damage.

The great herds are divided into families, each family led by a stallion who is sole ruler, taking the best of care of his subjects, but permitting no irregularity. These herds wander from place to place, usually running against the wind, and their keen sense of hearing warns them of approaching danger. The stallions do not fear beasts of prey and will sally forth against wolves and beat them down with their fore-hoofs.

The earliest representations of Horses and the fossil remains of the prehistoric animals show them to be of rather small size and not unlike the tarpans, suggesting the idea to some minds that the tarpans were the ancestors of the modern domesticated breeds, but the facility with which the Horse will resume its wild state makes opinions of little value.

The South American wild Horses, called “the wild Horse of the Pampas,” were all descended from a few domesticated Horses left in the town of Buenos Ayres, which was abandoned some time after the year 1535. These Horses are called cimarrones. They roam in immense herds and are considered a nuisance, as they consume good pasturage and also lead away the domestic Horses. The mustangs of Paraguay, although domestic Horses, vary little from the conditions of the wild Horses of the pampas, as they are much neglected, live out of doors all the year around and really degenerate for want of care.

A. von Humboldt gives an interesting description of the life of the Horse in the Llanos, the great grassy plains lying further to the north. When the never-clouded sun turns the grass to dust, the Horses and cattle roam about, pressed by hunger and thirst, and by inflating their nostrils endeavor to discover by the damper air currents localities where the water has not yet evaporated.

The Mules, using more intelligence, beat with their fore-feet the prickly exterior of the melon cactus and quench their thirst with the watery pulp.

When finally the rainy season begins, the Horses still meet with danger and trouble, as the swelling rivers surround their grazing places and the colts are frequently drowned. Jaguars often lurk in the tall grass and crocodiles are a constant menace. Even among the fish there are dangerous enemies. The electric eels “can kill the largest animals by means of their powerful discharges if their efforts are concentrated upon certain portions of the body.”

The Horses are often their own enemies. Becoming frantic with terror, in a frenzy of fright, they destroy themselves by dashing against rocks or rushing over precipices.

There is much that is interesting in regard to the half-wild Horses of North America. These are all descendants of imported varieties, and while owned by the various ranchmen, they have the freedom of the range or prairie. Ofter they are seen by their owners only at the annual “round-up,” when they are driven into the “corrals” in order that the colts may be marked with the brand of the owner.

One can spend much time studying the instructive facts in regard to the interesting wild and half-wild Horses of the globe, and still feel that much remains unlearned. Yet all will admit that the most beautiful and perfect types of Horses are those bred under the direct supervision of man.

Of those which attain the greatest speed, most prominent are the English thoroughbred, the American race horse, and the Trakehnen Horse, the finest Horse of German breed.

These are all the result of many years of careful selection, each finding among its ancestors the noted Arab steeds, “praised as the noblest animal of creation by the naturalist, the expert and the poet.” The Horses of the Levant and the Barbary have also aided to render the English thoroughbred the greatest race horse of the old

world. The American trotters have not been behind, for as far back as 1889 the maximum recorded pace was one mile in two minutes and three and three-fourths seconds.

For the practical uses of life there seem to be as many breeds of Horses as are necessary to meet the varying requirements of an industrial civilization. We find all kinds and sizes, from the heavy and powerful Percheron or Clydesdale cart Horse, standing sometimes over six feet in height, to the smallest Shetland pony which may be even less than three feet at the withers, and we find Horses of various colors, of various lengths of mane and tail, and of varying degrees of intelligence.

While all Horses are not well treated, yet no animal is so respected and loved by man and no other animal has become so close a companion. While many nations as a whole have loved and cherished their Horses, the Arab steeds have been most appreciated and have entered closest into the daily life and thought of their masters. Only when it has attained its seventh year do they consider the education of the Horse complete and meanwhile it has been the constant companion and friend of its master.

In the extravagant and poetical language of the East, one Arab thus speaks of his beloved Horse: “Do not tell me that this animal is my horse, say that he is my son. It runs more quickly than the wind of a storm, more swiftly than the glance that sweeps the plains. It is pure as gold. Its eye is clear and so keen that it sees a hair in the dark. It overtakes the gazelle in its course. To the eagle it says: I hurry on like you. When it hears the shouts of girls it neighs with joy, and the whistling of bullets rejoices its heart. From the hands of women it begs for alms; the enemy it beats in the face with its hoofs. When it can run to its heart’s desire, it weeps tears. It recks not whether the sky be clear or the blasts of the desert obscure the light of the sun with dust; for it is a noble steed and despises the rage of the storm. There is no other in this world that could vie with it. Swift as a swallow, it courses on; so light is its weight that it could dance on the breast of your beloved and not annoy her. It understands all like a son of Adam, and all it lacks is speech.”

John Ainslie.

A MELODY.

Afar and near, afar and wide,
The murm’ring chant of a running stream,
Across the rocks to the brimming tide
Of the shining sea, its waters gleam.

Low in the beeches, hid from sight,
A robin is singing a song so sweet,
Its rapturous melody seems a flight
Of song from Heaven’s own azure deep.

O fateful river, now gleaming, now dark,
Like my checkered life of shadow and sun,
But always through it the song of my heart
Like the robin’s vesper, to God is sung.

But ever the river rolls along
With manifold crews of human souls;
And ever, the robin’s clear, sweet song
Is heard afar as the river rolls.

—Amanda M. E. Booth.

THE VERBENAS.

“Hallowed be thou, Vervain,
As thou growest on the ground,
For in the Mount of Calvary
There thou wast first found.”

The name Verbena in the language of flowers signifies enchantment. It is an ancient Latin name for a common European Vervain. As a classic name, however, the name Verbena was applied to any branch that was used in the celebration of religious rites. Though the Vervain of our illustration belongs to this genus it is not the same plant that was held in high esteem and as a sacred herb by the Greeks and Romans, yet it is generally believed that the “herba sacra” of these ancient peoples was a Vervain. And even to-day the name “Herb of Grace” is sometimes applied to the common wayside flower which we illustrate.

Virgil and other classic poets speak of the Verbena as used in altar decorations and as a garland for beasts led to the sacrificial pyre. Virgil, in his Eclogues, refers to it as a charm by which to recover lost love. Plinius states that no plant has been more honored than the Verbena among the Romans. Mr. Knight, in his biography of Shakespeare, says: “Some of the children said that a horseshoe over the door, and Vervain and dill, would

preserve them, as they had been told, from the devices of sorcery."

The genus Verbena includes about one hundred and ten species, often of a weedy character. They are chiefly American. In fact, in 1836, Loudon spoke of the Verbenas as "a genus of weedy plants." At the present time this statement is not true of many species, for under the florist's influence they have been brought to a high degree of perfection and they are well thought of as ornamental plants. Even in Loudon's time there grew on the prairies of South America several species of great beauty which he would not have classed as weeds had he been familiar with them.

The Blue Vervain is one of the weedy members of the genus. It is common along our waysides and with its erect form and long spikes of blue flowers would be quite attractive could the flowers all mature at the same time. It has frequently been placed under cultivation, but has but little value as a garden flower. But in the waste grounds of roadsides it is a pleasing sight even if its leaves are gray with dust.

This plant is sometimes called Simpler's Joy. It was given this name because in years gone by it was a popular herb with the "simplers," or gatherers of medicinal plants.

THE BLUE SPRING DAISY.

(*Erigeron pulchellus*.)

Daisy-like and modest, is not the name the Blue Spring Daisy much more appropriate for this hardy little plant than Robin's or Poor Robin's Plantain, by which it is often known? What has it to do with the robin? To be sure it sends forth its stems and blossoms in April when the birds are happiest, yet the robins appear much earlier. Then, too, the robins are not poor, for they are the best cared for among birds. Its flowers are often of a bluish cast, though they may be violet or even nearly white; they appear in the spring and are daisy-like.

ROBIN'S PLANTAIN OR BLUE SPRING DAISY.
(Erigeron pulchellus.)
BLUE VERVAIN OR WILD HYSSOP.
(Verbena hastata.)

The botanist knows this plant of the hills and banks as one of the species of the genus Erigeron. This name is indicative of one of its characteristics. It is from two Greek words meaning spring and old man. Old man in the springs or early old is an appropriate name, for the young plants are quite hoary and this hairiness remains throughout its life.

The Blue Spring Daisy is not alone, for it has about one hundred and thirty sister species widely distributed throughout the world, but they are more abundant in the Americas, nearly seventy of these occurring in North America.

This unassuming plant frequently grows in large patches, yet does not crowd its fellows; often it grows in

localities which the more delicate and brilliant of the early flowers are wont to shun. This may have been the theme which inspired these lines of the poet:

I love the lowly children of the earth!
I linger 'mid their artless ways
To feel their kinship and their fragile worth,
And catch their speechless praise.

Though the species of Erigeron are coarse growing and unpretentious plants, they lend themselves readily to garden cultivation. They are easily propagated and make good borders, for they are much more beautiful when massed than when allowed to develop as single plants. The forms vary greatly in color—orange, creamy, white, rose, violet, purple and bluish illustrate the range of color. The yellow centers heighten the color effect.

The flowers resemble those of the asters and the Blue Spring Daisy might be mistaken for an Aster. But few of the Asters, however, blossom earlier than the month of August and none before July, and the Spring Daisy does not blossom, as a rule, later than in June.

Miss Lounsberry says: "What strange idea filled the pretty head of Robin's Plantain when it decked itself out to look like an Aster we do not know, but its deception is very transparent and we readily discover that it is not one of the Asters." May we not look upon it as the harbinger of the true Astors?

THE LITTLE FEATHERED BOYS AND GIRLS.

In fragrant fields where graze the herds
And all along the old highway,
The boys and girls among the birds
Call each to each the livelong day.

Bob White, Bob White, pipes out the quail
From old fence posts and mossy stones,
In meadows where the ripened grain
In golden stacks awaits the flail.

A little tuft of feathers grey
That snaps its bill in eager glee
When e'er a fly is caught on wing,
Full forty times calls out Phoebe.

When fragrant dews fall from the sky—
And sinks the sun behind the hill,
From dark'ning woods rings out the cry,
O Whip poor Will—O Whip poor Will.

—Blandina D. Miller.

THE COTTON PLANT.

(*Gossypium barbadense*, L.)

Theise men ben the beste worchers of Gold, Sylver, Cottoun, Sylk and of all such things of any other, that be in the World.

—Mandeville, Travels, p. 212.

The cotton plant is undoubtedly one of the most useful plants in the entire vegetable kingdom. As with other exceedingly useful, though common things, we are so accustomed to the blessings we owe to this plant that we almost entirely lose sight of its identity and very existence.

There are a number of cotton yielding plants which belong to the genus Gossypium of the Mallow family (Malvaceæ), the same family to which the Hibiscus and garden mallows belong. The most important species are G. barbadense, which yields the noted Sea Island cotton, and G. herbaceum. Both are extensively cultivated in the United States, the latter species more than the former. Other more or less cultivated species are G. arboreum, G. religiosum and G. punctatum. The cottons are handsome plants with large, showy yellow or purple flowers. They vary from comparatively small and herbaceous to shrubby or even approaching the dimensions of trees. The seeds are borne in a three to five lobed capsule, which ruptures at maturity, thus allowing the snow-white cotton head to appear. The outer surface of the seeds is covered with slender fibers, each fiber being simply a single, greatly elongated epidermal cell. The individual fiber is flattened, twisted upon its axis, flexuous, from one to two or three inches in length. These fibers constitute the cotton of the market, which finds so many important uses in human economy. Of course primarily nature intended these fibers for the special use of the plant itself; being a means of aiding in the distribution of the seeds, and no doubt also serving as a protection against being eaten by animals, as the dense, more or less intertwined growth of insipid, tenacious fibers constitute anything but a tempting

morsel. Man, by his ingenuity and skill, has been enabled to utilize this product of nature in his own behalf.

The commercial and technical uses of cotton date back to very remote antiquity. Cotton fabrics were in use in China as early as 2300 B. C. At the discovery of America, beautiful cotton fabrics were found in Brazil, Peru, Mexico and the West Indies. According to the eminent Greek historian and traveler, Herodotus, cotton clothing was quite universally worn 484 B. C. The finest cloth came from the valleys of the Ganges, and not until the close of the campaigns of Alexander the Great did the manufacture of cotton cloth become a distinctive industry in Greece. It appears that during the time of Pharaoh cotton was yet a rare article since it is recorded that this eminent ruler presented Joseph with a costly coat made of this material, as a memento of high esteem. It is also a notable fact that the Egyptian mummies are swathed in linen instead of cotton cloth. No cotton seeds have ever been found in the ancient tombs of Egypt, nor is the plant represented upon the ancient mural paintings of that country.

In the eastern continent India was no doubt the principal cotton growing country; even China obtained its principal supply from that source. Not until about the ninth century of our era was cotton extensively cultivated in China. About the second century Arabian merchants brought cotton from India and began to cultivate it in the vicinity of the Red Sea, and from thence it gradually found its way into Spain about the sixteenth century, and from Spain into Italy and Greece.

No one knows exactly when cotton began to be used and cultivated in the western continent; we know that it must have been used a long time before the discovery of America by Columbus, for reasons already given. Mexican and South American mummy cloth is found to consist largely of cotton.

COTTON.
(Gossypium barbadense.)
FROM KŒHLER'S MEDICINAL-PFLANZEN.

Description of Plate.—A, B, branch of cotton plant; 1, sepal; 2, flowering bud; 3, petal; 4, 5, stamen; 6, pollen grain; 7, pistil; 8, 8a, 9, flower; 10, 11, 12, immature fruit; 13, ripe fruit; 14, 15, seed.

Cotton is now extensively cultivated in the warmer countries of both hemi-spheres—in the southern United States since the sixteenth century. The cotton plant is in reality a perennial, becoming quite shrubby with age, but in cultivation it is treated as an annual, being grown from seeds planted each spring. Three or four seeds are planted to each hill, the hills being about three feet apart. After sprouting the weaker individuals are removed, and at the end of three or four months the remaining carefully cultivated plants are pruned to make them more spreading and give a better yield of cotton. The plants grow quite rapidly, the cotton maturing about five months after planting. With the exception of the pruning, the planting and cultivation of cotton in the southern states is not unlike the planting and cultivation of corn in the middle states.

The cotton is picked by hand into bags or baskets, spread out and dried, and finally carted to the cotton gin, a

machine invented by Eli Whitney (1793), which separates the fibers from the seeds. The cotton is now pressed into bales, weighing from 400 to 500 pounds, for shipment. The cotton fiber is subjected to further processes of cleaning, carding, etc., before it is ready to be manufactured into cloth fabrics, thread, etc.

Nearly all parts of the cotton plant find a use. After the cotton is picked, the stalks are burnt upon the fields or "plowed under" to serve as a fertilizer for the soil, which would otherwise become impoverished very rapidly. The bark of the root is collected and employed medicinally, its medicinal properties being highly lauded by the negroes of the South. The seeds yield the cottonseed oil, which is not unlike olive oil. This oil, however, varies in purity, the purest being used as an adulterant of olive oil or as a substitute for this oil. The less pure grades are used for burning, but more in the preparation of woollen cloth and morocco leather, also as a lubricant for machinery. It is also used as a substitute for almond oil and olive oil in many pharmaceutical preparations and in the manufacture of soap. The seeds from which the oil has been expressed constitute the cottonseed cake, used as a nutritious cattle fodder. In the South a tea made from the seeds is considered a useful remedy in the treatment of malaria and dysentery. A tea made from the leaves is much used medicinally in Jamaica and other islands of the West Indies.

It is, however, the fiber, or cotton, which is the important part of the plant. It would be a tedious and difficult task to describe, or even enumerate, all of the uses to which it is put. It is used as wadding in clothing and quilts. It is used by the bacteriologist in the filtration of air; air passed through a layer of cotton is germ free. It is also used in the filtration of liquids. Purified and variously prepared, cotton is almost indispensable in surgery. It forms an excellent protective covering for wounds, ulcers, burns and scalds. It absorbs secretions and arrests hemorrhages. It is used in the preparation of gun cotton (pyroxylin) nitro-cellulose, collodion and flexible collodion. Gun cotton is prepared by treating cotton with strong nitric acid and is used in gunnery, blasting and in photography. Collodion (collodium) and flexible collodion are used in surgery, in the treatment of ulcers, skin diseases, to arrest hemorrhages, applied to inflamed areas, etc.

The most important part of the entire plant is the fiber or cotton as it is used in the manufacture of cloth. The modern method of cotton manufacture does not date back further than 1760. Prior to that time weaving and spinning were altogether domestic. At first the work was done by means of the ancient distaff and spindle, more recently the spinning wheel. By these only one thread could be produced at a time and, as may be imagined, the process was very slow. Furthermore, the yarn produced was inferior. A fairly good thread could be spun from flax, but the softness, shortness and unevenness of the cotton fiber made it difficult to produce a good uniform yarn by means of such crude apparatus. In fact, so poor was the yarn produced that in weaving it was used only for the weft (transverse thread), while linen, woolen or worsted yarn was used for the warp (longitudinal thread), in order that the cloth might have sufficient durability. During the middle of the eighteenth century the machinery for spinning was much more imperfect than the machinery for weaving. As a consequence, it became necessary to produce better spinning machines. In 1767 Hargreaves invented the "jenny" which spun eight threads at a time. In 1769 Arkwright invented the "waterframe," or "throstle," by means of which a much firmer yarn was produced. In 1785 Dr. Cartwright invented the "power loom," which far surpassed any previous spinning machine. Other improvements were added from time to time, culminating in our highly perfected modern machines, which would require volumes for a complete description. We have machines with thousands of spindles. It is possible to weave a thread one thousand miles or more in length, yet weighing but one pound.

The raw cotton must be subjected to various processes before it is ready for spinning. The bales are opened and the cotton sorted, so as to insure a uniform quality. It is then passed through a scutching, willowing or cleaning machine, where all impurities and undesirable foreign particles are removed. Next it is passed through a carding machine, which straightens out the fibers and lays them parallel. It also passes through the spreading machine, roving machine and finally to the spinning machine.

The finer yarns are spun from Sea Island cotton, from which fine muslins, laces, etc., are made. This cotton has long fibers. The good qualities of short cottons are used in the manufacture of cambrics, calicoes, sheetings, shirtings, etc. Inferior grades of cotton are used for coarse yarns in the manufacture of coarse fabrics. Cotton is also mixed with wool. Yorkshire broadcloth is said to be about half cotton. From warps of cotton and wefts of wool or worsted (a variety of wool) are formed Orleans cloths, Coburgs, mousselines de laine, damasks, etc. There are also fabrics composed of silk and cotton, linen and cotton, alpaca and cotton, etc. It is used in the manufacture of cotton thread for sewing and pack thread for tying bundles, and other cordage.

ALBERT SCHNEIDER.

THE CLOUD.

I bring fresh showers for the thirsty flowers,
From the seas and the streams;
I bear light shades for the leaves when laid
In their noonday dreams.
From my wings are shaken the dews that waken
The sweet buds everyone,
When rocked to rest on their mother's breast
As she dances about in the sun,
I wield the flail of the lashing hail
And whiten the green plains under;
And then again I dissolve it in rain

And laugh as I pass in thunder.

—Shelley.

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