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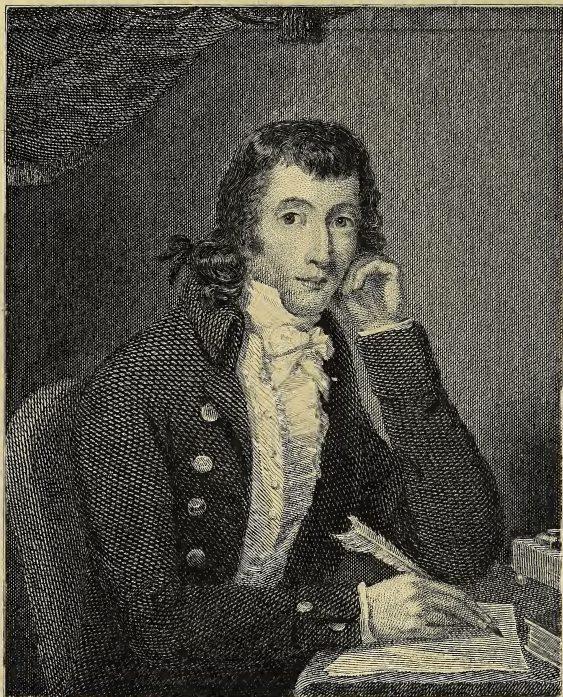
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ALEXANDER WILSON
The American Ornithologist.

CONSTABLE & CO EDINBURGH 1831.

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AMERICAN ORNITHOLOGY;
OR THE
NATURAL HISTORY
OF
THE BIRDS OF THE UNITED STATES.

BY ALEXANDER WILSON,
AND CHARLES LUCIAN BONAPARTE.

EDITED BY
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IN FOUR VOLUMES.
VOL. I.

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NOTICE.

ON presenting to the English reader, through the medium of a popular periodical, the first European edition of a work of which America has just cause to be proud, the publishers have a few words of explanation to offer regarding the improvements they have adopted.

It will be seen, from the Memoir of Wilson in the present volume, that his portion of the *American Ornithology* consists of nine volumes quarto, the descriptive part of the concluding volume having been drawn up by Mr George Ord, of Philadelphia. In 1825, Mr Ord was again employed to prepare new editions of the seventh, eighth, and ninth volumes, and made considerable additions: in 1828, three supplementary volumes, by Charles Lucian Bonaparte,* appeared.

The present edition will comprise not merely the whole of Wilson's work, including the improve-

* Prince of Musignano, son of Lucien Bonaparte, the brother of Napoleon.

ments of Mr Ord, but also the continuation of Bonaparte, and will still farther be enhanced in value by the revisal of the whole, and its arrangement, in a scientific manner, by Professor Jameson. This arrangement will not only render the work of more easy reference than the original edition,—which, from its irregular mode of publication, was never arranged,—but will also, it is hoped, ensure its being used as an ornithological text book in our universities, and also in our schools. Hitherto, no companion or guide has been published to the beautiful collection of American birds in the museum of the University of Edinburgh: the present work will be found to answer the purpose, both on account of its scientific form, and the constant reference, by the editor, to the birds of the New World, preserved in that splendid cabinet of natural history.

It remains only to be added, that the notices of the Turkey Vulture, p. 3, the Black Vulture, p. 10, the Great-Footed Hawk, p. 51, and the Raven, p. 231, having been transferred from the ninth volume of Wilson, are consequently written by Mr Ord. Other articles of his are pointed out where they occur in the course of the work.

EDINBURGH, *April*, 1831.

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MEMOIR
OF
ALEXANDER WILSON.

ALEXANDER WILSON, author of *American Ornithology*, was born in Paisley, on the 6th July, 1766. His father was a man of sober and industrious habits, of strict honesty, and superior intelligence; highly respected by all who knew him, throughout a very long life. It appears to have been the father's intention to give his son a liberal education, with the hope, so dear to the heart of the Scottish peasant, of seeing him at some future period honoured in being appointed to preach the gospel of peace. To this Wilson himself alludes, in a poem, entitled the "Solitary Tutor," written in America, and evidently descriptive of himself:—

His parents saw, with partial, fond delight,
Unfolding genius crown their fostering care,
And talk'd with tears of that enrapturing sight,
When, clad in sable gown, with solemn air,
The walls of God's own house should echo back his prayer.

Whether his early years displayed such evident marks of genius as to justify anticipations of future eminence, cannot now be certainly known: nor is it necessary that it should, to account for his father's intentions. While the heart of every parent inclines him to judge favourably of his own child, the devout Scottish peasant can form no higher prospect, and conceive no greater recompense

for all his own privations, than to see the son of his affection become the messenger of Heaven.

Unfortunately for Wilson, his mother died when he was about ten years old, leaving his father embarrassed with the charge of a young family, to minister to the wants of which, the heart and the habits, the tenderness and the enduring patience of woman alone are adequate. In the higher and wealthier ranks, female aid may be procured; but, in humble life, nothing can be more deplorably desolate than the condition of a young motherless family. It is, therefore, almost a matter of absolute necessity for the poor man to seek the aid of a second wife; though the result of doing so is usually the burden of an additional family. Wilson's father soon married again; and all his son's prospects of a liberal education were speedily overcast. What progress he had made cannot now be discovered; though, from the statements of his early friends, and the incorrectness of his first productions, it may be inferred, that his attainments were only limited. The bias, however, had been given; a taste for literature had been communicated, by which the whole of his after life was more or less characterized. Of this he was himself aware, as appears by his letters to his father, written from America, after his perseverance had won for him that rich reward, for which alone he toiled,—honest, independent fame. In a letter, dated 25th Feb. 1811, the following passage occurs:—"The publication of the *Ornithology*, though it has swallowed up all the little I have saved, has procured me the honour of many friends, eminent in this country, and the esteem of the public at large, for which I have to thank the goodness of a kind father, whose attention to my education in early life, as well as the books then put into my hands, first gave my mind a bias towards relishing the paths of literature, and the charms and magnificence of nature. These, it is true, particularly the latter, have made me a wanderer in

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life ; but they have also enabled me to support an honest and respectable situation in the world, and have been the sources of almost all my enjoyments."

The American biographer states, that the unkind usage of Wilson's stepmother drove him to forsake his paternal roof, and to seek an asylum in that of his brother-in-law, William Duncan. This is altogether incorrect. Those who had the means of knowing the truth, agree that she always treated him with kindness and attention ; and Wilson himself uniformly spoke of her with respect and gratitude. That he did reside in the house of William Duncan is true ; but it was during the term of his apprenticeship, when, if not a matter of absolute necessity, it was at least one of mutual convenience. The wandering habits of his earlier years have also been attributed to the harsh treatment experienced at home ; but while these may be sufficiently accounted for otherwise, — as will appear in the course of our narrative, — it is due to the memory of a deserving woman to rescue her from so groundless an imputation.

In his thirteenth year, on the 31st July, 1779, Wilson was bound apprentice, as a weaver, to William Duncan, who had married his eldest sister. The duration of his apprenticeship was three years, not five, as has been erroneously stated. The original indenture bears date as above, and has at the end the following lines in his own handwriting : —

Be't kent to a' the warld in rhyme,
That wi' right mickle wark an' toil,
For three lang years I've ser't my time,
Whiles feasted wi' the hazel oil.

Agst. 1782.

These lines shew that he had completed his apprenticeship in 1782, after serving three years ; and they likewise shew, that he had, even then, in his sixteenth year, notwithstanding the very unpoetical nature of his profession,

already tried his skill in the composition of verses ; and that, however closely his mechanical occupation employed him, he had a strong inclination to more imaginative feelings and pursuits, not at all likely to reconcile him to his humble avocation. Yet he continued working as a journeyman-weaver for about four years ; during which time he resided partly in Paisley, partly with his father, who had gone to the village of Lochwinnoch, and finally with his brother-in-law, Duncan, then removed to Queensferry. During these four years, however, being comparatively left to his own direction, his poetical talents were more freely indulged ; his dislike to the loom increased, and his mind became more fully possessed with that spirit of restlessness, which, not finding sufficient scope in Britain, in the end impelled him to explore the boundless forests of the New World.

Nearly two years of that period were spent at Lochwinnoch, and many of his earlier poems were then composed, particularly those of a descriptive character. But the rambles which gave rise to these efforts of his muse, while they increased his relish for the beauties of natural scenery, rendered his sedentary employment more and more irksome, and prepared him to abandon it, upon the first prospect of more congenial pursuits. In a poem, written about this time, entitled, " Groans from the Loom," after painting, in a strain of ludicrous complaint, half in jest, half in earnest, the miseries of his condition, the following exclamation occurs, wrung from him probably by an instinctive aversion to confinement, and almost prophetic of his future wanderings : —

Good gods ! shall a mortal with *legs*,
So low uncomplaining be brought !

These sentiments, together with the expanded views, cultivated taste, and refined ideas, resulting from the perusal of what books he could procure, all tended to the same conclusion, — a growing disgust with the trade of a weaver,

and a desire to exchange it for any other which promised greater freedom from personal restraint, and more intercourse with the charms of nature. He thus speaks of his feelings and habits about this time :—

Here oft beneath the shade I lonely stray,
 When morning opes, or evening shuts the day ;
 Or when more black than night stern fate appears,
 With all her train of pale, despairing fears,
 The winding walk, the solitary wood,
 The uncouth grotto, melancholy, rude ;
 My refuge there, the attending muse to call,
 Or in Pope's lofty page to lose them all.

Such feelings and habits must give the mind an increase of both refinement and elevation ; but it may be questioned, if they are equally adapted to promote happiness, because the culture necessary to qualify for enjoyments of a high and refined order, must always be attended with pain and privation, as it unfits for all the more ordinary gratifications, before those of a congenial nature can be attained. With the young rustic poet, this is peculiarly the case : he is like a butterfly, which some untimely smiles of spring have induced to cast aside the protection of its chrysalis envelopment, and left exposed to every chilling storm ; clad more elegantly, indeed, but much less securely defended.

During this transition-state of the rustic poet, it is not surprising that he should frequently sink into fits of deep melancholy, perchance of darkest despondency ; or that the sick heart should sometimes try to escape from the pangs of its own morbid sensibility, by plunging into mirth, revelry, and dissipation. Into this too common error Wilson never fell. Though his letters to his friends, written about this period, are filled with the most desponding language, there is abundant evidence that he was not, even in the slightest degree, given to dissipation. The utmost that could be charged against him

was, a growing dislike to the confinement of his occupation; or, in the harsh language of some, an increasing tendency to idleness. It was about this time that his first public attempts as a poet, were made; several of his short pieces occasionally appearing in the *Glasgow Advertiser*. These speedily attracted the notice of his townsmen, and became "the nightly subjects of discussion, in the clubs and bookshops of Paisley." This, probably, contributed not a little towards encouraging him to the next step which he took, and which forms an era in his life.

His brother-in-law, William Duncan, had gone to reside at Queensferry, whither Wilson followed him, and continued for some time to work at his trade with his former master. With a view to better his circumstances, Duncan resolved to make an excursion throughout the eastern districts of Scotland as a pedlar; and in this he was accompanied by Wilson, now in his twentieth year.

The loom was now completely abandoned; and, for a period of nearly three years, he seems to have led the life of a wandering pedlar. But the feeling of release from the toilsome loom, at first so delightful to one rapturously fond of the beauties of nature, soon began to subside, permitting him to estimate more truly the difficulties, fatigues, and, above all, the degradation of his new employment. He had now, however, a great deal more leisure for reading, writing, and indulging in a species of dreamy meditation, not less pleasant, and occasionally scarcely less beneficial, than either. It besides furnished him with opportunities of studying men and manners, to an extent scarcely otherwise attainable: and, if it was often attended by disagreeable circumstances, it had its advantages,—it enabled him to visit all the classic ground of Scottish song and story, and to trace the scenes hallowed by the birth or residence of glorious chief, or still more glorious poet. "I can yet remember," says one of his biographers, who was also his personal friend, "with

what warmth of enthusiasm he informed me that, in one of his journeys, he went considerably out of his way to visit the village of Athelstaneford, at one time the residence of Blair, author of *The Grave*, and afterwards of *Home*, author of *Douglas*." This proves his veneration for the sons of song and their consecrated haunts. And his admiration of natural scenery cannot be better shewn than by quoting the strongly contemptuous expressions he applied to those who are not susceptible of the pleasures arising from contemplating the beauties of nature:—"Pleasures," says he, "which the grovelling sons of interest, and the grubs of this world, know as little of, and are as incapable of enjoying, as those miserable spirits, who are doomed to perpetual darkness, can the glorious regions and eternal delights of paradise!"

During these years of comparative idleness, his poetical talent, as might have been expected, was not permitted to remain uncultivated. Many of his published poems, by their dates and incidents, furnish evidence that they were the composition of that period: and at length, in 1789, he began to prepare materials for a volume of poems. After submitting his manuscript to the private criticism of some friends, (to whose suggestions, however, like most young poets, he was far from being inclined to yield implicit deference—whose approbation, in short, not their opinion, it was that he wanted,) he contracted with Mr John Neilson, printer in Paisley, for the expenses of the press; and set out afresh with his pack and a prospectus, in order to procure subscribers. On the 17th September, 1789, he proceeded from Edinburgh, along the east coast of Scotland, to sell his muslins and solicit subscriptions, making the one the means and the other the end. His hopes and purposes cannot be better shewn than by transcribing a portion from a journal which he kept during this excursion; and which commences as follows, in a mingled strain between jest and earnest:—

“ As youth is the most favourable time to establish a man’s good fortune in the world, and as his success in life depends, in a great measure, on his prudent endeavours, and unwearied perseverance, I have resolved to make one bold push for the united interests of pack and poems. Nor can any one justly blame me for it, since experience has now convinced me, that the merit I am possessed of (which is certainly considerable) might lie for ever buried in obscurity, without such an attempt. I have, therefore, fitted up a proper budget, consisting of silks, muslins, prints, &c. for the accommodation of those good people who may prove my customers,—a sufficient quantity of proposals for my poetical friends ; and, to prevent those tedious harangues, which otherwise I would be obliged to deliver at every threshold, I have, according to the custom of the most polite pedlars, committed the contents of my pack to a handbill, though in a style somewhat remote from any I have yet seen :—

ADVERTISEMENT EXTRAORDINARY.

Fair ladies, I pray, for one moment to stay,
 Until with submission I tell you,
 What muslins so curious, for uses so various,
 A poet has here brought to sell you.

Here’s handkerchiefs charming ; book-muslins like ermine,
 Brocaded, striped, corded, and check’d ;
 Sweet Venus, they say, on Cupid’s birth-day,
 In British-made muslins was deck’d.

If these can’t content ye, here’s muslins in plenty,
 From one shilling up to a dozen,
 That Juno might wear, and more beauteous appear,
 When she means the old Thunderer to cozen.

Here are fine jaconets, of numberless sets,
 With spotted and sprigged festoons ;
 And lovely tambours, with elegant flowers,
 For bonnets, cloaks, aprons, or gowns.

Now, ye Fair, if ye choose any piece to peruse,
With pleasure I'll instantly shew it :
If the Pedlar should fail to be favour'd with sale,
Then I hope you'll encourage the Poet."

Did our limits permit, we would willingly transcribe other passages from the above-mentioned journal, because it is not less faithful as a picture of his mind and feelings, than as a description of his wanderings. There breathes through it an indignant spirit of independence—a detestation of every thing mean and selfish,—and a proud scorn of what he considered the overweening insolence of the wealthy and the vain. In his main object, however, which was evidently to procure subscribers for his poems, Wilson was almost totally disappointed, though he did not fail to study deeply the living page of man. We cannot resist the inclination to quote the conclusion of his journal, in which he thus sums up his toils and his gains :—

“ I have this day, I believe, measured the height of an hundred stairs, and explored the recesses of twice that number of miserable habitations ; and what have I gained by it?—only two shillings of worldly pelf! but an invaluable treasure of observation. In this elegant dome, wrapt up in glittering silks, and stretched on the downy sofa, recline the fair daughters of wealth and indolence : the ample mirror, flowery floor, and magnificent couch, their surrounding attendants ; while, suspended in his wiry habitation above, the shrill-piped canary warbles to enchanting echoes. Within the confines of that sickly hovel, hung round with squadrons of his brother artists, the pale-faced weaver plies the resounding lay, or lanches the melancholy murmuring shuttle. Lifting this simple latch, and stooping for entrance to the miserable hut, there sits poverty and ever-moaning disease, clothed in dunghill rags, and ever shivering over the fireless chimney.

Ascending this stair, the voice of joy bursts on my ear,—the bridegroom and bride, surrounded by their jocund companions, circle the sparkling glass and humorous joke, or join in the raptures of the noisy dance—the squeaking fiddle breaking through the general uproar in sudden intervals, while the sounding floor groans beneath its unruly load. Leaving these happy mortals, and ushering into this silent mansion, a more solemn—a striking object, presents itself to my view. The windows, the furniture, and every thing that could lend one cheerful thought, are hung in solemn white; and there, stretched pale and lifeless, lies the awful corpse; while a few weeping friends sit, black and solitary, near the breathless clay. In this other place, the fearless sons of Bacchus extend their brazen throats, in shouts like bursting thunder, to the praise of their gorgeous chief. Opening this door, the lonely matron explores, for consolation, her Bible: and, in this house, the wife brawls, the children shriek, and the poor husband bids me depart, lest his termagant's fury should vent itself on me. In short, such an inconceivable variety daily occurs to my observation in real life, that would, were they moralized upon, convey more maxims of wisdom, and give a juster knowledge of mankind, than whole volumes of Lives and Adventures, that perhaps never had a being, except in the prolific brains of their fantastic authors."

This, it must be acknowledged, is a somewhat prolix and overstrained summing up of his observations; but it proves Wilson to have been, at the early age of twenty-three, a man of great penetration, and strong native sense; and shews that his mental culture had been much greater than might have been expected from his limited opportunities. At a subsequent period, he retraced his steps, taking with him copies of his poems, to distribute among subscribers, and endeavour to promote a more extensive circulation. Of this excursion also he has given an account in his

journal, from which it appears that his success was far from encouraging. Among amusing incidents, sketches of character, occasional sound and intelligent remarks upon the manners and prospects of the various classes of society into which he found his way, there are not a few severe expressions indicative of deep disappointment, and some that merely hint the keener pangs of wounded pride—pride founded on conscious merit. “You,” says he, on one occasion, “you, whose souls are susceptible of the finest feelings, who are elevated to rapture with the least dawns of hope, and sunk into despondency by the slightest thwarting of your expectations—think what I felt!” Much, probably, of his disappointment may be attributed to the very questionable, the almost vagrant character, in which he appeared,—that of a travelling pedlar. Of this he seems ultimately to have become convinced; for, in a letter to a friend, dated from Edinburgh, in November of the same year, he says, “My occupation is greatly against my success in collecting subscribers. A *packman* is a character which none esteem, and almost every one despises. The idea which people of all ranks entertain of them is, that they are mean-spirited, loquacious liars, cunning and illiterate, watching every opportunity, and using every mean art within their power, to cheat.” The same sentiment repeatedly occurs in his poems.

Having in vain used his utmost exertions to dispose of his poems, and being completely disgusted with the life of a pedlar, he returned to Paisley; and, in a short time afterwards, we find him again plying his original trade in Lochwinnoch. But it is evident, that he was far from being satisfied with his employment, or sincere in relinquishing poetry. Indeed, it may be questioned whether any man who has ever experienced the true poetic thrill could, even if he would, seal up his bosom against its rapturous visitations. Be that as it may, Wilson was

perfectly ready to avail himself of the first favourable opportunity of again appearing before the public, in the character of a poet. The occasion which led to it was this :—

A certain portion of the Edinburgh *literati* had formed a kind of public debating society, called the Forum, the meetings of which were held in the Pantheon. Among other questions proposed for discussion was this, “Whether have the exertions of Allan Ramsay or Robert Fergusson done more honour to Scottish poetry?” Information of this was communicated to Wilson by a friend in Edinburgh. Immediately he kindled at the idea of making a public appearance in a manner so congenial to his love of fame; and, though unacquainted with the poems of Fergusson, and having but a fortnight for preparation, he borrowed a copy from a friend, read it, formed his opinion, laboured with redoubled perseverance for money to defray the expense of his journey, composed a poem on the subject, and arrived in Edinburgh in time to bear his part in the discussion. This poem, “The Laurel Disputed,” is of considerable length, and though disfigured with occasional coarseness, is distinguished by a certain rough, easy vigour, which marks it the production of a man of more mental power than polish,—one who thought strongly, and cared not much in what sort of language his thoughts were couched, so that they were understood. In it he gives the laurel to Fergusson,—a decision to which the audience did not assent, but in which, nevertheless, we think his judgment was perfectly correct, so far at least as regards the superiority in real genius. So miserably deficient, in point of true poetic merit, are almost all of Ramsay’s miscellaneous poems, that we cannot help considering *The Gentle Shepherd* as little more than a “lucky hit;” nor is there any thing to invalidate this opinion, in those pieces of frigidity and affectation, which he gave to the world, in his *Tea-*

table Miscellany, as improved versions of our old coarse, but vigorous traditionary songs and ballads. Fergusson, on the other hand, never sinks beneath the regions of poetic inspiration, and frequently takes the heart by surprise with a sudden gush of fervent and tender feeling. — But we must break away from this seductive topic.

Wilson remained long enough in Edinburgh to compose and recite in public two other poetical essays, and to publish (1791) “*The Laurel Disputed* ;” then returned to Lochwinnoch, with some increase of fame, but none of wealth. It appears, however, that he at that time formed some literary connections in Edinburgh, which might have been of advantage ; for we find him contributing to the *Bee*, a periodical work, conducted by the late Dr Anderson, one of the fathers of modern Scottish literature. It is probable that his unsettled circumstances may have been the chief reason why he failed to profit by that favourable opening, as the Doctor’s benevolence was unlimited, and his influence at that time considerable.

An intimacy still more congenial promised about this period to commence,—one which would probably have been close and permanent, but for the rapidly approaching crisis in Wilson’s destiny,—we mean an intimacy with Burns. By the kindness of a valued friend,* to whom we are indebted for many interesting communications concerning Wilson, we were put in possession of the following anecdote ; — “ Shortly after the publication of Burns’s poems, Wilson wrote to him, objecting to certain of them, on account of their improper tendency. At this time the two poets were quite unacquainted. Burns returned for answer, that he was so much accustomed to communications of that

* P. A. Ramsay, Esq. Paisley, a gentleman to whom we beg to tender our warmest acknowledgments for the ready zeal with which he entered into, and prosecuted, those researches concerning the subject of this memoir, from which we ourselves were unavoidably precluded.

description, that he usually paid no attention to them ; but that, as Wilson was evidently no ordinary man, and also a true poet, he would, in that instance, depart from the rule ; and he then entered into a vindication of himself and his poems. Shortly afterwards, Wilson went from Paisley to Ayrshire to visit Burns. On his return he described his interview with Burns in the most rapturous terms." *

The poem of " Watty and Meg," his most successful effort, was written early in 1792. Being published anonymously, it was universally attributed to Burns. Wilson felt this as at once a high compliment, and an unconscious acknowledgment of his merit, on the part of a public, which had shewn him so little countenance in his avowed productions ; and, for a time, he allowed the opinion to spread uncontradicted. " The originals of Watty and Meg," says the same gentleman who communicated the preceding anecdote, " were a worthy couple of Wilson's acquaintance. When the good dame, represented as *Meg*, read the poem, she exclaimed to her husband, ' D'ye ken what Sandy Wilson has done ?—he has *poem'd* us ! ' "

The perception of the ludicrous generally accompanies the perception of the sublime. In like manner, a satirical tendency is not unfrequently found conjoined with great generosity and tenderness. Of this spirit Wilson partook to a certain extent ; and in hours of thoughtless and exuberant glee, occasionally indulged it for the amusement of his friends. Some, however, of darker spirit, as is generally believed, instigated Wilson, in an evil hour, to write a piece of severe personal satire against a respectable individual in Paisley, at whose instance he was prosecuted

* Cromek gives a different version of this incident, and attributes the termination of all intercourse between the two poets to Wilson's envy of Burns. This being shewn to Wilson, by one of his American friends, he rebutted the injurious imputation in the most decided terms.

before the sheriff, imprisoned, and compelled publicly to burn the offensive poem. That, in writing it, he acted as the tool of others, not from any malignant feelings in himself, is evident from his subsequent conduct. Before leaving Paisley for America, he waited on some whom he had satirized, and requested forgiveness for any uneasiness which his writings might have occasioned. Many years afterwards — a short time before his death — he invited his brother David to join him in America. David went accordingly, taking with him copies of all the poet's satirical pieces, which he had carefully collected, thinking, probably, that they would be received as an acceptable present. But Wilson, the instant they were produced, threw them into the fire, saying, "These were the sins of my youth; and, had I taken my good old father's advice, they never would have seen the light."

This unfortunate event seems to have had some effect in slackening the ties which bound Wilson to his native country. There were also other causes at work. The French Revolution was at that time awaking the hopes or the fears of all who saw in it, either the commencement of a new and glorious era of political freedom, or, as it finally proved, of a period of anarchy and bloodshed. Wilson, like many other ardent-minded men, beheld it in the former aspect, and rapturously hailed its appearance. He associated himself with those who entitled themselves the Friends of the People; and, as his conduct had recently given umbrage to those in power, he was marked as a dangerous character. In this condition, foiled in his efforts to acquire a poet's name; depressed by poverty; hated by those who had smarted beneath his lash; and suspected on account of his politics; it is not to be wondered at, that Wilson listened willingly to the flattering accounts regarding America, and speedily resolved to seek that abode of Utopian excellence. This resolution was the more easily adopted, that he had never

yielded to the soft but potent sovereignty of love. In this respect he is almost alone among the warm-hearted sons of song. Rarely does he write of love ; and, when he does, it is like a man who might have thought about it, as about any other interesting mental phenomenon, but had never experienced its subduing power. It is said that he kept up a sort of Platonic attachment and correspondence with a young lady of some rank and accomplishments, but never went beyond the usual language of sentimental courtesy, and laid it easily aside the moment that his mind became fixed on emigration.

Various schemes crossed his mind as to the mode of earning a livelihood in America ; and, among others, one seems to have been, to qualify himself, by a knowledge of writing and arithmetic, for entering into some mercantile occupation. With this view, early in the year 1794, he applied to a friend, who at that time kept a school, to have himself taught these branches of education ; but, after one day's study, departed ; nor, till several months had elapsed, did he return, and then only to bid a final farewell. This sudden change of mind has generally been attributed to his restless instability of purpose ; and brought forward as a parallel to the story which Burns tells of his own mathematical studies. A more correct view of the affair is given by one of his American friends, who must have had it from himself : When he finally determined on emigration, he was not possessed of funds sufficient to pay his passage. In order to surmount that obstacle, he adopted a plan of extreme diligence at the loom, and rigid personal economy ; by which means he amassed the necessary sum. After living for a period of four months, at the rate of *one shilling* per week, he paid farewell visits to several of his most intimate friends, among others, to the above-mentioned teacher, retraced some of his old favourite haunts, and, bidding a last adieu to his native land, set out

on foot for Port-Patrick. Thence he sailed to Belfast in Ireland, and there embarked as a deck-passenger, on board an American ship bound to Newcastle, in the State of Delaware.

He arrived in America on the 14th of July, 1794, with no specific object in view, without a single letter of introduction, and with only a few shillings in his pocket. But every care was forgotten in his transport at finding himself in what he fondly deemed the land of freedom. Impatient to set his foot on the soil of the New World, he landed at Newcastle, and, with his fowling-piece in his hand, directed his course towards Philadelphia, distant about thirty-three miles, highly delighted with the aspect of the country, and the plumage of the birds, to which his attention was strongly directed by what may be termed the instinct of his genius. It is not unworthy of remark, that his first act in America was shooting a bird of the red-headed woodpecker species, as if thus already beginning his career as *the* American Ornithologist.

On arriving at Philadelphia, he made himself known to an expatriated countryman, a copperplate printer, and wrought for a few weeks at this new species of occupation. This, however, he soon relinquished, and resumed the trade of weaving, first at Pennypack, then in Virginia, and again in Pennypack. In the autumn of 1795, he resorted for a short time to his former occupation of pedlar, and traversed a considerable part of the State of New Jersey, meeting with greater success than in Scotland. During this excursion, he kept a diary, as he had formerly done in Scotland, written with great care, and abounding with acute observations on the manners of the people, notices of the principal natural productions, and sketches of the indigenous quadrupeds and birds.

Many and severe as must have been the difficulties with which Wilson had to struggle upon his arrival, his letters to his friends are full of encomiums upon every

thing American,—a good deal, perhaps, upon the principle of the fox who had lost his tail. His first letter, dated July, 1794, contains the following observations:—“ But let no man, who is stout or healthy, and has a mind to come to this country, be discouraged. If he is a weaver, and can't get employment at his own business, there are a thousand other offers, where he will save, at least, as much as he can in Scotland, and live ten times better. Where I am at present, which is eleven miles to the northeast of Philadelphia, nobody could wish for a more agreeable spot. Fruit of almost every kind, peaches, apples, walnuts, wild grapes, I can pull at pleasure, by only walking a short stone's-throw from the house, and these not enclosed by high walls, and guarded by traps and mastiffs.” Next year he again reverts to the same subject:—“ Assure all my friends that this is a good country. The transplanting a tree or flower checks its growth for a little; but let them persevere, and they will finally prosper, be independent, and wealthy and happy if they will. When I look round me here on the abundance which every one enjoys,—when I see them sit down to a table loaded with roasted, boiled, fruits of different kinds, and plenty of good cider, and this only the common fare of the common people, I think on my poor countrymen, and cannot help feeling sorrowful at the contrast.”

On returning from his travels in New Jersey, he abandoned, finally, his old employments of weaver and pedlar, and betook himself to the not less laborious, but more refined one, of schoolmaster. It cannot be supposed that this was an occupation to which his previous unsettled manner of life had given him any predilection; yet the opportunities it presented of prosecuting his studies must have recommended it powerfully to one whose chief enjoyments had always been mental. Being dissatisfied with the situation of his first school, near Frankford, in Pennsylvania, he removed to Milestown, and taught

in the schoolhouse of that village. Here he remained for several years, in the faithful discharge of his professional duties, and the assiduous culture of several branches of learning, which he had not previously found opportunity to pursue with any steadiness or method. A part of his leisure was employed in surveying land for the farmers, by which he earned a small additional income. In this period, he performed, on foot, in twenty-eight days, a journey of nearly eight hundred miles, into the State of New York, for the purpose of visiting and assisting a family of relatives, from Scotland. This incident proves the strength at once of his affection, and of his perseverance. Nor was it only to brother emigrants that his friendly cares were extended; his heart had not ceased to beat warmly and truly for those he had left in his "far father-land." In a letter to his father, dated from Milestown, Philadelphia, August, 1798, after giving a view of the state of politics, and a sketch of the manners of those among whom he resided, he thus proceeds:— "I should be very happy, dear parents, to hear from you, and how my brother and sisters are. I hope David will be a good lad, and take his father's advice in every difficulty. If he does, I can tell him he will never repent it; if he does not, he may regret it bitterly with tears. This is the advice of a brother, with whom he has not yet had time to be much acquainted, but who loves him sincerely. I should wish also, that he would endeavour to improve himself in some useful parts of learning, to read books of information and taste, without which a man, in any country, is but a clodpole; but, beyond every thing else, let him cherish the deepest gratitude to God, and affectionate respect for his parents. I have thought it my duty, David, to recommend these amiable virtues to you, because I am your brother, and very probably I may never see you. In the experience I have had among mankind, I can assure you, that such conduct

will secure you many friends, and support you under your misfortunes ; for, if you live, you must meet with them — they are the lot of life.”

Wilson next changed his residence at Milestown for the village of Bloomfield, New Jersey, where he had not long been, when, about the beginning of the year 1802, he was induced to contract an engagement with the trustees of a seminary in the township of Kingsess, a short distance from Gray's Ferry, on the river Schuylkill, and about four miles from Philadelphia. This was the last and the most fortunate of his migrations ; it was the first step towards that path which was soon destined to lead him to eminence. It placed him in the immediate neighbourhood, and gave him the intimacy, of men capable, both of appreciating his merits, and of lending him encouragement and assistance — of such men as the botanist and naturalist, William Bartram, whose gardens opened to him a field of delightful instruction and enjoyment, and whose lessons and example animated and guided him in the study of nature ; and Mr Lawson, the engraver, from whose instructions he learned to delineate, with the pencil, those beautiful forms, which he so eloquently described with his pen. Mr Bartram, perceiving the bent of his friend's mind, and its congeniality to his own, took peculiar delight in rendering every aid and encouragement, both by his own instructions, and by putting into Wilson's hands some works on natural history, particularly those of Catesby and Edwards. While he perused these works with equal pleasure and attention, he began to detect various errors, such as must always abound in books whose authors rely, to any extent, on the reports of others, without personal investigation.

Wilson's American biographer relates, that, about this time, his mind was subject to moments of deep despondency and depression, which his solitary mode of life tended to confirm. This he attributes to his being

“addicted to the writing of verses, and to music; and that, being of a musing turn of mind, he had given way to those seductive feelings, which the charming scenery of the country, in a susceptible heart, never fails to awaken.”

An anecdote is related of his narrowly escaping from an accidental death by his own gun, during a ramble which he had taken, to relieve his dejected mind; and at the thought of which he himself shuddered, lest it should have subjected his memory to the imputation of suicide. “His friends,” continues the American Biographer, “perceiving the danger of his situation, recommended the renouncing of poetry and the flute, and the substitution of the amusement of drawing in their stead, as being most likely to restore the balance of his mind. For this end sketches of the human figure and landscapes were provided him; but his attempts were so unpromising, that he threw them aside with disgust. Mr Bartram now advised a trial at birds; and being tolerably skilful himself, exhibited his portfolio, which was graced with many specimens from his own hands. The attempt was made, and succeeded beyond the expectation of Mr Wilson or that of his friends. There was a magic in the employment which aroused all the energies of his soul; he saw, as it were, the dayspring of a new creation; and from being the humble follower of his instructors, he was soon qualified to lead the way in the charming art of imitating the works of the GREAT ORIGINAL.”

Now, we will admit, that this is a very pretty specimen of transatlantic magniloquence: and we are ready to accord all due praise to Messrs Bartram and Lawson for their benevolent attentions to our gifted countryman. But we do hold Wilson to have been made of sterner stuff than to have incurred any hazard of falling a victim to that “malady most incident to maids.” We farther conceive, that little danger was to be apprehended from his being *addicted* to “poetry, that loftiest mood of mind,”

and to music, with its “strains, which might create a soul under the ribs of death;” and we would just suggest, that these gentlemen did themselves, at least, as much service as they could do Wilson, in thus acquiring a claim to be connected with his name, and his imperishable reputation. If we allow ourselves to recollect that he was kept in constant thralldom to the drudgeries of a school, depressed by penury, and tasking his powers to their utmost stretch in unremitting study for his own improvement, we may easily account for that bodily lassitude, which occasionally threw a shade of languor and melancholy over his mind. For, when the bodily powers are outworn, there invariably follows a tendency to mental depression; so close is the connection, so intimate the sympathy, between the body and the mind.

Wilson’s letters to his nephew, W. Duncan, then residing on a farm, their joint property, in the State of New York, shew both the cause of his incessant toil, and the spirit with which he bore it. The following extracts relate to this subject:—

“My dear friend and nephew, I wish you could find a leisure hour in the evening to give the children, particularly Mary, some instruction in reading, and Alexander in writing and accounts. Don’t be discouraged though they make but slow progress in both, but persevere a little every evening. I think you can hardly employ an hour at night to better purpose. And make James read every convenient opportunity. If I live to come up beside you, I shall take that burden off your shoulders. Be the constant friend and counsellor of your little colony, to assist them in their difficulties, encourage them in their despondencies, to make them as happy as circumstances will enable you. A mother, brothers, and sisters, in a foreign country, looking up to you as their best friend and supporter, places you in a dignified point of view. The future remembrance of your kind duty to them now, will,

in the hour of your own distress, be as a healing angel of peace to your mind. Do every thing possible to make your house comfortable; fortify the garrison in every point; stop every crevice that may let in that chilling devil, the roaring, blustering northwest; heap up fires big enough for an Indian war-feast; keep the flour-barrel full; bake loaves like Hamles Head;* make the loom thunder, and the pot boil, and your snug little cabin re-echo nothing but sounds of domestic felicity. I will write you the moment I hear of George. I shall do every thing I have said to you, and never lose sight of the 18th of March; for which purpose I shall keep night school this winter, and retain every farthing but what necessity requires—depend upon me. These are the outlines of my plan. If health stand it, all will be well; if not, we cannot help it.”

“I succeed tolerably well; and seem to gain in the esteem of the people about. I am glad of it, because I hope it will put it in my power to clear the road a little before you, and banish despondence from the heart of my dearest friend. Be assured that I will ever as cheerfully contribute to your relief in difficulties, as I will rejoice with you in prosperity. But we have nothing to fear. One hundred bushels of wheat, to be sure, is no great marketing; but has it not been expended in the support of a mother, and infant brothers and sisters, thrown upon your bounty in a foreign country? Robert Burns, when the mice nibbled away his corn, said:

I'll get a blessin' wi' the lave,
And never miss't.

Where he expected one, you may a thousand. Robin, by his own confession, ploughed up his mice out of 'ha' and hame.' You have built for your little wanderers a 'còzie bield,' where none dare molest them. There is

* The name of a rock near Paisley.

more true greatness in the affectionate exertions which you have made for their subsistence and support, than the bloody catalogue of heroes can boast of. Your own heart will speak peace and satisfaction to you, to the last moment of your life, for every anxiety you have felt on their account."

The temporary depression in which these difficulties involved him was but the precursor to a period of energetic and triumphant activity,—as the hour immediately before the dawn is the chillest and the darkest of all that own the sway of night. As he proceeded in his studies and his attempts at drawing, his knowledge and his love of Ornithology increased; and at length he resolved to devote himself to it entirely, and to form a collection, at whatever hazard, as he himself stated, "of all the birds in that part of North America." In a letter to Mr Bartram, he says, "I sometimes smile to think, that while others are immersed in deep schemes of speculation and aggrandizement, in building towns and purchasing plantations, I am entranced in contemplation over the plumage of a lark, or gazing, like a despairing lover, on the lineaments of an owl. While others are hoarding up their bags of money, without the power of enjoying it, I am collecting, without injuring my conscience, or wounding my peace of mind, those beautiful specimens of Nature's works that are for ever pleasing. I have had live crows, hawks, and owls; opossums, squirrels, snakes, lizards, &c. so that my room has sometimes reminded me of Noah's ark; but Noah had a wife in one corner of it, and, in this particular, our parallel does not altogether tally. I receive every subject of natural history that is brought to me; and, though they do not march into my ark from all quarters, as they did into that of our great ancestor, yet I find means, by the distribution of a few fivepenny *bits*, to make them find the way fast enough. A boy, not long ago, brought me a large basketful of crows. I expect his next load will be bull frogs, if I

don't soon issue orders to the contrary. One of my boys caught a mouse in school, a few days ago, and directly marched up to me with his prisoner. I set about drawing it that same evening; and all the while the pantings of its little heart shewed it to be in the most extreme agonies of fear. I had intended to kill it, in order to fix it in the claws of a stuffed owl; but, happening to spill a few drops of water near where it was tied, it lapped it up with such eagerness, and looked in my face with such an eye of supplicating terror, as perfectly overcame me. I immediately untied it, and restored it to life and liberty. The agonies of a prisoner at the stake, while the fire and instruments of torment are preparing, could not be more severe than the sufferings of that poor mouse; and, insignificant as the object was, I felt at that moment the sweet sensations that mercy leaves on the mind when she triumphs over cruelty." Writing to a friend in Paisley, in June, 1803, he says, "Close application to the duties of my profession, which I have followed since Nov. 1795, has deeply injured my constitution; the more so, that my rambling disposition was the worst calculated of any one's in the world for the austere regularity of a teacher's life. I have had many pursuits since I left Scotland,—mathematics, the German language, music, drawing, &c. and I am now about to make a collection of all our finest birds." These intentions were, after due deliberation in his own mind, submitted to his friends, Messrs Bartram and Lawson. The former expressed his confidence in the abilities and acquirements of Wilson; but hinted his fears, that the difficulties which stood in the way of such an enterprize were too great to be overcome. Wilson was not to be intimidated, but had a ready answer to every objection of his cautious friend, who seems to have trembled lest his intemperate zeal should lead him into a situation, from the embarrassments of which he could not well be extricated. The latter approved of the undertaking;

but observed, that there were several considerations which should have their weight before determining to enter upon an affair of so much importance. Vexed that his friend would not enter into his views, Wilson expressed his scorn of the prudential maxims with which he was assailed, by styling them *the maxims of a cold, calculating, contemptible philosophy*. Such was the encouragement he met with from these, his "guides, philosophers, and friends," to embark on his toilsome and perilous undertaking, who seem never to have anticipated, that what they recommended as a relaxation would thus become the sole object of his pursuit: and such, as the event proved, was the erroneous estimate they formed of what might, or might not be achieved, as is always the case when men of mediocrity, calculating by what they themselves are able to perform, venture to estimate the powers, or direct the efforts of men of genius.

In October, 1804, Wilson, accompanied by two friends, set out on a pedestrian journey to the far-famed Falls of Niagara. Arrived upon its banks, he gazed upon the wild and wondrous scene with an enthusiasm bordering upon distraction; and ever after declared, that no language was forcible enough to convey an adequate idea of that magnificent cataract. The expedition having been commenced too late in the season, our travellers were overtaken on their return by winter, and compelled to struggle on a considerable part of the way through snow midleg deep. One of his companions remained with his friends on the Cayuga lake; the other availed himself of a more agreeable mode of travelling; but the hardy pride of Wilson would not permit *him* to be overcome by fatigue or difficulties. He held on his way, refusing to be relieved of his gun and baggage, and reached his home in the beginning of December, having been absent fifty-nine days, and having in that time traversed 1257 miles, of which he walked 47 the last day.

Upon his return, he amused himself with writing a poetical narrative of the journey. This poem, entitled "The Foresters," was published in the *Portfolio*, and afterwards in a separate form, with illustrative plates and notes. It is entirely descriptive; and is decidedly superior to any of a similar kind which he had written in Scotland, manifesting great improvement both in his taste and his power of composition,—the unsought, it may be, but sure fruit of those toilsome hours spent in his solitary school, and in his own midnight studies.

As specimens of this poem, we may give the following extracts:—

APOSTROPHE TO HOSPITALITY.

Blest Hospitality! the poor man's pride,
 The stranger's guardian, comforter, and guide;
 Whose cheering voice and sympathetic eye
 Even angels honour as they hover nigh;
 Confined (in mercy to our wandering race)
 To no one country, people, age, or place,
 But for the homeless and the exile lives,
 And smiles the sweeter still the more she gives.
 Oh! if on earth one spot I e'er can claim,
 One humble dwelling, even without a name,
 Do thou, blest spirit! be my partner there,
 With sons of woe our little all to share;
 Beside our fire the pilgrim's looks to see,
 That swim in moisture as he thinks on thee;
 To hear his tales of wild woods wandering through,—
 His ardent blessings as he bids adieu;
 Then, let the selfish hug their gold divine,
 Ten thousand dearer pleasures shall be mine!

DESCRIPTION OF A RATTLESNAKE.

Conscious of deadly power, he seem'd to say,
 "Pass on; in peace let each pursue his way!"
 But when the uplifted musket met his view,
 Sudden in sounding coils his form he threw;

Fierce from the centre rose his flatten'd head,
With quivering tongue, and eyes of fiery red,
And jaws distended vast, where threatening lay
The fangs of death, in horrible array ;
While poised above, invisible to view,
His whizzing tail in swift vibration flew.

In a letter to his father, written soon after his return, after giving an account of his journey, he concludes in the following tender and affectionate manner:—“ I have nothing more to say, but to wish you all the comforts that your great age, and reputable and industrious life truly merit. In my conduct to you I may have erred ; but my heart has ever preserved the most affectionate veneration for you, and I think on you frequently with tears. In a few years, if I live so long, I shall be placed in your situation, looking back on the giddy vanities of human life, and all my consolation in the hopes of a happy futurity.” The deep emotions awakened by the magnificent scene had but recalled those still deeper emotions, which were ever cherished in his affectionate heart.

To his friend, Mr Bartram, he wrote immediately after his return ; which letter, as illustrative of the effect of his journey in modifying or confirming his views and feelings regarding his great undertaking, is exceedingly interesting.

“ GRAY'S FERRY, 15th December, 1804.

“ DEAR SIR,— Though now snugly at home, looking back in recollection on the long, circuitous journey, which I have at length finished, through trackless snows, and uninhabited forests—over stupendous mountains, and down dangerous rivers—passing over, in a course of 1300 miles, as great a variety of men and modes of living, as the same extent of country can exhibit in any part of North America ; though in this tour I have had every disadvantage of deep roads and rough weather—hurried marches, and many other inconveniences to encounter,—

yet so far am I from being satisfied with what I have seen, or discouraged by the fatigues which every traveller must submit to, that I feel more eager than ever to commence some more extensive expedition, where scenes and subjects, entirely new and generally unknown, might reward my curiosity; and where, perhaps, my humble acquisitions might add something to the stores of knowledge. For all the hazards and privations incident to such an undertaking, I feel confident in my own spirit and resolution. With no family to enchain my affections; no ties but those of friendship; with the most ardent love to my adopted country; with a constitution which hardens amidst fatigues; and with a disposition sociable and open, which can find itself at home by an Indian fire in the depth of the woods, as well as in the best apartment of the civilized; for these, and some other reasons that invite me away, I am determined to become a traveller. But I am miserably deficient in many acquirements absolutely necessary for such a character. Botany, mineralogy, and drawing, I most ardently wish to be instructed in. Can I yet make any progress in botany, sufficient to enable me to be useful? and what would be the most proper way to proceed? I have many leisure moments that should be devoted to this pursuit, provided I could have hopes of succeeding. Your opinion on this subject will confer an additional obligation on your affectionate friend."

This very striking display of some of the most characteristic qualities of Wilson's mind, — cool conception, and ardent, indomitable resolution, — must have satisfied his friends, that the suggestion of no prudential considerations was of the least avail to making him swerve from his purpose. Their future efforts, accordingly, seem to have been directed chiefly towards lessening the difficulties which they foresaw, and endeavouring to promote those views which they wished, but were unable, to check, — for

the long up-pent current of Wilson's genius had now found its natural channel, along which it rushed, no longer to be stopped or turned aside. Even that sternest barrier in the way of humble merit—poverty—was now overcome by the might of strong determination; for, at the time when the preceding letter was written, the whole amount of his funds was only *seventy-five cents, or three-fourths of a dollar!*

Being now a confirmed ornithologist, his leisure hours were all devoted to that study, and to his own improvement in drawing and colouring. In the spring of 1805, we find him sending copies of twenty-eight drawings of the birds to be found in Pennsylvania, or that occasionally pass through that country, to his friend, Mr Bartram, requesting his criticisms or suggestions for the promotion of his plan. In order, if possible, to abridge his labour, he applied himself to acquire the art of etching, under the instructions of Mr Lawson; but, though he exerted every effort of his enthusiastic mind, his attempts fell far short of his own ideas of excellence. He next endeavoured to prevail on Mr Lawson to engage in the work as a joint concern; which, however, was declined. Finding his schemes thus baffled, Wilson declared, with solemn emphasis, his unalterable resolution to proceed alone in the undertaking, if it should cost him his life. "I shall at least leave," continued he, "a small beacon to point out where I perished."

About the beginning of the year 1806, intimation was given, through the medium of the public press, that the President of the United States proposed to despatch parties of scientific men to explore the district of Louisiana. This appeared to Wilson a favourable opportunity for the prosecution of his ornithological researches. His hopes and wishes were communicated to Mr Bartram; who not only cordially approved, but immediately wrote to Mr Jefferson, the President, with whom he happened

to be in terms of intimacy, mentioning Wilson's desires, stating his character and acquirements, and strongly recommending him, as one eminently qualified to be employed in that important national enterprize. In this recommendatory letter was enclosed an application from Wilson himself, which we give entire, as containing a complete view of his extensive plans.

“ TO HIS Excellency THOMAS JEFFERSON, President of the United States.

“ SIR,— Having been engaged, these several years, in collecting materials and furnishing drawings from nature, with the design of publishing a new Ornithology of the United States of America, so deficient in the works of Catesby, Edwards, and other Europeans, I have traversed the greater part of our northern and eastern districts, and have collected many birds undescribed by these naturalists. Upwards of one hundred engravings are completed; and two plates in folio already engraved. But as many beautiful tribes frequent the Ohio, and the extensive country through which it passes, that probably never visit the Atlantic States; and as faithful representations of these can only be taken from living nature, or from birds newly killed, I had planned an expedition down that river, from Pittsburg to the Mississippi, thence to New Orleans, and to continue my researches by land in return to Philadelphia. I had engaged, as a companion and assistant, Mr W. Bartram of this place, whose knowledge of botany, as well as zoology, would have enabled me to make the best of the voyage, and to collect many new specimens in both those departments. Sketches of these were to have been taken on the spot; and the subjects put in a state of preservation, to finish our drawings from, as time would permit. We intended to set out from Pittsburg about the beginning of May; and expected to reach New Orleans in September.

“ But my venerable friend, Mr Bartram, taking into more serious consideration his advanced age, being near seventy, and the weakness of his eyesight, and apprehensive of his inability to encounter the fatigues and privations unavoidable in so extensive a tour; and having, to my extreme regret, and the real loss of science, been induced to decline the journey, I had reluctantly abandoned the enterprize, and all hopes of accomplishing my purpose; till, hearing that your Excellency had it in contemplation to send travellers this ensuing summer up the Red River, the Arkansaw, and other tributary streams of the Mississippi, and believing that my services might be of advantage to some of these parties, in promoting your Excellency’s design, while the best opportunities would be afforded me of procuring subjects for the work which I have so much at heart,—under these impressions, I beg leave to offer myself for any of those expeditions; and can be ready at a short notice to attend your Excellency’s orders.

“ Accustomed to the hardships of travelling,—without a family,—and an enthusiast in the pursuit of natural history, I will devote my whole powers to merit your Excellency’s approbation; and ardently wish for an opportunity of testifying the sincerity of my professions, and the deep veneration with which I have the honour to be, sir, your obedient servant,

Kingsess, 6th Feb. 1806.

ALEX. WILSON.”

To this manly and respectful application, Mr Jefferson, though possessing proofs of Wilson’s talents and qualifications, in some splendid drawings which had previously been sent him, forgetful alike of the duties of his station, and the common courtesies of life, *returned not one word of reply.* So much for the encouragement given by the highest person in the land of liberty to the cultivation of science and literature! It was right that Wilson, and with him the world, should see that a republic, if

it releases from certain restraints, imposed by a different structure of society, and may therefore be supposed to give a freer scope to the energies of individuals, is so cramped by the domination of a niggardly and parsimonious spirit, that it can neither call them into action, nor recompense their exertions. If it affords ample space for genius to rear its laurelled growth, it is the barren space of the sandy desert, where there flow no fertilizing rivers, and there drop no refreshing dews. The truth appears to be, that where the honours of society are worn, *there* the ornaments of society are most encouraged. And this much may be said, that if Wilson gained no advantage, Jefferson lost the opportunity of having won himself imperishable honour, by patronizing a man of true genius, of nature's own nobility, — the high nobility of mind.

His undeniable merit, however, had now become so extensively known, as to relieve him from the necessity of depending upon any man's patronage. Mr Bradford, bookseller, of Philadelphia, being about to publish a new edition of Rees's *New Cyclopædia*, Wilson was recommended to him, as one qualified to superintend the work, and was engaged at a liberal salary as assistant editor. He was accordingly enabled to relinquish the toilsome and harassing life of a schoolmaster, which he had so long led, and to devote his unfettered energies to his favourite pursuits. Not long after this engagement, he unfolded to Mr Bradford his views on the subject of an *American Ornithology*; and exhibited such evidence of his ability to execute the work, that Mr Bradford promptly agreed to take upon himself the risk of publishing it. And now, at last, Wilson found those obstructions entirely removed which had so long opposed his favourite enterprize. To his editorial duties, and to the prosecution of his chosen study, he applied with unremitting assiduity, scarcely allowing himself a moment's relaxation; till, finding his health suffering, he indulged himself in a pedestrian

excursion through a part of Pennsylvania. Even during this pleasure tour, however, he never lost sight of his grand undertaking, but employed himself in collecting new specimens, and procuring additional information. This took place in the autumn of 1807; and, on his return, he resumed his labours with fresh ardour, devoting every spare hour to the prosecution of his great work.

The following extract furnishes a specimen of the manner in which Wilson prosecuted his researches:—

“ I started this morning, by peep of day, with my gun, for the purpose of shooting a nuthatch. After jumping a hundred fences, and getting over the ankles in mud, (for I had put on my shoes for lightness,) I found myself almost at the junction of the Schuylkill and Delaware, without success, there being hardly half an acre of woodland in the whole *neck*, and the nuthatch generally frequents large-timbered woods. I returned home at eight o'clock, after getting completely wet, and in a profuse perspiration, which, contrary to the maxims of the doctors, has done me a great deal of good; and I intend to repeat the dose, except that I shall leave out the ingredient of the wet feet, if otherwise convenient. Were I to prescribe such a remedy to Lawson, he would be ready to think me mad. Moderate, nay, even pretty severe exercise, is the best medicine in the world for sedentary people, and ought not to be neglected on any account.”

“ At length,” says his American biographer, “ in the month of September, 1808, the first volume of the *American Ornithology* made its appearance. From the date of the arrangement with the publisher, a prospectus had been issued, wherein the nature and intended execution of the work were specified. But yet no one appeared to entertain an adequate idea of the treat which was about to be afforded to the lovers of the fine arts and of elegant literature: and when the superb volume was presented to the public, their delight was equalled only by their

astonishment that America, as yet in its infancy, should produce an original work in science, which could vie in its essentials with the proudest productions of a similar nature of the European world."

In a letter to his father, not hitherto published, which accompanied a copy of his first volume, he says:—
"Mr David Brown having informed me of his intention of sailing for Scotland, I have transmitted to you by him the first volume of my *American Ornithology*, just publishing, and shall, if I live to finish it, send you regularly the remaining nine volumes as they appear. In giving existence to this work, I have expended all I have been saving since my arrival in America. I have also visited every town within 150 miles of the Atlantic coast, from the river St Lawrence to St Augustine in Florida. Whether I shall be able to realize a fortune by this publication, or receive first costs, or suffer the sacrifice of my little all, is yet doubtful. I met with a most honourable reception among many of the first characters in the United States, and have collected such a mass of information on this branch of natural history, as will entitle the work to the merit of originality at least."

The conclusion of this letter is exceedingly interesting for the beautiful touches of natural feeling and affection which it expresses. After desiring to be remembered to some of his old companions, he says, "I shall most probably never see either them or any of my friends in Paisley more; but,

While remembrance' power remains,
Those native scenes shall meet my view :
Dear, long-lost friends, on foreign plains
I'll sigh, and shed a tear for you.

"I would willingly give a hundred dollars to spend a few days with you all in Paisley: but, like a true bird of

passage, I would again wing my way across the western waste of waters to the peaceful and happy regions of America. What has become of David, that I never hear from him? Let me know, my dear father, how you live, and how you enjoy your health at your advanced age. I trust the publication I have now commenced, and which has procured for me reputation and respect, will also enable me to contribute to your independence and comfort, in return for what I owe to you. To my stepmother, sisters, brothers, and friends, I beg to be remembered affectionately."

In the latter part of September, 1808, Wilson set out on a journey to the eastward, to exhibit his book, and procure subscribers; and, during the succeeding winter and spring, he visited the Southern States. This was almost a renewal of the adventures of his youth, when he traversed Scotland with the prospectus of his poems; and, from his journal, which he kept as formerly, it appears that the treatment he met with was scarcely more encouraging; and that the character of the man himself had experienced no other change than may be attributed to the prudence and firmness of maturer years, and to his enlarged acquirements. Amid numberless disappointments which he again experienced, his ardour continued unabated; and, as this part of his history can be best told by a series of extracts from his own letters, we proceed to lay these before our readers. Writing to a friend, dated Boston, October, 1808, he says,—

"I have purposely avoided saying any thing, either good or bad, on the encouragement I have met with. I shall only say, that among the many thousands who have examined my book—and among these were men of the first character for taste and literature—I have heard nothing but expressions of the highest admiration and esteem. If I have been mistaken in publishing a work too good for the country, it is a fault not likely to

be soon repeated, and will pretty severely correct itself. But, whatever may be the result of these matters, I shall not sit down with folded hands, whilst any thing can be done to carry my point, since God helps them who help themselves. I am fixing correspondents in every corner of these northern regions, like so many pickets and out-posts ; so that scarcely a *wren* or *tit* shall be able to pass along from York to Canada but I shall get intelligence of it."

From other letters, we glean the following extracts, describing, in a mingled vein of pleasantry and sarcasm, his various journeys during the autumn, winter, and spring of 1808-9 :—

" At Princetown I bade my fellow-traveller good-bye, as I had to wait upon the reverend doctors of the college. I took my book under my arm, put several copies of the prospectus into my pocket, and walked up to this spacious sanctuary of literature. I could amuse you with some of my reflections on this occasion ; but room will not permit."

" I spent nearly the whole of Saturday in Newark, where my book attracted as many starers as a bear or a mammoth would have done ; and I arrived in New York the same evening. The next day, I wrote a number of letters, enclosing copies of the prospectus, to different gentlemen in town. In the afternoon of Tuesday, I took my book, and waited on each of those gentlemen to whom I had written the preceding day. Among these I found some friends, but more admirers. The professors of Columbia College expressed much esteem for my performance. The professor of languages, being a Scotchman, and also a Wilson, seemed to feel all the pride of national partiality so common to his countrymen ; and would have done me any favour in his power. I spent the whole of this week traversing the streets, from one particular house to another, till, I believe, I became almost as well known as

the public crier, or the clerk of the market, for I could frequently perceive gentlemen point me out to others, as I passed with my book under my arm."

"On reaching Hartford, I waited on Mr G. a member of Congress, who recommended me to several others, particularly a Mr W. a gentleman of taste and fortune, who was extremely obliging. The publisher of a newspaper here expressed the highest admiration of the work, and has since paid many handsome compliments to it in his publication, as three other editors did in New York. This is a species of currency that will neither purchase plates, nor pay the printer; but, nevertheless, it is gratifying to the vanity of an author,—when nothing better can be got."

"I travelled on through New Hampshire, stopping at every place where I was likely to do any business; and went as far east as Portland, in Maine, where I staid three days; and, the supreme court being then sitting, I had an opportunity of seeing and conversing with people from the remotest boundaries of the United States in this quarter, and received much interesting information from them with regard to the birds that frequent these northern regions. From Portland, I directed my course across the country, among dreary, savage glens, and mountains covered with pines and hemlocks, amid whose black and half burnt trunks the everlasting rocks and stones, that cover this country, 'grinned horribly.' One hundred and fifty-seven miles brought me to Dartmouth College, New Hampshire, on the Vermont line. Here I paid my addresses to the reverend fathers of literature, and met with a kind and obliging reception: Dr Wheelock, the President, made me eat at his table, and the professors vied with each other to oblige me.

"I expect to be in Albany in five days; and, if the legislature be sitting, I shall be detained perhaps three days there. In eight days more, I hope to be in Phila-

delphia. I have laboured with the zeal of a knight errant, in exhibiting this book of mine, wherever I went, travelling with it, like a beggar with his bantling, from town to town, and from one country to another. I have been loaded with praises, with compliments, and kindnesses,—shaken almost to pieces in stage coaches; I have wandered among strangers, hearing the same Oh's and Ah's, and telling the same story, a thousand times over: and for what? Ay, that's it! You are very anxious to know, and you shall know the whole when I reach Philadelphia."

"While in New York, I had the curiosity to call on the celebrated author of the *Rights of Man*. He lives in Greenwich, a short way from the city. In the only decent apartment of a small, indifferent looking frame house, I found this extraordinary man, sitting wrapt in a night gown, the table before him covered with newspapers, with pen and ink beside him. Paine's face would have excellently suited the character of Bardolph; but the penetration and intelligence of his eye bespeak the man of genius and of the world. He complained to me of his inability to walk, an exercise he was formerly fond of; he examined my book, leaf by leaf, with great attention—desired me to put down his name as a subscriber; and, after inquiring particularly for Mr P. and Mr B. wished to be remembered to both.

"My journey through almost the whole of New England has rather lowered the Yankees in my esteem. Except a few neat academies, I found their schoolhouses equally ruinous and deserted with ours; fields covered with stones; stone fences; scrubby oaks, and pine trees; wretched orchards; scarcely one grain field in twenty miles; the taverns along the road, dirty, and filled with loungers, brawling about lawsuits and politics; the people snappish and extortioners, lazy, and two hundred years behind the Pennsylvanians in agricultural improvements."

"In Annapolis I *passed* my book through both houses

of the legislature : the wise men of Maryland stared and gaped, from bench to bench ; but, having never heard of such a thing as one hundred and twenty dollars for a book, the *ayes* for subscribing were none ; and so it was unanimously determined in the negative. Nowise discouraged by this sage decision, I pursued my route through the tobacco fields, sloughs, and swamps of this illiterate corner of the State, to Washington, distant thirty-eight miles ; and in my way opened fifty-five gates. I was forewarned that I should meet with many of these embarrassments, and I opened twenty-two of them with all the patience and philosophy I could muster ; but, when I still found them coming thicker and faster, my patience and philosophy both abandoned me, and I saluted every new gate (which obliged me to plunge into the mud to open it,) with perhaps less Christian resignation than I ought to have done. The negroes there are very numerous, and most wretchedly clad : their whole covering, in many instances, assumes the appearance of neither coat, waistcoat, nor breeches, but a motley mass of coarse, dirty woollen rags, of various colours, gathered up about them. When I stopped at some of the negro huts to inquire the road, both men and women huddled up their filthy bundles of rags around them, with both arms, in order to cover their nakedness, and came out, very civilly, to shew me the way."

" I mentioned to you, in my last, that the streets of Norfolk were in a most disgraceful state ; but I was informed, that, some time before, they had been much worse ; that at one time the news-carrier delivered his papers from a boat, which he poled along through the mire ; and that a party of sailors, having nothing better to do, actually lunched a ship's long boat into the streets, rowing along with four oars through the mud, while one stood at the bow, heaving the lead, and singing out the depth."

" The general features of North Carolina, where I

crossed it, are immense, solitary pine savannas, through which the road winds among stagnant ponds, swarming with alligators, dark, sluggish creeks, of the colour of brandy, over which are thrown high wooden bridges, without railings, and so crazy and rotten, as not only to alarm one's horse, but also the rider, and to make it a matter of thanksgiving with both, when they get fairly over, without going through; enormous cypress swamps, which, to a stranger, have a striking, desolate, and ruinous appearance. Picture to yourself a forest of prodigious trees, rising, as thick as they can grow, from a vast, flat, and impenetrable morass, covered for ten feet from the ground with reeds. The leafless limbs of the cypresses are clothed with an extraordinary kind of moss, (*Tillandsia Usneoides*,) from two to ten feet long, in such quantities, that fifty men might conceal themselves in one tree. Nothing in this country struck me with such surprise as the prospect of several thousand acres of such timber, loaded, as it were, with many million tons of tow, waving in the wind. I attempted to penetrate several of these swamps with my gun, in search of something new; but, except in some chance places, I found it altogether impracticable. I coasted along their borders, however, in many places, and was surprised at the great profusion of evergreens, of numberless sorts, and a variety of berries that I knew nothing of. Here I found multitudes of birds, that never winter with us in Pennsylvania, living in abundance."

"From Wilmington I rode through solitary pine savannas and cypress swamps as before, sometimes thirty miles without seeing a hut or human being. On arriving at the Wackamaw, Pedee, and Black River, I made long zigzags among the rich nabobs, who live on their rice plantations, amidst large villages of negro huts. One of these gentlemen told me, that he had 'something better than six hundred head of blacks!'"

“ On the commons, near Charleston, I presided at a singular feast : The company consisted of two hundred and thirty-seven carrion crows, (*Vultur atratus*,) five or six dogs, and myself, though I only kept order, and left the eating part entirely to the others. I sat so near to the dead horse, that my feet touched his ; and yet, at one time, I counted thirty-eight vultures on and within him, so that hardly an inch of his flesh could be seen for them. Linnæus and others have confounded this vulture with the turkey buzzard ; but they are two very distinct species.”

“ Having now visited all the towns within one hundred miles of the Atlantic, from Maine to Georgia, and done as much for this bantling book of mine, as ever author did for any progeny of his brain, I now turn my wishful eye towards home. There is a charm, a melody, in this little word *home*, which only those know who have forsaken it to wander among strangers ; exposed to dangers, fatigues, insults, and impositions, of a thousand nameless kinds. Perhaps I feel the force of this idea rather more at present than usual, being indisposed with a slight fever these three days, which a dose of sea sickness, will, I hope, rid me of.”

The second volume was published in January, 1810 ; and, in the latter end of the same month, the indefatigable ornithologist set out for Pittsburg, on his route to New Orleans. After consulting with his friends on the most eligible mode of descending the Ohio, he resolved, contrary to their dissuasions, to venture in a skiff by himself, considering this mode, with all its inconveniencies, as best suited to his funds, and most favourable to his researches. Accordingly, on the 24th of February, he embarked in his little boat, and bade adieu to Pittsburg.

The difficulties which he had to encounter were such as, to a less enterprizing traveller, would have been insurmountable ; added to which, he had a severe attack of dysentery, and was compelled to prosecute his journey

notwithstanding his painful and weakened condition. An Indian, having been made acquainted with his situation, recommended the eating of strawberries, which were then fully ripe, and in great abundance. On this delightful fruit, and newly laid eggs alone, he lived for several days; and he attributed his restoration to health to these simple remedies.

The following series of extracts from letters to Mr Lawson will be found to contain an exceedingly interesting account of this toilsome and hazardous journey:—

“PITTSBURG, *February 22, 1810.*

“DEAR SIR,—From this first stage of my ornithological pilgrimage, I sit down with pleasure to give you some account of my adventures since we parted. On arriving at Lancaster, I waited on the governor, secretary of state, and such other great folks as were likely to be useful to me. The governor received me with civility, passed some good-natured compliments on the volumes, and readily added his name to my list. He seems an active man, of plain good sense, and little ceremony. By Mr L. I was introduced to many members of both houses; but I found them in general such a pitiful, squabbling, political mob; so split up, and justling about the mere formalities of legislation, without knowing any thing of its realities, that I abandoned them in disgust. I must, however, except from this censure a few intelligent individuals, friends to science, and possessed of taste, who treated me with great kindness.

“Having a letter from Dr Muhlenberg to a clergyman in Hanover, I passed on through a well cultivated country, chiefly inhabited by Germans, to that place, where a certain judge took upon himself to say, that such a book as mine ought not to be encouraged, as it was not within the reach of the commonalty, and therefore inconsistent with our republican institutions! By the same mode of

reasoning, which I did not dispute, I undertook to prove him a greater culprit than myself, in erecting a large elegant three-story brick house, so much beyond the reach of the commonalty, as he called them, and consequently grossly contrary to our republican institutions. I harangued this Solomon of the bench more seriously afterwards, pointing out to him the great influence of science on a young rising nation like ours, and particularly the science of natural history, till he began to shew such symptoms of *intellect* as to seem ashamed of what he had said."

"Gentlemen here assure me, that the road to Chilocothe is impassable on foot, by reason of the freshes. I have therefore resolved to navigate myself in a small skiff which I have bought, and named the Ornithologist, down to Cincinnati, a distance of five hundred and twenty-eight miles, intending to visit five or six towns that lie in my way. From Cincinnati I will cross over to the opposite shore, and, abandoning my boat, make my way to Lexington, where I expect to be ere your letter can reach that place. Were I to go by Chilocothe, I should miss five towns as large as it. Some say that I ought not to attempt going down by myself—others think I may. I am determined to make the experiment, the expense of hiring a rower being considerable. As soon as the ice clears out of the Alleghany, and the weather will permit, I shall shove off, having every thing in readiness. I have ransacked the woods and fields here, without finding a single bird new to me, or indeed any thing but a few snow birds and sparrows. I expect to have something interesting to communicate in my next."

"Having now reached the second stage of my bird-catching expedition, I willingly sit down to give you some account of my adventures and remarks since leaving Pittsburg: by the aid of a good map, and your usual stock of patience, you will be able to listen to my story, and trace all my wanderings. Though generally dissuaded

from venturing by myself on so long a voyage down the Ohio in an open skiff, I considered this mode, with all its inconveniences, as the most favourable to my researches, and the most suitable to my funds ; and I determined accordingly. Two days before my departure, the Alleghany river was one wide torrent of broken ice, and I calculated on experiencing considerable difficulties on this score. My stock of provisions consisted of some biscuit and cheese, and a bottle of cordial, presented me by a gentleman of Pittsburg ; my gun, trunk, and great coat occupied one end of the boat ; I had a small tin, occasionally to bale her, and to take my beverage from the Ohio with ; and, bidding adieu to the smoky confines of Pitt, I lunched into the stream, and soon winded away among the hills that every where enclose this noble river. The weather was warm and serene, and the river, like a mirror, except where floating masses of ice spotted its surface, and which required some care to steer clear of ; but these, to my surprise, in less than a day's sailing, totally disappeared. Far from being concerned at my new situation, I felt my heart expand with joy at the novelties which surrounded me ; I listened with pleasure to the whistling of the red bird on the banks as I passed, and contemplated the forest scenery, as it receded, with increasing delight. The smoke of the numerous sugar camps, rising lazily among the mountains, gave great effect to the varying landscape ; and the grotesque log cabins, that here and there opened from the woods, were diminished into mere dog-houses by the sublimity of the impending mountains. If you suppose to yourself two parallel ranges of forest-covered hills, whose irregular summits are seldom more than three or four miles apart, winding through an immense extent of country, and enclosing a river half a mile wide, which alternately washes the steep declivity on one side, and leaves a rich, forest-clad bottom on the other, of a mile or so in breadth,

you will have a pretty correct idea of the appearance of the Ohio. The banks of these rich flats are from twenty to sixty and eighty feet high; and even these last were within a few feet of being overflowed in December, 1808.

“ I now stripped with alacrity to my new avocation. The current went about two and a half miles an hour, and I added about three and a half miles more to the boat's way with my oars.

“ I rowed twenty odd miles the first spell, and found I should be able to stand it perfectly well. About an hour after night, I put up at a miserable cabin, fifty-two miles from Pittsburg, where I slept on what I supposed to be corn stalks, or something worse; so, preferring the smooth bosom of the Ohio to this brush heap, I got up long before day, and, being under no apprehension of losing my way, I again pushed out into the stream. The landscape on each side lay in one mass of shade; but the grandeur of the projecting headlands and vanishing points, or lines, was charmingly reflected in the smooth glassy surface below. I could only discover when I was passing a clearing by the crowing of cocks, and now and then, in more solitary places, the big horned owl made a most hideous hollowing, that echoed among the mountains. In this lonesome manner, with full leisure for observation and reflection, exposed to hardships all day, and hard berths all night, to storms of rain, hail, and snow—for it froze severely almost every night—I persevered, from the 24th of February to Sunday evening, March 17, when I moored my skiff safely in Bear Grass Creek, at the rapids of the Ohio, after a voyage of seven hundred and twenty miles. My hands suffered the most; and it will be some weeks yet before they recover their former feeling and flexibility. It would be the task of a month to detail all the particulars of my numerous excursions, in every direction, from the river. In Stubenville, Charlestown, and Wheeling, I found some friends. At Marietta, I

visited the celebrated remains of Indian fortifications, as they are improperly called, which cover a large space of ground on the banks of the Muskingum. Seventy miles above this, at a place called Big Grave Creek, I examined some extraordinary remains of the same kind there. The Big Grave is three hundred paces round at the base, seventy feet perpendicular, and the top, which is about fifty feet over, has sunk in, forming a regular concavity, three or four feet deep. This tumulus is in the form of a cone, and the whole, as well as its immediate neighbourhood, is covered with a venerable growth of forest, four or five hundred years old, which gives it a most singular appearance."

"On Monday, March 5, about ten miles below the mouth of the Great Sciota, where I saw the first flock of paroquets, I encountered a violent storm of wind and rain, which changed to hail and snow, blowing down trees and limbs in all directions, so that, for immediate preservation, I was obliged to steer out into the river, which rolled and foamed like a sea, and filled my boat nearly half full of water; and it was with the greatest difficulty I could make the least head way. It continued to snow violently until dusk, when I at length made good my landing, at a place on the Kentucky shore, where I had perceived a cabin; and here I spent the evening in learning the art and mystery of bear-treering, wolf-trapping, and wild-cat-hunting, from an old professor. But, notwithstanding the skill of this great master, the country here is swarming with wolves and wild cats, black and brown; according to this hunter's own confession, he had lost sixty pigs since Christmas last, and all night long, the distant howling of the wolves kept the dogs in a perpetual uproar of barking. This man was one of those people called *squatters*, who neither pay rent nor own land, but keep roving on the frontiers, advancing as the tide of civilized population approaches. They are the

immediate successors of the savages, and far below them in good sense and good manners, as well as comfortable accommodations. An engraved representation of one of their cabins would form a striking embellishment to the pages of the *Portfolio*, as a specimen of the first order of American architecture."

"In the afternoon of the 15th, I entered Big Bone Creek, which being passable only about a quarter of a mile, I secured my boat, and left my baggage under the care of a decent family near, and set out on foot five miles through the woods for the Big Bone Lick, that great antediluvian rendezvous of the American elephants. This place, which lies 'far in the windings of a sheltered vale,' afforded me a fund of amusement in shooting ducks and paroquets, (of which last I skinned twelve, and brought off two slightly wounded,) and in examining the ancient buffalo roads to this great licking place. Mr Colquhoun, the proprietor, was not at home; but his agent and manager entertained me as well as he was able, and was much amused with my enthusiasm. This place is a low valley, every where surrounded by high hills; in the centre, by the side of the creek, is a quagmire of near an acre, from which, and another smaller one below, the chief part of these large bones have been taken; at the latter places, I found numerous fragments of large bones lying scattered about. In pursuing a wounded duck across this quagmire, I had nearly deposited my carcass among the grand congregation of mammoths below, having sunk up to the middle, and had hard struggling to get out."

"On Friday the 24th, I left my baggage with a merchant of the place [Louisville], to be forwarded by the first wagon, and set out on foot for Lexington, seventy-two miles distant.

"Walking here in wet weather is most execrable, and is like travelling on soft soap; a few days of warm weather hardens this again almost into stone. Want of

bridges is the greatest inconvenience to a foot traveller here. Between Shelbyville and Frankfort, having gone out of my way to see a pigeon roost, (which, by the bye, is the greatest curiosity I have seen since leaving home,) I waded a deep creek called Benson, nine or ten times. I spent several days in Frankfort, and in rambling among the stupendous cliffs of Kentucky river. On Thursday evening I entered Lexington.

“In descending the Ohio, I amused myself with a poetical narrative of my expedition, which I have called ‘*The Pilgrim* ;’ an extract from which shall close this long, and I am afraid, tiresome letter.”

“In the woods, [near the banks of the Green river,] I met a soldier, on foot, from New Orleans, who had been robbed and plundered by the Chactaws, as he passed through their nation. ‘Thirteen or fourteen Indians,’ said he, ‘surrounded me before I was aware, cut away my canteen, tore off my hat, took the handkerchief from my neck, and the shoes from my feet, and all the money I had from me, which was about forty-five dollars.’ Such was his story. He was going to Chilocthe, and seemed pretty nearly done up. In the afternoon I crossed another stream, of about twenty-five yards in width, called Little Barren ; after which, the country began to assume a new and very singular appearance. The woods, which had hitherto been stately, now degenerated into mere scrubby saplings, on which not a bud was beginning to unfold, and grew so open, that I could see for a mile through them. No dead timber or rotten leaves were to be seen, but the whole face of the ground was covered with rich verdure, interspersed with a variety of very beautiful flowers, altogether new to me. It seemed as if the whole country had once been one general level ; but that, from some unknown cause, the ground had been undermined, and had fallen in, in innumerable places, forming regular funnel-shaped concavities, of all dimensions, from twenty

feet in diameter, and six feet in depth, to five hundred by fifty, the surface or verdure generally unbroken. In some tracts, the surface was entirely destitute of trees, and the eye was presented with nothing but one general neighbourhood of these concavities, or, as they are usually called, sink-holes. At the centre, or bottom, of some of these, openings had been made for water. In several places these holes had broken in, on the sides, and even middle of the road, to an unknown depth; presenting their grim mouths as if to swallow up the unwary traveller. At the bottom of one of those declivities, at least fifty feet below the general level, a large rivulet of pure water issued at once from the mouth of a cave about twelve feet wide and seven high. A number of very singular sweet smelling lichens grew over the entrance, and a pewee had fixed her nest, like a little sentry-box, on a projecting shelf of the rock above the water. The height and dimensions of the cave continued the same as far as I waded in, which might be thirty or forty yards; but the darkness became so great that I was forced to return. I observed numbers of small fish sporting about; and I doubt not but these abound even in its utmost subterranean recesses. The whole of this country, from Green to Red river, is hollowed out into these enormous caves; one of which, lately discovered in Warren county, about eight miles from the dripping spring, has been explored for upwards of six miles, extending under the bed of the Green river. The entrance to these caves generally commences at the bottom of a sink-hole, and many of them are used by the inhabitants as cellars, or spring houses, having generally a spring or brook of clear water running through them. I descended into one of these, belonging to a Mr Wood, accompanied by the proprietor, who carried the light. At first, the darkness was so intense that I could scarcely see a few feet beyond the circumference of the candle; but, after being in for five or six

minutes, the objects around me began to make their appearance more distinctly. The bottom, for fifteen or twenty yards at first, was so irregular that we had constantly to climb over large masses of wet and slippery rocks. The roof rose in many places to the height of twenty or thirty feet, presenting all the most irregular projections of surface, and hanging in gloomy and silent horror. We passed numerous chambers, or offsets, which we did not explore; and after three hours wandering in these profound regions of gloom and silence, the particulars of which would detain me too long, I emerged, with a handkerchief filled with bats, including one which I have never seen described; and a number of extraordinary insects of the gryllus tribe, with antennæ upwards of six inches long, and which, I am persuaded, had never before seen the light of day, as they fled from it with seeming terror, and I believe were as blind in it as their companions, the bats. Great quantities of native glauber salts are found in these caves, and are used by the country people in the same manner, and with equal effect, as those of the shops. But the principal production is saltpetre, which is procured from the earth in great abundance. The cave in Warren county, above mentioned, has lately been sold for three thousand dollars to a saltpetre company; an individual of which informed me that, from every appearance, this cave had been known to the Indians many ages ago; and had evidently been used for the same purposes. At the distance of more than a mile from the entrance, the exploring party, on their first visit, found the roof blackened by smoke, and bundles of half burnt canes scattered about. A bark mockasia, of curious construction, besides several other Indian articles, were found among the rubbish. The earth, also, lay piled in heaps, with great regularity, as if in preparation for extracting the saltpetre.

“ Notwithstanding the miserable appearance of the timber in these barrens, the soil, to my astonishment, produced

the most luxuriant fields of corn and wheat I had ever before met with. But one great disadvantage is the want of water; for the whole running streams, with which the surface of this country evidently once abounded, have been drained off to a great depth, and now murmur among these lower regions secluded from the day. One forenoon I rode nineteen miles without seeing water; while my faithful horse looked round, but in vain, at every hollow, with a wishful and languishing eye, for that precious element. These barrens furnished me with excellent sport in shooting grouse, which abound here in great numbers; and in the delightful groves, that here and there rise majestically from these plains, I found many new subjects for my Ornithology. I observed all this day, far to the right, a range of high, rocky, detached hills, or knobs, as they are called, that skirt the barrens, as if they had been once the boundaries of the great lake that formerly covered this vast plain. These, I was told, abound with stone, coal, and copperas. I crossed Big Barren river in a ferry-boat, where it was about one hundred yards wide; and passed a small village called Bowling Green, near which I rode my horse up to the summit of one of these high insulated rocky hills, or knobs, which overlooked an immense circumference of country, spreading around bare and leafless, except where the groves appeared, in which there is usually water. Fifteen miles from this, induced by the novel character of the country, I put up for several days at the house of a pious and worthy presbyterian, whence I made excursions, in all directions, through the surrounding country. Between this and Red River the country had a bare and desolate appearance. Caves continued to be numerous; and report made some of them places of concealment for the dead bodies of certain strangers who had disappeared there. One of these lies near the banks of the Red River, and belongs to a person of the name of ——,

a man of notoriously bad character, and strongly suspected, even by his neighbours, of having committed a foul murder of this kind, which was related to me, with all its minutiae of horrors. As this man's house stands by the roadside, I was induced by motives of curiosity to stop and take a peep of him. On my arrival I found two persons in conversation under the piazza, one of whom informed me that he was the landlord. He was a dark mulatto, rather above the common size, inclining to corpulency, with legs small in proportion to his size, and walked lame. His countenance bespoke a soul capable of deeds of darkness. I had not been three minutes in company, when he invited the other man (who I understood was a traveller) and myself to walk back and see his cave, to which I immediately consented. The entrance is in the perpendicular front of a rock, behind the house; has a door, with a lock and key to it, and was crowded with pots of milk, placed near the running stream. The roof and sides of solid rock were wet and dropping with water. Desiring — to walk before with the lights, I followed, with my hand on my pistol, reconnoitring on every side, and listening to his description of its length and extent. After examining this horrible vault for forty or fifty yards, he declined going any farther, complaining of a rheumatism; and I now first perceived that the other person had staid behind, and that we two were alone together. Confident in my means of self-defence, whatever mischief the devil might suggest to him, I fixed my eye steadily on his, and observed to him, that he could not be ignorant of the reports circulated about the country relative to this cave. 'I suppose,' said I, 'you know what I mean?' 'Yes, I understand you,' returned he, without appearing the least embarrassed, — 'that I killed somebody, and threw them into this cave. I can tell you the whole beginning of that damned lie,' said he; and, without moving from the spot, he detailed to me a long story, which would fill

half my letter, to little purpose, and which, with other particulars, I shall reserve for your amusement when we meet. I asked him why he did not get the cave examined by three or four reputable neighbours, whose report might rescue his character from the suspicion of having committed so horrid a crime. He acknowledged it would be well enough to do so, but did not seem to think it worth the trouble; and we returned as we advanced, — walking before with the lights. Whether this man be guilty or not of the transaction laid to his charge, I know not; but his manners and aspect are such as by no means to allay suspicion.”

“ About three weeks ago, I wrote to you from Nashville, enclosing three sheets of drawings, which I hope you have received. I was, at that time, on the point of setting out for St Louis; but, being detained a week by constant and heavy rains, and considering that it would add four hundred miles to my journey, and detain me at least a month, and the season being already far advanced, and no subscribers to be expected there, I abandoned the idea, and prepared for a journey through the wilderness. I was advised by many not to attempt it alone—that the Indians were dangerous, the swamps and rivers almost impassable without assistance; and a thousand other hobgoblins were conjured up to dissuade me from going alone. But I weighed all these matters in my own mind; and, attributing a great deal of this to vulgar fears and exaggerated reports, I equipt myself for the attempt. I rode an excellent horse, on which I could depend. I had a loaded pistol in each pocket, a loaded fowling piece belted across my shoulder, a pound of gunpowder in my flask, and five pounds of shot in my belt. I bought some biscuit and dried beef, and, on Friday morning, May 4, I left Nashville. About half a mile from town I observed a poor negro with two wooden legs, building himself a cabin in the woods. Supposing that this journey might

afford you and my friends some amusement, I kept a particular account of the various occurrences, and shall transcribe some of the most interesting, omitting every thing relative to my ornithological excursions and discoveries, as more suitable for another occasion. Eleven miles from Nashville I came to the Great Harpath, a stream of about fifty yards wide, which was running with great violence. I could not discover the entrance of the ford, owing to the rains and inundations. There was no time to be lost; I plunged in, and almost immediately my horse was swimming. I set his head aslant the current, and, being strong, he soon landed me on the other side. As the weather was warm, I rode in my wet clothes without any inconvenience. The country to-day was a perpetual succession of steep hills and low bottoms; I crossed ten or twelve large creeks, one of which I swam with my horse, where he was near being entangled among some bad drift wood. Now and then a solitary farm opened from the woods, where the negro children were running naked about the yards. I also passed along the north side of a high hill, where the whole timber had been prostrated by some terrible hurricane. I lodged this night in a miner's, who told me he had been engaged in forming no less than thirteen companies for hunting mines, all of whom had left him. I advised him to follow his farm, as the surest vein of ore he could work. Next day (Saturday) I first observed the cane growing, which increased until the whole woods were full of it. The road this day winded along the high ridges of mountains that divide the waters of the Cumberland from those of the Tennessee. I passed few houses to-day; but met several parties of boatmen returning from Natchez and New Orleans, who gave me such an account of the road, and the difficulties they had met with, as served to stiffen my resolution to be prepared for every thing. These men were as dirty as Hottentots; their dress, a shirt and trousers of canvass,

black, greasy, and sometimes in tatters; the skin burnt wherever exposed to the sun; each with a budget, wrapt up in an old blanket; their beards, eighteen days old, added to the singularity of their appearance, which was altogether savage. These people came from the various tributary streams of the Ohio, hired at forty or fifty dollars a-trip, to return back on their own expenses. Some had upwards of eight hundred miles to travel. When they come to a stream that is unfordable, they coast it for a fallen tree; if that cannot be had, they enter with their budget on their head, and, when they lose bottom, drop it on their shoulders, and take to swimming. They have sometimes fourteen or fifteen of such streams to pass in a day, and morasses of several miles in length, that I have never seen equalled in any country. I lodged this night at one Dobbin's, where ten or twelve of these men lay on the floor. As they scrambled up in the morning, they very generally complained of being unwell, for which they gave an odd reason,—lying within doors, it being the first of fifteen nights they had been so indulged. Next morning, (Sunday,) I rode six miles to a man's of the name of Grinder, where our poor friend Lewis perished.*

“In the same room where he expired, I took down from Mrs Grinder the particulars of that melancholy event, which affected me extremely. This house, or cabin, is seventy-two miles from Nashville, and is the last white man's as you enter the Indian country. Governor Lewis, she said, came thither about sunset, alone, and inquired if he could stay for the night; and, alighting, brought his saddle into the house. He was dressed in a loose gown, white, striped with blue. On being asked if he came

* “It is hardly necessary to state that this was the brave and enterprising traveller whose journey, across the Rocky Mountains, to the Pacific Ocean, has obtained for him well merited celebrity. The true cause of his committing the rash deed, so feelingly detailed above, is not yet known to the public.”

alone, he replied, that there were two servants behind, who would soon be up. He called for some spirits, and drank a very little. When the servants arrived, one of whom was a negro, he inquired for his powder, saying he was sure he had some powder in a canister. The servant gave no distinct reply, and Lewis, in the mean while, walked backwards and forwards before the door, talking to himself. Sometimes, she said, he seemed as if he were walking up to her, and would suddenly wheel round, and walk back as fast as he could. Supper being ready, he sat down, but had eaten only a few mouthfuls, when he started up, speaking to himself in a violent manner. At these times, she says, she observed his face to flush as if it had come on him in a fit. He lighted his pipe, and, drawing a chair to the door, sat down, saying to Mrs Grinder, in a kind tone of voice, ‘Madam, this is a very pleasant evening.’ He smoked for some time, but quitted his seat, and traversed the yard as before. He again sat down to his pipe, seemed again composed, and, casting his eyes wistfully towards the west, observed what a sweet evening it was. Mrs Grinder was preparing a bed for him; but he said he would sleep on the floor, and desired the servants to bring the bear skins and buffalo robe, which were immediately spread out for him; and, it being now dusk, the woman went off to the kitchen, and the two men to the barn, which stands about two hundred yards off. The kitchen is only a few paces from the room where Lewis was; and the woman, being considerably alarmed by the behaviour of her guest, could not sleep, but listened to him walking backwards and forwards, she thinks, for several hours, and talking aloud, as she said, ‘like a lawyer.’ She then heard the report of a pistol, and something fall heavily on the floor, and the words, ‘O Lord!’ Immediately afterwards, she heard another pistol; and, in a few minutes, she heard him at her door, calling out, ‘O Madam! give me some water, and heal my wounds!’

The logs being open, and unplastered, she saw him stagger back, and fall against a stump that stands between the kitchen and the room. He crawled for some distance, raised himself by the side of a tree, where he sat about a minute. He once more got to the room; afterwards, he came to the kitchen door, but did not speak; she then heard him scraping the bucket with a gourd for water, but it appeared that this cooling element was denied the dying man! As soon as day broke, and not before, the terror of the woman having permitted him to remain for two hours in this most deplorable situation, she sent two of her children to the barn, her husband not being at home, to bring the servants; and, on going in, they found him lying on the bed. He uncovered his side, and shewed them where the bullet had entered; a piece of the forehead was blown off, and had exposed the brains, without having bled much. He begged that they would take his rifle and blow out his brains, and he would give them all the money he had in his trunk. He often said, 'I am no coward; but I am so strong, so hard to die!' He begged the servant not to be afraid of him, for that he would not hurt him. He expired in about two hours, or just as the sun rose above the trees. He lies buried close by the common path, with a few loose rails thrown over his grave. I gave Grinder money to put a post fence round it, to shelter it from the hogs and from the wolves, and he gave me his written promise that he would do it. I left this place in a very melancholy mood, which was not much allayed by the prospect of the gloomy and savage wilderness which I was just entering alone.

"I was roused from this melancholy reverie by the roaring of Buffalo river, which I forded with considerable difficulty. I passed two or three solitary Indian huts in the course of the day, with a few acres of open land at each; but so wretchedly cultivated, that they just make out to raise maize enough to keep in existence. They pointed

me out the distances by holding up their fingers. This is the country of the Chickasaws, though erroneously laid down in some maps as that of the Cherokees. I slept this night in one of their huts : the Indians spread a deer skin for me on the floor ; I made a pillow of my portman-teau, and slept tolerably well : an old Indian laid himself down near me."

" This day, (Wednesday,) I passed through the most horrid swamps I had ever seen. These are covered with a prodigious growth of canes and high woods, which, together, shut out almost the whole light of day, for miles. The banks of the deep and sluggish creeks, that occupy the centre, are precipitous ; where I had often to plunge my horse seven feet down, into a bed of deep clay, up to his belly, from which nothing but great strength and exertion could have rescued him ; the opposite shore was equally bad, and beggars all description. For an extent of several miles, on both sides of these creeks, the darkness of night obscures every object around."

" On Saturday, I passed a number of most execrable swamps ; the weather was extremely warm, and I had been attacked by something like the dysentery, which occasioned a constant burning thirst, and weakened me greatly. I stopt this day frequently to wash my head and throat in the water, to allay the burning thirst ; and, putting on my hat without wiping, received considerable relief from it. Since crossing the Tennessee, the woods have been interspersed with pines, and the soil has become more sandy. This day I met a Captain Hughes, a traveller, on his return from Santa Fee. My complaint increased so much, that I could scarcely sit on horseback ; and, all night, my mouth and throat were parched with a burning thirst and fever. On Sunday, I bought some raw eggs, which I ate, and repeated the dose at mid-day, and towards evening, and found great benefit from this simple remedy. I inquired, all along the road, for fresh eggs, and, for nearly

a week, made them almost my sole food, till I completed my cure. The water in these cane swamps is little better than poison; and, under the heat of a burning sun, and the fatigues of travelling, it is difficult to repress the urgent calls of thirst. On the Wednesday following, I was assailed by a tremendous storm of rain, wind, and lightning, until I and my horse were both blinded by the deluge, and unable to go on. I sought the first most open place, and, dismounting, stood for half an hour under the most profuse heavenly shower-bath I ever enjoyed. The roaring of the storm was terrible; several trees around me were broken off, and torn up by the roots, and those that stood were bent almost to the ground; limbs of trees, of several hundred-weight, flew past, within a few yards of me, and I was astonished how I escaped. I would rather take my chance in a field of battle, than in such a tornado again.

“ On the fourteenth day of my journey, at noon, I arrived at this place, [Natchez, Mississippi territory,] having overcome every obstacle, alone, and without being acquainted with the country; and, what surprised the boatmen more, without whisky. On an average, I met from forty to sixty boatmen every day, returning from this place and New Orleans. The Chickasaws are a friendly, inoffensive people, and the Chactaws, though more reserved, are equally harmless. Both of them treated me with civility, though I several times had occasion to pass through their camps, where many of them were drunk. The parrot which I carried with me was a continual fund of amusement to all ages of these people; and, as they crowded around to look at it, gave me an opportunity of studying their physiognomies without breach of good manners.”

Writing to his brother, David, in the same year, he thus expresses his views, feelings, and hopes: — “ By the first opportunity, I will transmit a trifle to our old father,

whose existence, so far from being forgotten, is as dear to me as my own. But, David, an ambition of being distinguished in the literary world has required sacrifices and exertions from me with which you are unacquainted; and a wish to reach the glorious rock of independence, that I might from thence assist my relatives, who are struggling with, and buffeting the billows of adversity, has engaged me in an undertaking more laborious and extensive than you are aware of, and has occupied almost every moment of my time for several years. Since February, 1810, I have slept, for several weeks, in the wilderness alone, in an Indian country, with my gun and my pistols in my bosom; and have found myself so reduced by sickness, as to be scarcely able to stand, when not within 300 miles of a white settlement, and under the burning latitude of 25 degrees. I have, by resolution, surmounted all these, and other obstacles, in my way to my object, and now begin to see the blue sky of independence open around me."

Before concluding the account of this, his most extensive journey, we may present a few extracts from his journal, given by the American Biographer, as specimens of the diversified treatment which he experienced,—at times cold and forbidding, at times civil and kind, according to the habits, dispositions, and civilization of those with whom he met.

"*March 9.*—Visited a number of the literati and wealthy of Cincinnati, who all told me, that they would think of it, viz. of subscribing; they are a very thoughtful people.

"*March 17.*—Rained and hailed all last night. Set off at eight o'clock, after emptying my boat of the deluge of water; rowed hard all day; at noon recruited myself with some biscuits, cheese, and American wine; reach the falls; night sets in; hear the roaring of the rapids; after excessive hard work, arrived at Bear Grass Creek, and

fastened my boat to a Kentucky one ; take my baggage, and grope my way to Louisville ; put up at the Indian Queen Tavern, and gladly sit down to rest myself.

“ *March 18.*—Rose quite refreshed. Found a number of land-speculators here ; titles to lands in Kentucky subject to great disputes.

“ *March 20.*—Set out this afternoon with the gun ; killed nothing new. People in taverns here devour their meals ; many shopkeepers board in taverns : also boatmen, land-speculators, merchants, &c. No naturalists to keep me company.

“ Good country this for lazy fellows : they plant corn, turn their pigs into the woods, and in the autumn feed upon corn and pork ; they lounge about the rest of the year.

“ *March 24.*—Weather cool. Walked to Shelbyville to breakfast. Passed some miserable log-houses in the midst of rich fields. Called at a Squire C.’s, who was rolling logs ; sat down beside him, but was not invited in, though it was about noon.

“ *March 29.*—Finding my baggage not likely to come on, I set out from Frankfort for Lexington. The woods swarm with pigs, squirrels, and woodpeckers. Arrived exceedingly fatigued.

“ Wherever you go, you hear people talking of buying and selling land ; no readers, all traders,—the Yankees, wherever you find them, are all traders ; found one here, a house-carpenter, who came from Massachusetts, and brought some barrels of apples down the river from Pennsylvania to this town, where he employs the negro women to hawk them about the streets, at thirty-seven and a half cents per dozen.

“ Restless, speculating set of mortals here, full of lawsuits ; no great readers, even of politics or newspapers.

“ The sweet courtesies of life, the innumerable civilities in deeds and conversations, which cost one so little, are

seldom found here. Every man you meet with has either some land to buy or sell, some lawsuit, some coarse hemp or corn to dispose of, and, if the conversation do not lead to any of these, he will force it. Strangers here receive less civilities than in any place I have ever been in. The respect due to the fatigues and privations of travellers is nowhere given, because every one has met with as much, and thinks he has seen more than any other. No one listens to the adventures of another without interrupting the narrative with his own; so that, instead of an auditor, he becomes a competitor in adventure-telling. So many adventurers, also, continually wandering about here, injure the manners of the people; for avarice and knavery prey most freely and safely upon passengers whom they may never meet again.

“ These few observations are written in Salter White’s garret, with little or no fire, wood being a scarce article here, the forest being a full half mile distant.

“ *April 9.* — Court held to-day, large concourse of people; not less than one thousand horses in town, hitched to the side posts; no food for them all day. Horses selling by auction. Negro woman sold same way. My reflections while standing by and hearing her cried: ‘ Three hundred and twenty-five dollars for this woman and boy! going! going!’ Woman and boy afterwards weep. Damned, damned slavery! this is one infernal custom which the Virginians have brought into this country. Rude and barbarous appearance of the crowd. Hopkins’s double cutters much wanted here.

“ *April 10.* — Was introduced to several young ladies this afternoon, whose agreeable society formed a most welcome contrast to that of the lower orders of the other sex. Mrs —, an amiable, excellent lady; think that savage ignorance, rudeness, and boorishness, was never so contrasted by female sweetness, affability, and intelligence.

“ *April 12.* — Went this evening to drink tea with

Mr —; was introduced to Mrs —, a most lovely, accomplished, and interesting woman. Her good sense and lively intelligence, of a cast far superior to that of almost any woman I have ever seen. She is most unfortunately unwell, with a nervous complaint, which affects her head. She told me, most feelingly, that the spring, which brings joy to every other being, brings sorrow to her, for, in winter, she is always well.

“ *April 25.* — Breakfasted at Walton’s, thirteen miles from Nashville. This place is a fine rich hollow, watered by a charming, clear creek, that never fails. Went up to Madison’s lick, where I shot three paroquets and some small birds.

“ *April 28.* — Set out early, the hospitable landlord, Isaac Walton, refusing to take any thing for my fare, or that of my horse, saying, ‘ You seem to be travelling for the good of the world ; and I cannot, I will not, charge you any thing. Whenever you come this way, call and stay with me. ; you shall be welcome !’ This is the first instance of such hospitality which I have met with in the United States.

“ *Wednesday, May 23.* — Left Natchez, after procuring twelve subscribers ; and, having received a kind letter of invitation from William Dunbar, Esq. I availed myself of his goodness, and rode nine miles along the usual road to his house ; where, though confined to his bed by a severe indisposition, I was received with great hospitality and kindness ; had a neat bedroom assigned me, and was requested to consider myself as at home during the time I should find it convenient to stay in exploring this part of the country !”*

* The letter above mentioned is worthy of transcription. It is as follows : —

“ SIR, — It is very unfortunate that I should be so much indisposed as to be confined to my bedroom ; nevertheless, I cannot give up the idea of having the pleasure of seeing you, as

In September, 1812, Wilson directed his steps eastward, to visit his subscribers, and increase, if possible, their number. During this excursion, he met with the following ludicrous adventure:—At Haverhill the good people observing a stranger among them, of very inquisitive habits, and who evinced particular earnestness in exploring the country, came to the sage conclusion, that he was a spy from Canada, employed in taking sketches of the place, to facilitate British invasion. It was, therefore, thought essential to the public safety, that he should be apprehended; and he was accordingly taken into custody: but the magistrate before whom he was brought, on being made acquainted with his character and pursuits, immediately dismissed him, with many apologies for the harmless and patriotic mistake.

In 1812, he was elected a member of the American Philosophical Society; and in the following year, by the

soon as you find it convenient. The perusal of your first volume of *Ornithology*, lent me by General Wilkinson, has produced in me a very great desire of making your acquaintance.

“I understand from my boy, that you propose going, in a few days, to New Orleans, where you will see some small cabinets of natural history that may interest you. But, as I presume it is your intention to prosecute your inquiries into the interior of our country, this cannot be done better than from my house as your head-quarters, where every thing will be made convenient to your wishes. My house stands literally in the forest, and your beautiful orioles, with other elegant birds, are our court-yard companions.

“The bearer attends you with a couple of horses, on the supposition that it may be convenient for you to visit us to-day; otherwise, he shall wait on you any other day that you shall appoint.—I am respectfully, &c. WILLIAM DUNBAR.

“*Forest, 26th May, 1810.*”

“This excellent gentleman,” continues the American biographer, “whose hospitality was thus promptly excited, has since paid the debt of nature; and his grateful guest fondly cherished, to the last hour of his existence, the remembrance of those happy moments which were passed in his society, and in that of his amiable and accomplished family.”

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month of August, he had succeeded in completing the literary materials of the eighth volume of his splendid work. His progress had been greatly facilitated by his having resided for a considerable part of the years 1811-12 at the Botanic Garden, with his friend Mr Bartram. There, remote from the noise, bustle, and interruption of the town, he was enabled to dispose of his time to the best advantage; occasionally solacing his mind with friendly converse, and recruiting his overworn and sinking frame by healthful rambles through the neighbouring woods. He now enjoyed the satisfaction of knowing that his labours had not been in vain, and that the value of his great work was generally appreciated; for, although emanating from a republican country, there was not at this period a crowned head in Europe who had not become a subscriber to the *American Ornithology*.

In the early part of the year 1813, the seventh volume was published; and its indefatigable author immediately commenced his preparations for the next. But, unfortunately, his intense anxiety to conclude his undertaking impelled him into an excess of toil, which, however inflexible his mind, his bodily strength was unable to bear. This was occasioned chiefly by his finding it impossible to procure sufficiently skilful assistants to relieve him from the labour of colouring his plates. Those who occasionally made the attempt excited his disgust by their glaring caricatures of what were intended to be modest imitations of simple nature. Hence, much of his time was spent in the irksome and harassing employment of inspecting and correcting the imperfections of others; while this waste of his stated periods of labour was supplied by deep encroachments on those hours which Nature claims as her own, consecrates to rest, and will not forego without a struggle; and which all, who would preserve unimpaired the vigour of their mind and body, must respect. Against this intense and destructive appli-

cation, his friends failed not to admonish him; but to their entreaties he would make this ominous reply,—“Life is short, and without exertion nothing can be performed.” In the last letter which he is understood to have written to his friends in Paisley, after sympathizing with his correspondent on the death of a son, he makes the following melancholy statement regarding his own declining health:—“I am myself far from being in good health. Intense application to study has hurt me much. My 8th volume is now in the press, and will be published in November. One volume more will complete the whole.”

At length, amid these accumulated and harassing toils, he was assailed by a disease, which his vital powers were now too much enfeebled successfully to resist. The dysentery, his former foe, renewed its deadly assaults; and after a few days' illness, notwithstanding the combined efforts of science and friendship, terminated the mortal career of Alexander Wilson, the American Ornithologist, on the 23d of August, 1813, consequently in the 48th year of his age.* “The moment,” says his brother, who had a few years previously joined him in America, “that I heard of his sickness, I went to the city, and found him speechless: I caught his hand: he seemed to know me, and that was all. He died next morning, at nine o'clock, and was buried next day with all the honours due to his merit. The whole of the scientific characters, along with the clergy of all denominations, attended the funeral. The Columbia Society of Fine Arts, of which he was a member, walked in procession before the hearse,

* The following was stated as the more immediate cause of Wilson's final illness, by one of his American friends, who visited Scotland some years ago:—While he was sitting in the house of one of his friends, enjoying the pleasures of conversation, he chanced to see a bird of a rare species, for one of which he had long been in search. With his usual enthusiasm he ran out, followed it, swam across a river, over which it had flown, fired at, killed, and obtained the object of his eager pursuit; but caught a cold, which, bringing on dysentery, ended in his death.

and wore crape round their arms for thirty days." His remains were deposited in the cemetery of the Swedish Church, in the district of Southwark, Philadelphia. While in the enjoyment of health, he had, in a conversation with a friend on the subject of death, expressed a wish to be buried in some rural spot, sacred to peace and solitude; whither the charms of nature might invite the steps of the votary of the muses and the lover of science, and *where the birds might sing over his grave*. It has been matter of regret to those of his friends to whom was confided the mournful duty of ordering his funeral, that this desire had not been made known to them, otherwise it should have been piously observed. A plain marble tomb marks where his dust reposes, on which appears the following inscription:—

THIS MONUMENT
COVERS THE REMAINS OF
ALEXANDER WILSON,
AUTHOR OF THE
AMERICAN ORNITHOLOGY.
HE WAS BORN IN RENFREWSHIRE, SCOTLAND,
ON THE 6TH JULY, 1766;
EMIGRATED TO THE UNITED STATES
IN THE YEAR 1794;
AND DIED IN PHILADELPHIA,
OF THE DYSENTERY,
ON THE 23D AUGUST, 1813,
AGED 47.

Part of the eighth volume of the *Ornithology* having been put through the press before the author's death, the remainder was edited by his friend Mr George Ord, F.L.S. and published in January, 1814. The ninth volume made its appearance in May, 1814, the plates having been printed and coloured under Wilson's own superintendance, and the letter-press supplied by Mr Ord,

who was well qualified to perform this office for his deceased friend, having been his companion in several expeditions for procuring specimens, and collecting the information from which the descriptions of the birds were drawn up. This concluding volume contained a Life of Wilson, from the pen of the editor.

As it has been all along our object to place Wilson before the reader, either as he represented himself in his journals and letters, or as he was represented by those who, being personally acquainted with him, had the best means of knowing him accurately, we think it proper to make some extracts from the character which his American biographer has drawn, evidently from his own knowledge.

“ It may not,” says he, “ be going too far to maintain, that in no age or nation has there ever arisen one more eminently qualified for a naturalist, than the subject of these memoirs. He was not only an enthusiastic admirer of the works of creation; but he was consistent in research, and permitted no dangers or fatigues to abate his ardour, or relax his exertions. He inured himself to hardships by frequent and laborious exercise, and was never more happy than when employed in some enterprize, which promised, from its difficulties, the novelties of discovery. Whatever was obtained with ease, appeared to him comparatively uninteresting; the acquisitions of labour alone seemed worthy of his ambition. He was no closet philosopher; he was indebted for his ideas, not to books, but to nature. His perseverance was uncommon; and, when engaged in any particular pursuit, he never would relinquish it while there was a chance of success. His powers of observation were acute, and his judgment seldom erred. That his industry was great, his work will ever testify; and our astonishment may well be excited, that so much should have been performed in so short a time. A single individual, *without patron, fortune, or recompense*, accomplished, in the short space of *seven years*,

as much as the combined body of European naturalists have taken a *century* to achieve. The collection and discovery of these birds were the fruits of many months of unwearied research: amongst forests, swamps, and morasses, exposed to all the dangers, privations, and fatigues incident to such an undertaking. What but a remarkable passion for the pursuit, joined with an ardent desire of fame, could have supported a solitary individual in labours of body and mind, compared to which the bustling avocations of common life are mere holiday activity or recreation!

“ Mr Wilson was possessed of the nicest sense of honour. In all his dealings, he was not only scrupulously just, but highly generous. His veneration for truth was exemplary. His disposition was social and affectionate. His benevolence was extensive. He was remarkably temperate in eating and drinking; his love of retirement preserving him from the contaminating influence of the convivial circle. But, as no one is perfect, Mr Wilson partook, in a small degree, of the weakness of humanity. He was of the *genus irritabile*, and was obstinate in opinion. It ever gave him pleasure to acknowledge error, when the conviction resulted from his own judgment alone; but he could not endure to be told of his mistakes. Hence his associates had to be sparing of their criticisms, through a fear of forfeiting his friendship. With almost all his friends, he had occasionally, arising from a collision of opinion, some slight misunderstanding, which was soon passed over, leaving no disagreeable impression. But an act of disrespect, or wilful injury, he would seldom forgive.”

Thus far the American biographer; and, though the sketch be one drawn by the hand of a friend, its outline is so consistent with the tenor of his life, that we cannot doubt its accuracy. In personal appearance, he is described as having been tall, (five feet ten or eleven

inches,) handsome and vigorous, inclining to the slender, rather than the athletic. Even when a poor Paisley weaver, he was remarkable for neatness of appearance, and for an air superior to his condition — as if the native dignity of his mind shone through his mien and bearing. His countenance, tinged with melancholy, was expressive of deep reflection; his eye, penetrating and intelligent, especially when engaged in conversation. His eyebrows were strikingly arched, and his hair, which was dark and glossy, hung down over his shoulders.* Strong good sense, high moral worth, and a lofty spirit of independence, were the characteristic features of his mind. His conversational powers were greatly superior to those of the men with whom he was accustomed to associate; and he acquired, in consequence, like Burns, somewhat of a dictatorial manner. There was a quickness, a strength, and an originality in his remarks, indicating mental endowments of a very high order; and where did ever such endowments exist, without their possessor being conscious of their presence? In no respect was his character more estimable,

* Such is the account of his personal appearance, which we have been able to draw from the recollections of his friends in this country; and it seems borne out by the engraving prefixed to this volume, the original of which was painted by James Craw, when Wilson was in his twenty-second year. The particulars preserved by his American biographer possess no little interest, exhibiting him as he was at a more advanced period of life, when moving in a more intelligent class of society than his youth had been accustomed to, and engaged in his favourite researches among the woods: “In his person,” says Mr Ord, “he was of a middle stature, of a thin habit of body; his cheek-bones projected, and his eyes, though hollow, displayed considerable vivacity and intelligence; his complexion was sallow, his mien thoughtful; his features were coarse, and there was a dash of vulgarity in his physiognomy, which struck the observer at the first view, but which failed to impress one on acquaintance. His walk was quick when travelling,—so much so, that it was difficult for a companion to keep pace with him; but when in the forest, in pursuit of birds, he was deliberate and attentive—he was, as it were, all eyes, and all ears.”

than in the strength, generosity, and permanence of his friendships. Notwithstanding his poetical feelings and aspirations, love, as has already been remarked, seemed to have no abiding residence in his bosom, if indeed its power had ever made any sensible encroachment on that busy domain. Though he mingled much in society, and that, at one period of his life, by no means very select, he was a stranger to every species of dissipation; and, while he passed through many scenes of trial and temptation, he bore away all the good that might be obtained from each, without incurring the contamination of their evil. Perhaps his high moral purity arose, in a great measure, from the absence of overmastering passion; and this was the result of that mental structure which constituted *intellect* his predominating faculty. The same may be the explanation of that apparent contradiction in his character—a poet, and not a lover. In elucidation of this conjecture, we beg to offer a very few remarks, considering it a mental phenomenon well worth investigation.

The two leading principles of Wilson's mind unquestionably were, the love of fame, and the love of knowledge, both resulting from the conscious possession of high intellect. The union of these principles tended to give his character an ideal elevation, and to impress it with a strong love of power, and desire of eminence. In the mind where these predominate, it is obvious that there can be little space for the abode of any aim or passion of less aspiring, or of weaker nature. Such a mind pleasure cannot tempt astray, nor love subdue. Yet the love of fame is by no means incompatible with ardent natural affection, such as that of children to their parents, because its source lies deeper in our nature, and was fully formed long before the love of fame could be either felt or understood; and because both may be gratified at once, for while a man rises himself, he can elevate those whom he loves. We have seen this hope cheer and support

Wilson, during his wanderings through the pathless forests of America. We have known it fondly cherished, as the dearest possible recompense, in those who, like him, had the structure of their own fortunes to build. And all that we contend for is, that while these strong principles cannot banish early and deep-seated filial affection, they prevent the entrance of newer and weaker attachments; and thus, we think, a solution may be given of what otherwise appears contradictory in Wilson's character.

With regard to the scientific and literary merit of his great work, it is neither our province nor our inclination to speak; the one being sufficiently cared for by the very distinguished naturalist, by whom this edition is prepared, while the other must of itself be evident to every reader. This much, however, we may say, that from the prefaces and descriptions, passages might be selected, which, for elegance of language, graceful ease, and graphic power, could scarcely be surpassed by any within the compass of British literature. We might instance his description of the Mocking Bird, and of the Bald Eagle; and nothing can be finer than the simple and natural beauty of the general preface to his first volume. There may be found also, throughout the body of the work, many striking incidents, illustrative at once of the man, and of the difficulties to which he was subjected, during his toilsome and hazardous undertaking; but these we have considered it unnecessary and inexpedient to extract, as they will be read with peculiar interest in the places where they naturally occur.

To peruse the annals of real life is, perhaps, at once the most entertaining and the most useful mode of prosecuting the study of man. And of such annals the most instructing are those in which we see persevering efforts overcome the most formidable obstacles, and distinguished eminence gradually winning its arduous ascent above the mists of obscurity and depression. For it is no illegiti-

mate conclusion, which the aspiring mind will draw from such examples,—that, what has been accomplished, may again be confidently undertaken. In this respect, the life of Wilson, furnishing a striking instance of successful perseverance, may contribute to the general good, by fostering the early hopes of humble but aspiring merit. There is yet another, and a more important truth, which it is well adapted to teach,—that the main cause why the course of genius is so often crossed by melancholy aberrations, impeded by grovelling tendencies, or prematurely closed in guilt and misery, is because its capacities far transcend the usual pursuits and employments of its station, impelling it to rush from object to object with reckless impetuosity, as each after each crumbles in its giant grasp. Thus, in the marked contrast between Wilson's early history, when he led an irregular, unsettled, and wandering life, and that of his latter years, when his mind became fixed upon an object sufficient to engross its whole powers, and demand its whole energies,—which object he thenceforward prosecuted with the most indefatigable and unswerving resolution,—we see the necessity and the wisdom of early entering upon a sufficiently ennobling and expanding career, especially when the mind itself is noble and expansive. Had his aspiring mind never found any such sufficiently engrossing object, there is little reason to doubt, that his name would finally have been found in the melancholy catalogue of unfortunate men of genius. And we conclude our memoir with one remark,—that while it may interest the philosopher to observe the spontaneous working of a mind powerfully and peculiarly constructed, to humble merit it furnishes this valuable lesson, that upright integrity, unbending determination, and unwearied perseverance, will, sooner or later, surmount every obstacle, and crown their possessor with the accomplishment of all his wishes.

W. M. H.

PREFACE.

THE whole use of a Preface seems to be, either to elucidate the nature and origin of the work, or to invoke the clemency of the reader. Such observations as have been thought necessary for the former, will be found in the Introduction; extremely solicitous to obtain the latter, I beg leave to relate the following anecdote :—

In one of my late visits to a friend in the country, I found their youngest son, a fine boy of eight or nine years of age, who usually resides in town for his education, just returning from a ramble through the neighbouring woods and fields, where he had collected a large and very handsome bunch of wild flowers, of a great many different colours; and, presenting them to his mother, said, with much animation in his countenance, “ Look, my dear mamma, what beautiful flowers I have found growing on our place! Why, all the woods are full of them! red, orange, blue, and ’most every

colour. Oh! I can gather you a whole parcel of them, much handsomer than these, all growing in our own woods! Shall I, mamma? Shall I go and bring you more?" The good woman received the bunch of flowers with a smile of affectionate complacency; and, after admiring for some time the beautiful simplicity of nature, gave her willing consent; and the little fellow went off, on the wings of ecstasy, to execute his delightful commission.

The similarity of this little boy's enthusiasm to my own, struck me; and the reader will need no explanations of mine to make the application. Should my country receive with the same gracious indulgence the specimens which I here humbly present her; should she express a desire for me *to go and bring her more*, the highest wishes of my ambition will be gratified; for, in the language of my little friend, *our whole woods are full of them!* and I can collect hundreds more, *much handsomer than these.*

ALEXANDER WILSON.

PHILADELPHIA,
October 1, 1808.

INTRODUCTION.

IN the commencement of a work of such magnitude, and so novel in this country, some account will necessarily be expected, of the motives of the author, and of the nature and intended execution of the work. As to the former of these, it is respectfully submitted, that, amusement blended with instruction, the correction of numerous errors which have been introduced into this part of the natural history of our country, and a wish to draw the attention of my fellow-citizens, occasionally, from the discordant jarrings of politics, to a contemplation of the grandeur, harmony, and wonderful variety of nature, exhibited in this beautiful portion of the animal creation, are my principal, and almost only motives, in the present undertaking. I will not deny that there may also be other incitements. Biassed, almost from infancy, by a fondness for

birds, and little else than an enthusiast in my researches after them, I feel happy to communicate my observations to others, probably from the mere principle of self-gratification, that source of so many even of our most virtuous actions ; but I candidly declare, that lucrative views have nothing to do in the business. In all my wild wood rambles, these never were sufficient either to allure me to a single excursion, to discourage me from one, or to engage my pen or pencil in the present publication. My hopes, on this head, are humble enough ; I ask only support equal to my merits, and to the laudability of my intentions. I expect no more ; I am not altogether certain even of this. But, leaving the issue of these matters to futurity, I shall, in the meantime, comfort myself with the good old adage, “ Happy are they who expect nothing, for they shall not be disappointed.”

As to the nature of the work, it is intended to comprehend a description and representation of every species of our native birds, from the shores of St Laurence to the mouths of the Mississippi, and from the Atlantic ocean to the interior of Louisiana : these will be engraved in a style superior to any thing of the kind hitherto published ; and coloured from nature, with the most scrupulous adherence to the true tints of the original.

But as time may prey on the best of colours, what is necessary, in this respect, will, by no means, be omitted, that the figures and descriptions may mutually corroborate each other. It is also my design to enter more largely than usual into the manners and disposition of each respective species; to become, as it were, their faithful biographer, and to delineate their various peculiarities, in character, song, building, economy, &c. as far as my own observations have extended, or the kindness of others may furnish me with materials.

The Ornithology of the United States exhibits a rich display of the most splendid colours, from the green, silky, gold bespangled down of the minute humming bird, scarce three inches in extent, to the black coppery wings of the gloomy condor, of sixteen feet, who sometimes visits our northern regions; a numerous and powerful band of songsters, that, for sweetness, variety, and melody, are surpassed by no country on earth; an ever-changing scene of migration from torrid to temperate, and from northern to southern regions, in quest of suitable seasons, food, and climate; and such an amazing diversity in habit, economy, form, disposition, and faculties, so uniformly hereditary in each species, and so completely adequate to their peculiar wants and convenience, as to overwhelm

us with astonishment at the power, wisdom, and beneficence of the Creator !

In proportion as we become acquainted with these particulars, our visits to, and residence in the country, become more and more agreeable. Formerly, on such occasions, we found ourselves in solitude, or, with respect to the feathered tribes, as it were in a strange country, where the manners, language, and faces of all, were either totally overlooked, or utterly unknown to us : now, we find ourselves among interesting and well known neighbours and acquaintances ; and, in the notes of every songster, recognize, with satisfaction, the voice of an old friend and companion. A study thus tending to multiply our enjoyments at so cheap a rate, and to lead us, by such pleasing gradations, to the contemplation and worship of the Great First Cause, the Father and Preserver of all, can neither be idle nor useless, but is worthy of rational beings, and, doubtless, agreeable to the Deity.

In order to obtain a more perfect knowledge of birds, naturalists have divided them into classes, orders, genera, species, and, varieties ; but in doing this, scarcely two have agreed on the same mode of arrangement : and this has indeed proved a source of great perplexity to the student. Some

have increased the number of orders to an unnecessary extent, multiplied the genera, and, out of mere varieties, produced what they supposed to be entire new species. Others, sensible of the impropriety of this, and wishing to simplify the science as much as possible, have reduced the orders and genera to a few, and have thus thrown birds, whose food, habits, and other characteristic features are widely different, into one and the same tribe, and thereby confounded our perception of that beautiful gradation of affinity and resemblance, which Nature herself seems to have been studious of preserving throughout the whole. One principal cause of the great diversity of classifications appears to be owing to the neglect, or want of opportunity, in these writers, of observing the manners of the living birds, in their unconfined state, and in their native countries. As well might philosophers attempt to class mankind into their respective religious denominations, by a mere examination of their physiognomy, as naturalists to form a correct arrangement of animals, without a knowledge of these necessary particulars.

It is only by personal intimacy, that we can truly ascertain the character of either, more especially that of the feathered race, noting their particular haunts, modes of constructing their nests, manner

of flight, seasons of migration, favourite food, and numberless other minutiae, which can only be obtained by frequent excursions in the woods and fields, along lakes, shores, and rivers, and requires a degree of patience and perseverance which nothing but an enthusiastic fondness for the pursuit can inspire.

The greatest number of the descriptions in the following work, particularly those of the nests, eggs, and plumage, have been written in the woods, with the subjects in view, leaving as little as possible to the lapse of recollection. As to what relates to the manners, habits, &c. of the birds, the particulars on these heads are the result of personal observation, from memorandums taken on the spot; if they differ, as they will on many points, from former accounts, this at least can be said in their behalf, that a single fact has not been advanced which the writer was not himself witness to, or received from those on whose judgment and veracity he believed reliance could be placed. When his own stock of observations has been exhausted, and not till then, he has had recourse to what others have said on the same subject, and all the most respectable performances of a similar nature have been consulted, to which access could be obtained; not neglecting the labours of his predecessors in this

particular path, Messrs Catesby and Edwards, whose memories he truly respects. But as a sacred regard to truth requires that the errors or inadvertencies of those authors, as well as of others, should be noticed, and corrected, let it not be imputed to unworthy motives, but to its true cause,—a zeal for the promotion of that science, in which these gentlemen so much delighted, and for which they have done so much.

From the writers of our own country the author has derived but little advantage. The first considerable list of our birds was published in 1787, by Mr Jefferson, in his celebrated “Notes on Virginia,” and contains the names of a hundred and nine species, with the designations of Linnæus and Catesby, and references to Buffon. The next, and by far the most complete that has yet appeared, was published in 1791, by Mr William Bartram, in his *Travels through North and South Carolina, &c.* in which two hundred and fifteen different species are enumerated, and concise descriptions and characteristics of each added in Latin and English. Dr Barton, in his *Fragments of the Natural History of Pennsylvania*, has favoured us with a number of remarks on this subject; and Dr Belknap, in his *History of New Hampshire*, as well as Dr Williams, in that of Vermont, have

each enumerated a few of our birds. But these, from the nature of the publications in which they have been introduced, can be considered only as catalogues of names, without the detail of specific particulars, or the figured and coloured representations of the birds themselves. This task, the hardest of all, has been reserved for one of far inferior abilities, but not of less zeal. With the example of many solitary individuals, in other countries, who have succeeded in such an enterprise, he has cheerfully engaged in the undertaking, trusting for encouragement solely to the fidelity with which it will be conducted.

AMERICAN ORNITHOLOGY.

ORDER I.

ACCIPITRES, LINNÆUS.

FAMILY I.

VULTURINI, ILLIGER.

GENUS I.—*CATHARTES*, ILLIGER.

1. *CATHARTES AURA*, ILLIGER.—*VULTUR AURA*, WILSON.

TURKEY VULTURE, OR TURKEY BUZZARD.

WILSON, PL. LXXV. FIG. I.—EDINBURGH COLLEGE MUSEUM.

THIS species is well known throughout the United States, but is most numerous in the southern section of the Union. In the northern and middle states, it is partially migratory, the greater part retiring to the south on the approach of cold weather. But numbers remain all the winter in Maryland, Delaware, and New Jersey; particularly in the vicinity of the large rivers and the ocean, which afford a supply of food at all seasons.

In New Jersey,* the turkey buzzard hatches in May, the deep recesses of the solitary swamps of that state affording situations well suited to the purpose. The female is at no pains to form a nest with materials; but, having chosen a suitable place, which is either a truncated hollow tree, an excavated stump, or log, she lays on the rotten wood from two to four eggs, of a dull

* Mr Ord mentions New Jersey in particular, as in that state he has visited the breeding places of the turkey buzzard, and can therefore speak with certainty of the fact. Pennsylvania, it is more than probable, affords situations equally attractive, which are also tenanted by this vulture, for hatching and rearing its young.

dirty white, or pale cream colour, splashed all over with chocolate, mingled with blackish touches, the blotches largest and thickest towards the great end; the form something like the egg of a goose, but blunter at the small end: length two inches and three quarters, breadth two inches. The male watches often while the female is sitting; and, if not disturbed, they will occupy the same breeding place for several years. The young are clothed with a whitish down, similar to that which covers young goslings. If any person approach the nest, and attempt to handle them, they will immediately vomit such offensive matter, as to compel the intruder to a precipitate retreat.

The turkey buzzards are gregarious, peaceable and harmless; never offering any violence to a living animal, or, like the plunderers of the *falco* tribe, depriving the husbandman of his stock. Hence, though, in consequence of their filthy habits, they are not beloved, yet they are respected for their usefulness; and in the southern states, where they are most needed, they, as well as the black vultures, are protected by a law, which imposes a fine on those who wilfully deprive them of life. They generally roost in flocks, on the limbs of large trees; and they may be seen on a summer morning, spreading out their wings to the rising sun, and remaining in that posture for a considerable time. Pennant conjectures, that this is "to purify their bodies, which are most offensively fetid." But is it reasonable to suppose, that *that* effluvia can be offensive to them, which arises from food perfectly adapted to their nature, and which is constantly the object of their desires? Many birds, and particularly those of the granivorous kind, have a similar habit, which doubtless is attended with the same exhilarating effects, as an exposure to the pure air of the morning has on the frame of one just risen from repose.

These birds, unless when rising from the earth, seldom flap their wings, but sweep along in ogees, and dipping and rising lines, and move with great rapidity. They are often seen in companies, soaring at an immense

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height, particularly previous to a thunder storm. Their wings are not spread horizontally, but form a slight angle with the body upwards, the tips having an upward curve. Their sense of smelling is astonishingly exquisite, and they never fail to discover carrion, even when at the distance of several miles from it. When once they have found a carcass, if not molested, they will not leave the place until the whole is devoured. At such times they eat so immoderately, that frequently they are incapable of rising, and may be caught without much difficulty; but few that are acquainted with them will have the temerity to undertake the task. A man in the state of Delaware, a few years since, observing some turkey buzzards regaling themselves upon the carcass of a horse, which was in a highly putrid state, conceived the design of making a captive of one, to take home for the amusement of his children. He cautiously approached, and, springing upon the unsuspecting group, grasped a fine plump fellow in his arms, and was bearing off his prize in triumph; when, lo! the indignant vulture disgorged such a torrent of filth in the face of our hero, that it produced all the effects of the most powerful emetic, and for ever cured him of his inclination for turkey buzzards.

On the continent of America this species inhabits a vast range of territory, being common,* it is said, from Nova Scotia to Terra del Fuego.† How far to the northward of North California‡ they are found we

* In the northern states of our union, the turkey buzzard is only occasionally seen: it is considered a rare bird by the inhabitants.

† “Great numbers of a species of vulture, commonly called carrion crow by the sailors, (*vultur aura*,) were seen upon this island, (New-year’s Island, near Cape Horn, lat. 55 S. 67 W.) and probably feed on young seal cubs, which either die in the birth, or which they take an opportunity to seize upon.” Cook calls them turkey buzzards. Forster’s *Voyage*, ii, p. 516, 4to. London, 1777. We strongly suspect that the sailors were correct, and that these were black vultures, or carrion crows.

‡ Pérouse saw a bird, which he calls the black vulture, probably the *vultur aura*, at Monterey Bay, North California. *Voyage*, ii, p. 203.

are not informed; but it is probable that they extend their migrations to the Columbia, allured thither by the quantity of dead salmon which, at certain seasons, line the shores of that river.

They are numerous in the West India islands, where they are said to be "far inferior in size to those of North America."* This leads us to the inquiry, whether or no the present species has been confounded, by all the naturalists of Europe, with the black vulture, or carrion crow, which is so common in the southern parts of our continent. If not, why has the latter been totally overlooked in the numerous ornithologies and nomenclatures with which the world has been favoured, when it is so conspicuous and remarkable, that no stranger visits South Carolina, Georgia, or the Spanish provinces, but is immediately struck with the novelty of its appearance? We can find no cause for the turkey buzzards of the islands † being smaller than ours, and must conclude that the carrion crow, which is of less size, has been mistaken for the former. In the history which follows, we shall endeavour to make it evident that the species described by Ulloa, as being so numerous in South America, is no other than the black vulture. The ornithologists of Europe, not aware of the existence of a new species, have, without investigation, contented themselves with the opinion, that the bird called by the above mentioned traveller the gallinazo, was the *vultur aura*, the subject of our present history. This is the more inexcusable, as we expect in naturalists

* Pennant, *Arctic Zoology*.

† The vulture which Sir Hans Sloane has figured and described, and which he says is common in Jamaica, is undoubtedly the *vultur aura*. "The head, and an inch in the neck, are bare, and without feathers, of a flesh colour, covered with a thin membrane, like that of turkeys, with which the most part of the bill is covered likewise; bill (below the membrane) more than an inch long, whitish at the point; tail broad, and nine inches long; legs and feet three inches long; it flies exactly like a kite, and preys on nothing living; but when dead, it devours their carcasses, whence they are not molested." Sloane, *Natural History*, Jamaica, vol. ii. p. 294, folio.

a precision of a different character from that which distinguishes vulgar observation. If the Europeans had not the opportunity of comparing living specimens of the two species, they at least had preserved subjects, in their extensive and valuable museums, from which a correct judgment might have been formed. The figure in the *Planches enluminées*, though wretchedly drawn and coloured, was evidently taken from a stuffed specimen of the black vulture.

Pennant observes, that the turkey vultures "are not found in the northern regions of Europe or Asia, at least in those latitudes which might give them a pretence of appearing there. I cannot find them," he continues, "in our quarter of the globe higher than the Grison Alps,* or Silesia,† or at farthest Kalish, in Great Poland."‡

Kolben, in his account of the Cape of Good Hope, mentions a vulture, which he represents as very voracious and noxious. "I have seen," says he, "many carcasses of cows, oxen, and other tame creatures, which the eagles had slain. I say carcasses, but they were rather skeletons, the flesh and entrails being all devoured, and nothing remaining but the skin and bones. But the skin and bones being in their natural places, the flesh being, as it were, scooped out, and the wound by which the eagles enter the body being ever in the belly, you would not, till you had come up to the skeleton, have had the least suspicion that any such matter had happened. The Dutch at the Cape frequently call those eagles, on account of their tearing out the entrails of beasts, *strunt-vogels*, i. e. dung-birds. It frequently happens, that an ox that is freed from the plough, and left to find his way home, lies down to rest himself by the way: and if he does so, it is a great chance but the eagles fall upon him and devour him. They attack

* Willughby, *Ornithology*, p. 67.

† Schwenckfeldt, *av. Silesia*, 375.

‡ Rzaczyński, *Hist. Nat. Poland*, 298.

an ox or cow in a body, consisting of an hundred and upwards."*

Buffon conjectures, that this murderous vulture is the turkey buzzard, and concludes his history of the latter with the following invective against the whole fraternity:—"In every part of the globe they are voracious, slothful, offensive, and hateful, and, like the wolves, are as noxious during their life, as useless after their death."

If Kolben's account of the ferocity of his eagle,† or vulture, be just, we do not hesitate to maintain that that vulture, is not the turkey buzzard, as, amongst the whole feathered creation, there is none, perhaps, more innocuous than this species; and that it is beneficial to the inhabitants of our southern continent, even Buffon himself, on the authority of Desmarchais, asserts. But we doubt the truth of Kolben's story; and, in this place, must express our regret, that enlightened naturalists should so readily lend an ear to the romances of travellers, who, to excite astonishment, freely give currency to every ridiculous tale, which the designing or the credulous impose upon them. We will add farther, that the turkey buzzard seldom begins upon a carcass, until invited to the banquet by that odour, which in no ordinary degree renders it an object of delight.

The turkey vulture is two feet and a half in length, and six feet two inches in breadth; the bill from the corner of the mouth is almost two inches and a half long, of a dark horn colour for somewhat more than an inch from the tip, the nostril a remarkably wide slit, or opening through it; the tongue is greatly concave, cartilaginous, and finely serrated on its edges; ears inclining to oval; eyes dark, in some specimens reddish hazel;

* Medley's *Kolben*, vol. ii, p. 135.

† These bloodthirsty eagles, we conjecture, are black vultures, they being in the habit of mining into the bellies of dead animals, to feast upon the contents. With respect to their attacking those that are living, as the vultures of America are not so heroic, it is a fair inference that the same species elsewhere is possessed of a similar disposition.

the head and neck, for about an inch and a half below the ears, are furnished with a reddish wrinkled skin, beset with short black hairs, which also cover the bill as far as the anterior angle of the nostril, the neck not so much caruncled as that of the black vulture; from the hind head to the neck feathers the space is covered with down of a sooty black colour; the fore part of the neck is bare as far as the breast bone, the skin on the lower part, or pouch, very much wrinkled; this naked skin is not discernible without removing the plumage which arches over it; the whole lower parts, lining of the wings, rump, and tail coverts, are of a sooty brown, the feathers of the belly and vent hairy; the plumage of the neck is large and tumid, and, with that of the back and shoulders, black; the scapulars and secondaries are black on their outer webs, skirted with tawny brown, the latter slightly tipped with white; primaries and their coverts plain brown, the former pointed, third primary the longest; coverts of the secondaries, and lesser coverts, tawny brown, centred with black, some of the feathers at their extremities slightly edged with white; the tail is twelve inches long, rounded, of a brownish black, and composed of twelve feathers, which are broad at their extremities; inside of wings and tail light ash; the wings reach to the end of the tail; the whole body and neck beneath the plumage are thickly clothed with a white down, which feels like cotton; the shafts of the primaries are yellowish white above, and those of the tail brown, both pure white below; the plumage of the neck, back, shoulders, scapulars, and secondaries, is glossed with green and bronze, and has purple reflections; the thighs are feathered to the knees; feet considerably webbed; middle toe three inches and a half in length, and about an inch and a half longer than the outer one, which is the next longest; the sole of the foot is hard and rough; claws dark horn colour; the legs are of a pale flesh colour, and three inches long. The claws are larger, but the feet slenderer than those of the carrion crow. The bill of the male is pure white; in some specimens the upper mandible is tipped with black.

There is little or no other perceptible difference between the sexes.

The bird from which the foregoing description was taken, was shot for this work, at Great Egg Harbour, on the 30th of January. It was a female, in perfect plumage, excessively fat, and weighed five pounds one ounce, avoirdupois. On dissection, it emitted a slight musky odour.

The vulture is included in the catalogue of those fowls declared unclean and an abomination by the Levitical law, and which the Israelites were interdicted eating.* We presume that this prohibition was religiously observed, so far at least as it related to the vulture, from whose flesh there arises such an unsavoury odour, that we question if all the sweetening processes ever invented could render it palatable to Jew, Pagan, or Christian.

Since the above has been ready for the press, we have seen the History of the Expedition under the command of Louis and Clark, and find our conjecture with respect to the migration of the turkey buzzard verified, several of this species having been observed at Brant Island, near the Falls of the Columbia. †

2. *CATHARTES ATRATUS*.—*VULTUR ATRATUS*, WILSON.

BLACK VULTURE, OR CARRION CROW OF AMERICA.

WILSON, PL. LXXV. FIG. II. — EDINBURGH COLLEGE MUSEUM.

ALTHOUGH an account of this vulture was published more than twenty years ago, by Mr William Bartram, wherein it was distinctly specified as a different species from the preceding, yet it excites our surprise that the

* *Leviticus*, xi, 14. *Deuteronomy*, xiv, 13.

† *History of the Expedition*, vol. ii, p. 233.

ornithologists should have persisted in confounding it with the turkey buzzard; an error which can hardly admit of extenuation, when it is considered what a respectable authority they had for a different opinion.

The habits of this species are singular. In the towns and villages of the southern states, particularly Charleston and Georgetown, South Carolina, and in Savannah, Georgia, the carrion crows may be seen either sauntering about the streets; sunning themselves on the roofs of the houses, and the fences; or, if the weather be cold, cowering around the tops of the chimneys, to enjoy the benefit of the heat, which to them is a peculiar gratification. They are protected by a law, or usage; and may be said to be completely domesticated, being as common as the domestic poultry, and equally familiar. The inhabitants generally are disgusted with their filthy, voracious habits; but notwithstanding, being viewed as contributive to the removal of the dead animal matter, which, if permitted to putrify during the hot season, would render the atmosphere impure, they have a respect paid them as scavengers, whose labours are subservient to the public good. It sometimes happens, that, after having gorged themselves, these birds vomit down the chimneys, which must be intolerably disgusting, and must provoke the ill will of those whose hospitality is thus requited.

The black vultures are indolent, and may be observed in companies loitering for hours together in one place. They do not associate with the turkey buzzards; and are much darker in their plumage than the latter. Their mode of flight also varies from that of the turkey buzzard. The black vulture flaps its wings five or six times rapidly, then sails with them extended nearly horizontally; the turkey buzzard seldom flaps its wings, and when sailing, they form an angle with the body upwards. The latter, though found in the vicinity of towns, rarely ventures within them, and then always appearing cautious of the near approach of any one. It is not so impatient of cold as the former, and is

likewise less lazy. The black vulture, on the ground, hops along very awkwardly; the turkey buzzard, though seemingly inactive, moves with an even gait. The latter, unless pressed by hunger, will not eat of a carcass until it becomes putrid; the former is not so fastidious, but devours animal food without distinction.

It is said that the black vultures sometimes attack young pigs, and eat off their ears and tails; and we have even heard stories of their assaulting feeble calves and picking out their eyes. But these instances are rare: if otherwise, they would not receive that countenance or protection which is so universally extended to them, in the states of South Carolina and Georgia, where they abound.

“This undescribed species,” says Mr Bartram, “is a native of the maritime parts of Georgia and of the Floridas, where they are called carrion crows. They flock together, and feed upon carrion, but do not mix with the turkey buzzard, (*vultur aura*.) Their wings are broad, and round at their extremities. Their tail, which they spread like a fan when on the wing, is remarkably short. They have a heavy, laborious flight, flapping their wings, and sailing alternately. The whole plumage is of a sable, or mourning colour.”*

In one of Mr Wilson’s journals, I find an interesting detail of the greedy and disgusting habits of this species; and shall give the passage entire, in the same unadorned manner in which it is written.

“February 21, 1809.—Went out to Hampstead † this forenoon. A horse had dropped down in the street, in convulsions; and dying, it was dragged out to Hampstead, and skinned. The ground, for a hundred yards around it, was black with carrion crows; many sat on the tops of sheds, fences, and houses within sight; sixty or eighty on the opposite side of a small run. I counted at one time two hundred and thirty-seven, but I believe

* MS. in the possession of Mr Ord.

† Near Charleston, South Carolina

there were more, besides several in the air over my head, and at a distance. I ventured cautiously within thirty yards of the carcass, where three or four dogs, and twenty or thirty vultures, were busily tearing and devouring. Seeing them take no notice, I ventured nearer, till I was within ten yards, and sat down on the bank. Still they paid little attention to me. The dogs being sometimes accidentally flapped with the wings of the vultures, would growl and snap at them, which would occasion them to spring up for a moment, but they immediately gathered in again. I remarked the vultures frequently attack each other, fighting with their claws or heels, striking like a cock, with open wings, and fixing their claws in each other's head. The females, and, I believe, the males likewise, made a hissing sound, with open mouth, exactly resembling that produced by thrusting a red hot poker into water; and frequently a snuffing, like a dog clearing his nostrils, as I suppose they were theirs. On observing that they did not heed me, I stole so close that my feet were within one yard of the horse's legs, and again sat down. They all slid aloof a few feet; but, seeing me quiet, they soon returned as before. As they were often disturbed by the dogs, I ordered the latter home: my voice gave no alarm to the vultures. As soon as the dogs departed, the vultures crowded in such numbers, that I counted at one time thirty-seven on and around the carcass, with several within; so that scarcely an inch of it was visible. Sometimes one would come out with a large piece of the entrails, which in a moment was surrounded by several others, who tore it in fragments, and it soon disappeared. They kept up the hissing occasionally. Some of them having their whole legs and heads covered with blood, presented a most savage aspect. Still as the dogs advanced, I would order them away, which seemed to gratify the vultures; and one would pursue another to within a foot or two of the spot where I was sitting. Sometimes I observed them stretching their necks along the ground, as if to press the food downwards."

The carrion crow is seldom found on the Atlantic,

to the northward of Newbern, North Carolina,* but inhabits the whole continent, to the southward, as far as Cape Horn. Don Ulloa, in noticing the birds of Carthagen, gives an account of a vulture, which we shall quote, in order to establish the opinion, advanced in the preceding history, that it is the present species. We shall afterwards subjoin other testimony in confirmation of this opinion. With respect to the marvellous tale of their attacking the cattle in the pastures, it is too improbable to merit a serious refutation.

“ It would be too great an undertaking to describe all the extraordinary birds that inhabit this country ; but I cannot refrain from noticing that to which they give the name of *gallinazo*, from the resemblance it has to the turkeyhen. This bird is of the size of a peahen, but its head and neck are something larger. From the crop to the base of the bill it has no feathers : this space is surrounded with a wrinkled, glandulous, and rough skin, which forms numerous warts, and other similar inequalities. This skin is black, as is the plumage of the bird, but usually of a brownish black. The bill is well proportioned, strong, and a little hooked. These birds are familiar in Carthagen ; the tops of the houses are covered with them ; it is they which cleanse the city of all its animal impurities. There are few animals killed whereof they do not obtain the offals ; and when this food is wanting, they have recourse to other filth. Their sense of smelling is so acute, that it enables them to trace carrion at the distance of three or four leagues, which they do not abandon until there remains nothing but the skeleton.

“ The great number of these birds found in such hot climates, is an excellent provision of nature ; as, otherwise, the putrefaction caused by the constant and excessive heat, would render the air insupportable to human life. When first they take wing, they fly heavily ; but

* Since writing the above, I have been informed by a gentleman who resides at Detroit, on Lake Erie, that the carrion crow is common at that place.

afterwards, they rise so high as to be entirely invisible. On the ground they walk sluggishly. Their legs are well proportioned; they have three toes forward, turning inwards, and one in the inside, inclining a little backwards, so that, the feet interfering, they cannot walk with any agility, but are obliged to hop: each toe is furnished with a long and stout claw.

“ When the gallinazos are deprived of carrion, or food in the city, they are driven by hunger among the cattle of the pastures. If they see a beast with a sore on the back, they alight on it, and attack the part affected; and it avails not that the poor animal *throws itself upon the ground*, and endeavours to intimidate them by its bellowing: *they do not quit their hold!* and by means of their bill they so soon enlarge the wound, that the animal finally becomes their prey.”*

The account, from the same author, of the beneficial effects resulting from the fondness of the vultures for the eggs of the alligator, merits attention:—

“ The gallinazos are the most inveterate enemies of the alligators, or rather they are extremely fond of their eggs, and employ much stratagem to obtain them. During the summer, these birds make it their business to watch the female alligators; for it is in that season that they deposit their eggs in the sand of the shores of the rivers, which are not then overflowed. The gallinazo conceals itself among the branches and leaves of a tree, so as to be unperceived by the alligator; and permits the eggs quietly to be laid, not even interrupting the precautions that she takes to conceal them. But she is no sooner under the water, than the gallinazo darts upon the nest; and, with its bill, claws, and wings, uncovers the eggs, and gobbles them down, leaving nothing but the shells. This banquet would, indeed, richly reward its patience, did not a multitude of gallinazos join the fortunate discoverer, and share in the spoil.

* *Voyage Historique de L’Amerique Meridionale*, par Don George Juan et Don Antoine de Ulloa, liv. i, chap. viii, p. 52. A Amsterdam et à Leipzig, 1752, 4to.

“ How admirable the wisdom of that Providence, which hath given to the male alligator an inclination to devour its own offspring; and to the gallinazo a taste for the eggs of the female! Indeed, neither the rivers, nor the neighbouring fields, would otherwise be sufficient to contain the multitudes that are hatched; for, notwithstanding the ravages of both these insatiable enemies, one can hardly imagine the numbers that remain.”*

The Abbé Clavigero, in his *History of Mexico*, has clearly indicated the present species, as distinguished from the turkey buzzard:—

“ The business of clearing the fields of Mexico, is reserved principally for the *zopilots*, known in South America by the name of *gallinazzi*; in other places, by that of *aure*; and in some places, though very improperly, by that of *ravens*. There are two very different species of these birds: the one, the *zopilot*, properly so called; the other called the *cozcaquauhtli*: they are both bigger than the raven. These two species resemble each other in their hooked bill and crooked claws, and by having upon their head, instead of feathers, a wrinkled membrane with some curling hairs. They fly so high, that, although they are pretty large, they are lost to the sight; and especially before a hail storm they will be seen wheeling, in vast numbers, under the loftiest clouds, till they entirely disappear. They feed upon carrion, which they discover, by the acuteness of their sight and smell, from the greatest height, and descend upon it with a majestic flight, in a great spiral course. They are both almost mute. The two species are distinguished, however, by their size, their colour, their numbers, and some other peculiarities. The *zopilots*, properly so called, have black feathers, with a brown head, bill, and feet; they go often in flocks, and roost together upon trees. This species is very numerous, and is to be found in all the different climates; while, on the contrary, the *cozcaquauhtli* is

* Liv. iv, chap. ix, p. 172.

far from numerous, and is peculiar to the warmer climates alone.* The latter bird is larger than the zopilote, has a red head and feet, with a beak of a deep red colour, except towards its extremity, which is white. Its feathers are brown, except upon the neck and parts about the breast, which are of a reddish black. The wings are of an ash colour upon the inside, and, upon the outside, are variegated with black and tawny.

“The *cozcaquauhtli* is called by the Mexicans, *king of the zopilotes*; † and they say, that, when these two species happen to meet together about the same carrion, the zopilote never begins to eat till the *cozcaquauhtli* has tasted it. The zopilote is a most useful bird to that country, for it not only clears the fields, but attends the crocodiles, and destroys the eggs which the females of those dreadful amphibious animals leave in the sand to be hatched by the heat of the sun. The destruction of such a bird ought to be prohibited under severe penalties.” ‡

We are almost afraid of trespassing upon the patience of the reader by the length of our quotations; but as we are very anxious that the subject of this article should enjoy that right to which it is fairly entitled, of being ranked as an independent species, we are tempted to add one testimony more, which we find in the *History of Chili*, by the Abbé Molina.

“The *jota* (*vultur jota*) resembles much the *aura*, a species of vulture, of which there is, perhaps, but one variety. It is distinguished, however, by the beak, which is gray, with a black point. Notwithstanding the size of this bird, which is nearly that of the turkey, and its strong and crooked talons, it attacks no other, but feeds principally upon carcasses and reptiles. It is

* This is a mistake.

† This is the *vultur aura*. The bird which now goes by the name of *king of the zopilotes*, in New Spain, is the *vultur papa* Linnaeus.

‡ Clavigero's *Mexico*, translated by Cullen, vol. i, p. 47. London.

extremely indolent, and will frequently remain, for a long time, almost motionless, with its wings extended, sunning itself upon the rocks, or the roofs of the houses. When in pain, which is the only time that it is known to make any noise, it utters a sharp cry like that of a rat; and usually disgorges what it has eaten. The flesh of this bird emits a fetid smell that is highly offensive. The manner in which it builds its nest, is perfectly correspondent to its natural indolence: it carelessly places between rocks, or even upon the ground, a few dry leaves or feathers, upon which it lays two eggs of a dirty white.”*

The black vulture is twenty-six inches in length, and four feet four inches in extent; the bill is two inches and a half long, of a dark horn colour as far as near an inch; the remainder, the head, and a part of the neck, are covered with a black, wrinkled, caruncled skin, beset with short black hairs, and downy behind; nostril, an oblong slit; irides, reddish hazel; the throat is dashed with yellow ochre; the general colour of the plumage is of a dull black, except the primaries, which are whitish on the inside, and have four of their broadened edges below of a drab, or dark cream colour, extending two inches, which is seen only when the wing is unfolded; the shafts of the feathers white on both sides; the rest of the wing feathers dark on both sides; the wings, when folded, are about the length of the tail, the fifth feather being the longest; the secondaries are two inches shorter than the tail, which is slightly forked; the exterior feathers three quarters of an inch longer than the rest; the legs are limy, three inches and a half in length, and, with the feet, are thick and strong; the middle toe is four inches long, side toes, two inches, and considerably webbed, inner toe rather the shortest; claws strong, but not sharp, like those of the *falco* genus; middle claw three quarters of an inch long; the stomach is not lined with hair, as reported. When opened, this bird smells strongly of musk.

* Hist. Chili, Am. trans. i, p. 185.

Mr Abbot informs me, that the carrion crow builds its nest in the large trees of the low wet swamps, to which places they retire every evening to roost. "They frequent," says he, "that part of the town of Savannah, where the hog-butchers reside, and walk about the streets, in great numbers, like domestic fowls. It is diverting to see, when the entrails and offals of the hogs are thrown to them, with what greediness they scramble for the food, seizing upon it, and pulling one against another until the strongest prevails. The turkey buzzard is accused of killing young lambs and pigs, by picking out their eyes; but I believe that the carrion crow is not guilty of the like practices. The two species do not associate."

FAMILY II.

RAPACES.

GENUS II. — *FALCO*, LINNÆUS.

SUBGENUS I. — *AQUILA*, BRISSON.

3. *FALCO FULVUS*, LINNÆUS — RING-TAIL EAGLE, WILSON.*

WILSON, PL. LV. FIG. I. — EDINBURGH COLLEGE MUSEUM.

THIS noble bird, in strength, spirit, and activity, ranks among the first of its tribe. It is found, though sparingly dispersed, over the whole temperate and arctic regions, particularly the latter; breeding on high precipitous rocks, always preferring a mountainous country. In its general appearance, it has great resemblance to the golden eagle, from which, however, it differs in being rather less, as also in the colours and markings of the tail, and, as it is said, in being less noisy. When young, the colour of the body is considerably lighter, but deepens into a blackish brown as it advances in age.

The tail feathers of this bird are highly valued by the various tribes of American Indians, for ornamenting their calumets, or pipes of peace. Several of these pipes, which were brought from the remote regions of Louisiana, by Captain Lewis, are now deposited in Mr Peale's Museum, each of which has a number of the tail feathers of this bird attached to it. The northern, as well as southern Indians, seem to follow the like practice, as appears by the numerous calumets, formerly belonging to different tribes, to be seen in the same magnificent collection.

Mr Pennant informs us, that the independent Tartars

* Is the young of the golden eagle.

train this eagle for the chase of hares, foxes, wolves, antelopes, &c. and that they esteem the feathers of the tail the best for pluming their arrows. The ring-tail eagle is characterized by all as a generous spirited and docile bird; and various extraordinary incidents are related of it by different writers, not, however, sufficiently authenticated to deserve repetition. The truth is, the solitary habits of the eagle now before us, the vast inaccessible cliffs to which it usually retires, united with the scarcity of the species in those regions inhabited by man, all combine to render a particular knowledge of its manners very difficult to be obtained. The author has, once or twice, observed this bird sailing along the alpine declivities of the white mountains of New Hampshire, early in October, and again, over the highlands of Hudson's River, not far from West Point. Its flight was easy, in high circuitous sweeps; its broad white tail, tipped with brown, expanded like a fan. Near the settlements on Hudson's Bay, it is more common, and is said to prey on hares, and the various species of grouse which abound there. Buffon observes, that, though other eagles also prey upon hares, this species is a more fatal enemy to those timid animals, which are the constant object of their search, and the prey which they prefer. The Latins, after Pliny, termed the eagle *valeria quasi valens viribus*, because of its strength, which appears greater than that of the other eagles in proportion to its size.

The ring-tail eagle measures nearly three feet in length; the bill is of a brownish horn colour; the cere, sides of the mouth, and feet, yellow; iris of the eye, reddish hazel, the eye turned considerably forwards; eyebrow remarkably prominent, projecting over the eye, and giving a peculiar sternness to the aspect of the bird; the crown is flat; the plumage of the head, throat, and neck, long and pointed; that on the upper part of the head and neck, very pale ferruginous; fore part of the crown, black; all the pointed feathers are shafted with black; whole upper parts, dark blackish brown; wings, black; tail, rounded, long, of a white, or pale

cream colour, minutely sprinkled with specks of ash, and dusky, and ending in a broad band of deep dark brown, of nearly one-third its length; chin, cheeks, and throat, black; whole lower parts, a deep dark brown, except the vent and inside of the thighs, which are white, stained with brown; legs thickly covered to the feet with brownish white down, or feathers; claws, black, very large, sharp, and formidable, the hind one full two inches long.

The ring-tail eagle is found in Russia, Switzerland, Germany, France, Scotland, and the northern parts of America. As Marco Polo, in his description of the customs of the Tartars, seems to allude to this species, it may be said to inhabit the whole circuit of the arctic regions of the globe. The golden eagle, on the contrary is said to be found only in the more warm and temperate countries of the ancient continent. Later discoveries, however, have ascertained it to be also an inhabitant of the United States.

SUBGENUS II. — *HALIETOS*, SAVIGNY.

4. *FALCO LEUCOCEPHALUS*, LINN.—WHITE-HEADED, OR BALD EAGLE,* WILSON.

WILSON, PLATE XXXVI.† — EDINBURGH COLLEGE MUSEUM.

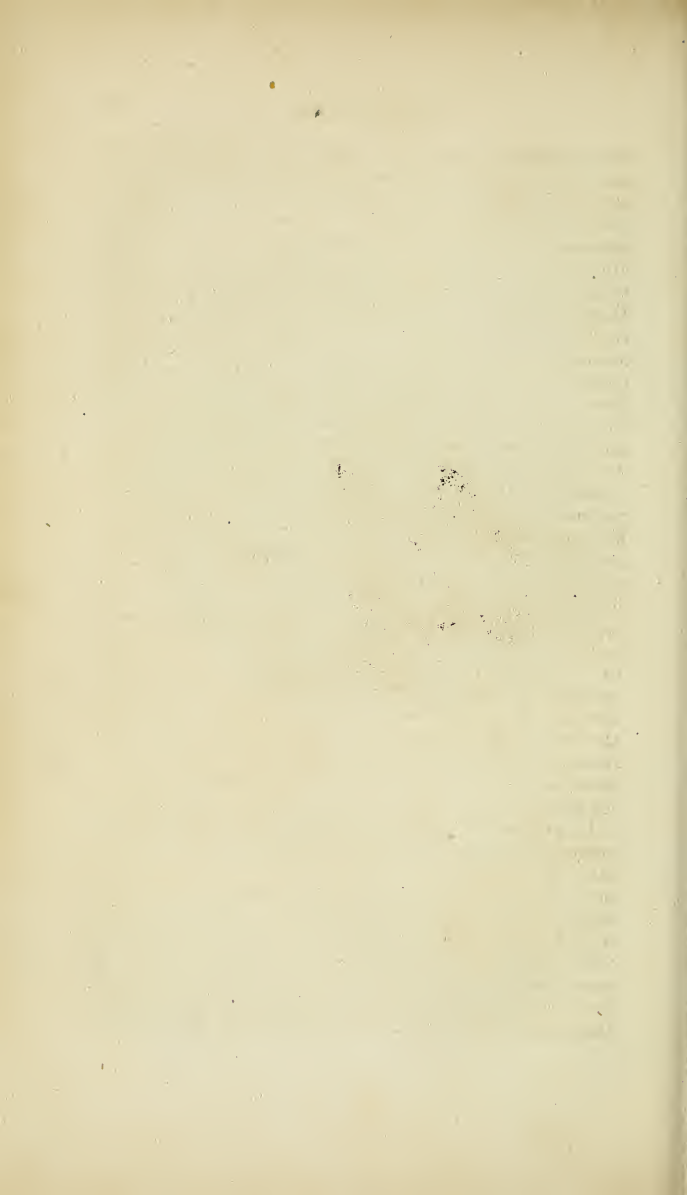
THIS distinguished bird, as he is the most beautiful of his tribe in this part of the world, and the adopted emblem of our country, is entitled to particular notice.

* The epithet *bald*, applied to this species, whose head is thickly covered with feathers, is equally improper and absurd with the titles goatsucker, kingsfisher, &c. bestowed on others; and seems to have been occasioned by the white appearance of the head, when contrasted with the dark colour of the rest of the plumage. The appellation, however, being now almost universal, is retained in the following pages.

† This plate represents the adult bird.



THE BALD EAGLE.



The celebrated Cataract of Niagara is a noted place of resort for the bald eagle, as well on account of the fish procured there, as for the numerous carcasses of squirrels, deer, bears, and various other animals, that, in their attempts to cross the river above the Falls, have been dragged into the current, and precipitated down that tremendous gulf, where, among the rocks that bound the Rapids below, they furnish a rich repast for the vulture, the raven, and the bald eagle, the subject of the present account. He has been long known to naturalists, being common to both continents, and occasionally met with from a very high northern latitude, to the borders of the torrid zone, but chiefly in the vicinity of the sea, and along the shores and cliffs of our lakes and large rivers. Formed by nature for braving the severest cold; feeding equally on the produce of the sea, and of the land; possessing powers of flight capable of outstripping even the tempests themselves; unawed by any thing but man; and, from the ethereal heights to which he soars, looking abroad, at one glance, on an immeasurable expanse of forests, fields, lakes, and ocean, deep below him, he appears indifferent to the little localities of change of seasons; as, in a few minutes, he can pass from summer to winter, from the lower to the higher regions of the atmosphere, the abode of eternal cold, and from thence descend, at will, to the torrid, or the arctic regions of the earth. He is, therefore, found at all seasons, in the countries he inhabits; but prefers such places as have been mentioned above, from the great partiality he has for fish.

In procuring these, he displays, in a very singular manner, the genius and energy of his character, which is fierce, contemplative, daring, and tyrannical; attributes not exerted but on particular occasions, but, when put forth, overpowering all opposition. Elevated on the high dead limb of some gigantic tree that commands a wide view of the neighbouring shore and ocean, he seems calmly to contemplate the motions of the various feathered tribes that pursue their busy avocations below; the snow-white gulls slowly winnowing the air; the

busy *tringæ* coursing along the sands ; trains of ducks streaming over the surface ; silent and watchful cranes, intent and wading ; clamorous crows ; and all the winged multitudes that subsist by the bounty of this vast liquid magazine of nature. High over all these hovers one, whose action instantly arrests his whole attention. By his wide curvature of wing, and sudden suspension in air, he knows him to be the fish hawk, settling over some devoted victim of the deep. His eye kindles at the sight, and, balancing himself, with half opened wings, on the branch, he watches the result. Down, rapid as an arrow from heaven, descends the distant object of his attention, the roar of its wings reaching the ear as it disappears in the deep, making the surges foam around ! At this moment, the eager looks of the eagle are all ardour ; and, levelling his neck for flight, he sees the fish hawk once more emerge, struggling with his prey, and mounting in the air with screams of exultation. These are the signal for our hero, who, lanching into the air, instantly gives chase, and soon gains on the fish hawk ; each exerts his utmost to mount above the other, displaying in these rencontres the most elegant and sublime aerial evolutions. The unencumbered eagle rapidly advances, and is just on the point of reaching his opponent, when, with a sudden scream, probably of despair and honest execration, the latter drops his fish : the eagle, poising himself for a moment, as if to take a more certain aim, descends like a whirlwind, snatches it in his grasp ere it reaches the water, and bears his ill-gotten booty silently away to the woods.

These predatory attacks and defensive manœuvres of the eagle and the fish hawk, are matters of daily observation along the whole of our sea board, from Georgia to New England, and frequently excite great interest in the spectators. Sympathy, however, on this as on most other occasions, generally sides with the honest and laborious sufferer, in opposition to the attacks of power, injustice, and rapacity, qualities for which our hero is so generally notorious, and which, in his

superior, *man*, are certainly detestable. As for the feelings of the poor fish, they seem altogether out of the question.

When driven, as he sometimes is, by the combined courage and perseverance of the fish hawks from their neighbourhood, and forced to hunt for himself, he retires more inland, in search of young pigs, of which he destroys great numbers. In the lower parts of Virginia and North Carolina, where the inhabitants raise vast herds of those animals, complaints of this kind are very general against him. He also destroys young lambs in the early part of spring; and will sometimes attack old sickly sheep, aiming furiously at their eyes.

In corroboration of the remarks I have myself made on the manners of the bald eagle, many accounts have reached me from various persons of respectability, living on or near our sea coast: The substance of all these I shall endeavour to incorporate with the present account.

Mr John L. Gardiner, who resides on an island of three thousand acres, about three miles from the eastern point of Long Island, from which it is separated by Gardiner's Bay, and who has consequently many opportunities of observing the habits of these birds, has favoured me with a number of interesting particulars on this subject; for which I beg leave thus publicly to return my grateful acknowledgment.

"The bald eagles," says this gentleman, "remain on this island during the whole winter. They can be most easily discovered on evenings by their loud snoring while asleep on high oak trees; and, when awake, their hearing seems to be nearly as good as their sight. I think I mentioned to you, that I had myself seen one flying with a lamb ten days old, and which it dropped on the ground from about ten or twelve feet high. The struggling of the lamb, more than its weight, prevented its carrying it away. My running, hallooing, and being very near, might prevent its completing its design. It had broke the back in the act of seizing it; and I was under the necessity of killing it outright to prevent its misery. The lamb's dam seemed asto-

nished to see its innocent offspring borne off into the air by a bird.

“I was lately told,” continues Mr Gardiner, “by a man of truth, that he saw an eagle rob a hawk of its fish, and the hawk seemed so enraged as to fly down at the eagle, while the eagle very deliberately, in the air, threw himself partly over on his back, and, while he grasped with one foot the fish, extended the other to threaten or seize the hawk. I have known several hawks unite to attack the eagle; but never knew a single one to do it. The eagle seems to regard the hawks as the hawks do the king-birds, only as teasing, troublesome fellows.”

From the same intelligent and obliging friend, I lately received a well preserved skin of the bald eagle, which, from its appearance, and the note that accompanied it, seems to have belonged to a very formidable individual. “It was shot,” says Mr Gardiner, “last winter, on this island, and weighed thirteen pounds, measured three feet in length, and seven from tip to tip of the expanded wings; was extremely fierce looking; though wounded, would turn his back to no one; fastened his claws into the head of a dog, and was with difficulty disengaged. I have rode on horseback within five or six rods of one, who, by his bold demeanour, raising his feathers, &c. seemed willing to dispute the ground with its owner. The crop of the present was full of mutton, from my part blood Merinos; and his intestines contained feathers, which he probably devoured with a duck, or winter gull, as I observed an entire foot and leg of some water fowl. I had two killed previous to this, which weighed ten pounds avoirdupois each.”

The intrepidity of character, mentioned above, may be farther illustrated by the following fact, which occurred a few years ago, near Great Egg Harbour, New Jersey. A woman, who happened to be weeding in the garden, had set her child down near, to amuse itself while she was at work; when a sudden and extraordinary rushing sound, and a scream from her child, alarmed her, and, starting up, she beheld the infant thrown down, and dragged

some few feet, and a large bald eagle bearing off a fragment of its frock, which being the only part seized, and giving way, providentially saved the life of the infant.

The appetite of the bald eagle, though habituated to long fasting, is of the most voracious and often the most indelicate kind. Fish, when he can obtain them, are preferred to all other fare. Young lambs and pigs are dainty morsels, and made free with on all favourable occasions. Ducks, geese, gulls, and other sea fowl, are also seized with avidity. The most putrid carrion, when nothing better can be had, is acceptable; and the collected groups of gormandizing vultures, on the approach of this dignified personage, instantly disperse, and make way for their master, waiting his departure in sullen silence, and at a respectful distance, on the adjacent trees.

In one of those partial migrations of tree squirrels that sometimes take place in our western forests, many thousands of them were drowned in attempting to cross the Ohio; and at a certain place, not far from Wheeling, a prodigious number of their dead bodies were floated to the shore by an eddy. Here the vultures assembled in great force, and had regaled themselves for some time, when a bald eagle made his appearance, and took sole possession of the premises, keeping the whole vultures at their proper distance for several days. He has also been seen navigating the same river on a floating carrion, though scarcely raised above the surface of the water, and tugging at the carcass, regardless of snags, sawyers, planters, or shallows. He sometimes carries his tyranny to great extremes against the vultures. In hard times, when food happens to be scarce, should he accidentally meet with one of these who has its craw crammed with carrion, he attacks it fiercely in the air; the cowardly vulture instantly disgorges, and the delicious contents are snatched up by the eagle before they reach the ground.

The nest of this species is generally fixed on a very large and lofty tree, often in a swamp or morass, and difficult to be ascended. On some noted tree of this

description, often a pine or cypress, the bald eagle builds, year after year, for a long series of years. When both male and female have been shot from the nest, another pair has soon after taken possession. The nest is large, being added to and repaired every season, until it becomes a black prominent mass, observable at a considerable distance. It is formed of large sticks, sods, earthy rubbish, hay, moss, &c. Many have stated to me that the female lays first a single egg, and that, after having sat on it for some time, she lays another; when the first is hatched, the warmth of that, it is pretended, hatches the other. Whether this be correct or not, I cannot determine; but a very respectable gentleman of Virginia assured me, that he saw a large tree cut down, containing the nest of a bald eagle, in which were two young, one of which appeared nearly three times as large as the other. As a proof of their attachment to their young, a person near Norfolk informed me, that, in clearing a piece of wood on his place, they met with a large dead pine tree, on which was a bald eagle's nest and young. The tree being on fire more than half way up, and the flames rapidly ascending, the parent eagle darted around and among the flames, until her plumage was so much injured that it was with difficulty she could make her escape, and even then, she several times attempted to return to relieve her offspring.

No bird provides more abundantly for its young than the bald eagle. Fish are daily carried thither in numbers, so that they sometimes lie scattered round the tree, and the putrid smell of the nest may be distinguished at the distance of several hundred yards. The young are at first covered with a thick whitish or cream coloured cottony down; they gradually become of a gray colour as their plumage develops itself, continue of the brown gray until the third year, when the white begins to make its appearance on the head, neck, tail coverts, and tail; these by the end of the fourth year are completely white, or very slightly tinged with cream; the eye also is at first hazel, but gradually

brightens into a brilliant straw colour, with the white plumage of the head. Such at least was the gradual progress of this change, witnessed by myself, on a very fine specimen brought up by a gentleman, a friend of mine, who, for a considerable time, believed it to be what is usually called the gray eagle, and was much surprised at the gradual metamorphosis. This will account for the circumstance, so frequently observed, of the gray and white-headed eagle being seen together, both being, in fact, the same species, in different stages of colour, according to their difference of age.

The flight of the bald eagle, when taken into consideration with the ardour and energy of his character, is noble and interesting. Sometimes the human eye can just discern him, like a minute speck, moving in slow curvatures along the face of the heavens, as if reconnoitring the earth at that immense distance. Sometimes he glides along in a direct horizontal line, at a vast height, with expanded and unmoving wings, till he gradually disappears in the distant blue ether. Seen gliding in easy circles over the high shores and mountainous cliffs that tower above the Hudson and Susquehanna, he attracts the eye of the intelligent voyager, and adds great interest to the scenery. At the great Cataract of Niagara, already mentionéd, there rises from the gulf into which the Falls of the Horse-Shoe descends, a stupendous column of smoke, or spray, reaching to the heavens, and moving off in large black clouds, according to the direction of the wind, forming a very striking and majestic appearance. The eagles are here seen sailing about, sometimes losing themselves in this thick column, and again reappearing in another place, with such ease and elegance of motion, as renders the whole truly sublime.

High o'er the watery uproar, silent seen,
Sailing sedate in majesty serene,
Now midst the pillar'd spray sublimely lost,
And now, emerging, down the Rapids tost,
Glides the bald eagle, gazing, calm and slow,
O'er all the horrors of the scene below ;
Intent alone to sate himself with blood,
From the torn victims of the raging flood.

The white-headed eagle is three feet long, and seven feet in extent; the bill is of a rich yellow; cere the same, slightly tinged with green; mouth, flesh-coloured, tip of the tongue, bluish black; the head, chief part of the neck, vent, tail coverts, and tail, are white in the perfect, or old birds of both sexes,—in those under three years of age these parts are of a gray brown; the rest of the plumage is deep dark brown, each feather tipped with pale brown, lightest on the shoulder of the wing, and darkest towards its extremities. The conformation of the wing is admirably adapted for the support of so large a bird; it measures two feet in breadth on the greater quills, and sixteen inches on the lesser; the longest primaries are twenty inches in length, and upwards of one inch in circumference where they enter the skin; the broadest secondaries are three inches in breadth across the vane; the scapulars are very large and broad, spreading from the back to the wing, to prevent the air from passing through; another range of broad flat feathers, from three to ten inches in length, also extend from the lower part of the breast to the wing below, for the same purpose; between these lies a deep triangular cavity; the thighs are remarkably thick, strong, and muscular, covered with long feathers pointing backwards, usually called the femoral feathers; the legs, which are covered half way below the knee, before, with dark brown downy feathers, are of a rich yellow, the colour of ripe Indian corn; feet the same; claws, blue black, very large and strong, particularly the inner one, which is considerably the largest; soles, very rough and warty; the eye is sunk under a bony, or cartilaginous projection, of a pale yellow colour, and is turned considerably forwards, not standing parallel with the cheeks, the iris is of a bright straw colour, pupil black.

The male is generally two or three inches shorter than the female; the white on the head, neck, and tail being more tinged with yellowish, and its whole appearance less formidable; the brown plumage is also lighter, and the bird itself less daring than the female,—a circumstance common to almost all birds of prey.

The bird from which the foregoing description was taken, was shot near Great Egg Harbour, in the month of January. It was in excellent order, and weighed about eleven pounds. Dr Samuel B. Smith, of this city, obliged me with a minute and careful dissection of it; from whose copious and very interesting notes on the subject I shall extract such remarks as are suited to the general reader.

“ The eagle you sent me for dissection was a beautiful female. It had two expansions of the gullet. The first principally composed of longitudinal bundles of fibre, in which (as the bird is ravenous and without teeth) large portions of unmasticated meats are suffered to dissolve before they pass to the lower or proper stomach, which is membranous. I did not receive the bird time enough to ascertain whether any chilification was effected by the juices from the vessels of this enlargement of the œsophagus. I think it probable, that it also has a regurgitating, or vomiting power, as the bird constantly swallows large quantities of indigestible substances, such as quills, hairs, &c. In this sac of the eagle, I found the quill feathers of the small white gull; and in the true stomach, the tail and some of the breast feathers of the same bird, and the dorsal vertebræ of a large fish. This excited some surprise, until you made me acquainted with the fact of its watching the fish hawks, and robbing them of their prey. Thus we see, throughout the whole empire of animal life, power is almost always in a state of hostility to justice; and of the Deity only can it truly be said, that *justice* is commensurate with *power*!

“ The eagle has the several auxiliaries to digestion and assimilation in common with man. The liver was unusually large in your specimen. It secretes bile, which stimulates the intestines, prepares the chyle for blood, and by this very secretion of bile, (as it is a deeply respiring animal,) separates or removes some obnoxious principles from the blood. (See Dr Rush’s admirable lecture on this important viscus in the human subject.) The intestines were also large, long, convolute,

and supplied with numerous lacteal vessels, which differ little from those of men, except in colour, which was transparent. The kidneys were large, and seated on each side the vertebræ, near the anus. They are also destined to secrete some offensive principles from the blood.

“ The eggs were small and numerous; and, after a careful examination, I concluded that no sensible increase takes place in them till the *particular* season. This may account for the unusual excitement which prevails in these birds in the sexual intercourse. Why there are so many eggs, is a mystery. It is, perhaps, consistent with natural law, that every thing should be abundant; but, from this bird, it is said, no more than two young are hatched in a season, consequently, no more eggs are wanted than a sufficiency to produce that effect. Are the eggs numbered originally, and is there no increase of number, but a gradual loss, till all are deposited? If so, the number may correspond to the long life and vigorous health of this noble bird. Why there is but two young in a season, is easily explained. Nature has been studiously parsimonious of her physical strength, from whence the tribes of animals incapable to resist, derive security and confidence.”

The eagle is said to live to a great age—sixty, eighty, and, as some assert, one hundred years. This circumstance is remarkable, when we consider the seeming intemperate habits of the bird. Sometimes fasting, through necessity, for several days, and at other times gorging itself with animal food till its craw swells out the plumage of that part, forming a large protuberance on the breast. This, however, is its natural food, and for these habits its whole organization is particularly adapted. It has not, like men, invented rich wines, ardent spirits, and a thousand artificial poisons, in the form of soups, sauces, and sweetmeats. Its food is simple, it indulges freely, uses great exercise, breathes the purest air, is healthy, vigorous, and long lived. The lords of the creation themselves might derive some useful hints from these facts, were they not already,

in general, too wise, or too proud, to learn from their *inferiors*, the fowls of the air and beasts of the field.

5. *FALCO OSSIFRAGUS*, WILSON.*—SEA EAGLE.

WILSON, PLATE LV. FIG. II.—EDINBURGH COLLEGE MUSEUM.

THIS eagle inhabits the same countries, frequents the same situations, and lives on the same kind of food, as the bald eagle, with whom it is often seen in company. It resembles this last so much in figure, size, form of the bill, legs, and claws, and is so often seen associating with it, both along the Atlantic coast and in the vicinity of our lakes and large rivers, that I have strong suspicions, notwithstanding ancient and very respectable authorities to the contrary, of its being the same species, only in a different stage of colour.

That several years elapse before the young of the bald eagle receive the white head, neck, and tail; and that, during the intermediate period, their plumage strongly resembles that of the sea eagle, I am satisfied from my own observation on three several birds, kept by persons of Philadelphia. One of these, belonging to the late Mr Enslen, collector of natural subjects for the Emperor of Austria, was confidently believed by him to be the black, or sea eagle, until the fourth year, when the plumage on the head, tail, and tail-coverts, began gradually to become white; the bill also exchanged its dusky hue for that of yellow; and, before its death, this bird, which I frequently examined, assumed the perfect dress of the full-plumaged bald eagle. Another

* This is the young of the *falco leucocephalus*, or white-headed eagle, not the young of the *falco albicilla*, or cinereous eagle, which is the sea eagle of Britain.—*Editor*.

circumstance, corroborating these suspicions, is the variety that occurs in the colours of the sea eagle. Scarcely two of these are found to be alike, their plumage being more or less diluted with white. In some, the chin, breast, and tail-coverts, are of a deep brown; in others nearly white; and in all, evidently unfixed and varying to a pure white. Their place and manner of building, on high trees, in the neighbourhood of lakes, large rivers, or the ocean, exactly similar to the bald eagle, also strengthens the belief. At the celebrated Cataract of Niagara, great numbers of these birds, called there gray eagles, are continually seen sailing high and majestically over the watery tumult; in company with the bald eagles, eagerly watching for the mangled carcasses of those animals that have been hurried over the precipice, and cast up on the rocks below, by the violence of the Rapids. These are some of the circumstances on which my suspicions of the identity of those two birds are founded. In some future part of the work, I hope to be able to speak with more certainty on this subject.

Were we disposed, after the manner of some, to substitute, for plain matters of fact, all the narratives, conjectures, and fanciful theories of travellers, voyagers, compilers, &c. relative to the history of the eagle, the volumes of these writers, from Aristotle down to his admirer, the Count de Buffon, would furnish abundant materials for this purpose. But the author of the present work feels no ambition to excite surprise and astonishment at the expense of truth, or to attempt to elevate and embellish his subject beyond the plain realities of nature. On this account, he cannot assent to the assertion, however eloquently made, in the celebrated parallel drawn by the French naturalist, between the lion and the eagle, viz. that the eagle, like the lion, "disdains the possession of that property which is not the fruit of his own industry, and rejects, with contempt, the prey which is not procured by his own exertions;" since the very reverse of this is the case, in the conduct of the bald and the sea eagle, who, during the summer

months, are the constant robbers and plunderers of the osprey, or fish-hawk, by whose industry alone both are usually fed. Nor that, “*though famished for want of prey, he disdains to feed on carrion,*” since we have ourselves seen the bald eagle, while seated on the dead carcass of a horse, keep a whole flock of vultures at a respectful distance, until he had fully sated his own appetite. The Count has also taken great pains to expose the ridiculous opinion of Pliny, who conceived that the ospreys formed no separate race, and that they proceeded from the intermixture of different species of eagles, the young of which were not ospreys, only sea eagles; “*which sea eagles,*” says he, “*breed small vultures, which engender great vultures, that have not the power of propagation.*” * But, while labouring to confute these absurdities, the Count himself, in his belief of an occasional intercourse between the osprey and the sea eagle, contradicts all actual observation, and one of the most common and fixed laws of nature; for it may be safely asserted, that there is no habit more universal among the feathered race, in their natural state, than that chastity of attachment, which confines the amours of individuals to those of their own species only. That perversion of nature, produced by domestication, is nothing to the purpose. In no instance have I ever observed the slightest appearance of a contrary conduct. Even in those birds which never build a nest for themselves, nor hatch their young, nor even pair, but live in a state of general concubinage,—such as the cuckoo of the old, and the cow bunting of the new continent,—there is no instance of a deviation from this striking habit. I cannot, therefore, avoid considering the opinion above alluded to, that “the male osprey, by coupling with the female sea eagle, produces sea eagles; and that the female osprey, by pairing with the male sea eagle, gives birth to ospreys,” † or fish-hawks, as altogether unsupported by facts, and contradicted by the

* *Hist. Nat.* lib. x, c. 3.

† Buffon, vol. I. p. 80, *Trans.*

constant and universal habits of the whole feathered race, in their state of nature.

The sea eagle is said, by Salerne, to build, on the loftiest oaks, a very broad nest, into which it drops two large eggs, that are quite round, exceedingly heavy, and of a dirty white colour. Of the precise time of building, we have no account; but something may be deduced from the following circumstance:—In the month of May, while on a shooting excursion along the sea coast, not far from Great Egg Harbour, accompanied by my friend Mr Ord, we were conducted about a mile into the woods to see an eagle's nest. On approaching within a short distance of the place, the bird was perceived slowly retreating from the nest, which, we found, occupied the centre of the top of a very large yellow pine. The woods were cut down, and cleared off, for several rods around the spot, which, from this circumstance, and the stately, erect trunk, and large crooked, wriggling branches of the tree, surmounted by a black mass of sticks and brush, had a very singular and picturesque effect. Our conductor had brought an axe with him, to cut down the tree; but my companion, anxious to save the eggs, or young, insisted on ascending to the nest, which he fearlessly performed, while we stationed ourselves below, ready to defend him, in case of an attack from the old eagles. No opposition, however, was offered; and, on reaching the nest, it was found, to our disappointment, empty. It was built of large sticks, some of them several feet in length; within which lay sods of earth, sedge, grass, dry reeds, &c. piled to the height of five or six feet, by more than four in breadth. It was well lined with fresh pine tops, and had little or no concavity. Under this lining lay the recent exuviae of the young of the present year, such as scales of the quill feathers, down, &c. Our guide had passed this place late in February, at which time both male and female were making a great noise about the nest; and, from what we afterwards learnt, it is highly probable it contained young, even at that early time of the season.

A few miles from this, is another eagle's nest, built also on a pine tree, which, from the information received from the proprietor of the woods, had been long the residence of this family of eagles. The tree on which the nest was originally built, had been, for time immemorial, or at least ever since he remembered, inhabited by these eagles. Some of his sons cut down this tree to procure the young, which were two in number; and the eagles, soon after, commenced building another nest, on the very next adjoining tree, thus exhibiting a very particular attachment to the spot. The eagles, he says, make it a kind of *home* and *lodging place*, in all seasons. This man asserts, that the gray, or sea eagles, are the young of the bald eagle, and that they are several years old before they begin to breed. It does not drive its young from the nest like the osprey, or fish-hawk, but continues to feed them long after they leave it.

The specimen from which this description was taken measured three feet in length and upwards of seven feet in extent. The bill was formed exactly like that of the bald eagle, but of a dusky brown colour; cere and legs, bright yellow; the latter, as in the bald eagle, feathered a little below the knee; irides, a bright straw colour; head above, neck and back, streaked with light brown, deep brown, and white, the plumage being white, tipped and centered with brown; scapulars, brown; lesser wing-coverts, very pale, intermixed with white; primaries, black, their shafts brownish white; rump, pale brownish white; tail, rounded, somewhat longer than the wings, when shut, brown on the exterior vanes, the inner ones white, sprinkled with dirty brown; throat, breast, and belly, white, dashed and streaked with different tints of brown and pale yellow; vent, brown, tipped with white; femorals, dark brown, tipped with lighter; auriculars, brown, forming a bar from below the eye backwards; plumage of the neck, long, narrow, and pointed, as is usual with eagles, and of a brownish colour, tipped with white.

The sea eagle is said, by various authors, to hunt at night, as well as during the day, and that, besides fish,

it feeds on chickens, birds, hares, and other animals. It is also said to catch fish during the night; and that the noise of its plunging into the water is heard at a great distance. But, in the descriptions of these writers, this bird has been so frequently confounded with the osprey, as to leave little doubt that the habits and manners of the one have been often attributed to both; and others added that are common to neither.

SUBGENUS III.—*PANDION*, SAVIGNY.

6. *FALCO HALIÆTUS*, LINN.—FISH-HAWK, OR OSPREY, WILSON.*

WILSON, PL. XXXVII. FIG. I.—EDINBURGH COLLEGE MUSEUM.

THIS formidable, vigorous-winged, and well known bird, subsists altogether on the finny tribes that swarm in our bays, creeks, and rivers; procuring his prey by his own active skill and industry; and seeming no farther dependent on the land than as a mere resting place, or, in the usual season, a spot of deposit for his nest, eggs, and young.

The fish-hawk is migratory, arriving on the coasts of New York and New Jersey about the twenty-first of March, and retiring to the south about the twenty-second of September. Heavy equinoctial storms may vary these periods of arrival and departure a few days; but long observation has ascertained, that they are kept with remarkable regularity. On the arrival of these birds in the northern parts of the United States, in March, they sometimes find the bays and ponds frozen, and experience a difficulty in procuring fish for many days. Yet there is no instance on record of their attacking birds, or inferior land animals, with intent

* It is also a European species.

to feed on them; though their great strength of flight, as well as of feet and claws, would seem to render this no difficult matter. But they no sooner arrive, than they wage war on the bald eagles, as against a horde of robbers and banditti; sometimes succeeding, by force of numbers and perseverance, in driving them from their haunts, but seldom or never attacking them in single combat.

The first appearance of the fish-hawk in spring, is welcomed by the fishermen, as the happy signal of the approach of those vast shoals of herring, shad, &c. that regularly arrive on our coasts, and enter our rivers in such prodigious multitudes. Two of a trade, it is said, seldom agree; the adage, however, will not hold good in the present case, for such is the respect paid the fish-hawk, not only by this class of men, but, generally, by the whole neighbourhood where it resides, that a person who should attempt to shoot one of them, would stand a fair chance of being insulted. This prepossession in favour of the fish-hawk is honourable to their feelings. They associate, with its first appearance, ideas of plenty, and all the gaiety of business; they see it active and industrious like themselves; inoffensive to the productions of their farms; building with confidence, and without the least disposition to concealment, in the middle of their fields, and along their fences; and returning, year after year, regularly to its former abode.

The nest of the fish-hawk is usually built on the top of a dead, or decaying tree, sometimes not more than fifteen, often upwards of fifty feet, from the ground. It has been remarked by the people of the sea coasts, that the most thriving tree will die in a few years after being taken possession of by the fish-hawk. This is attributed to the fish-oil, and to the excrements of the bird; but is more probably occasioned by the large heap of wet salt materials of which the nest is usually composed. In my late excursions to the sea shore, I ascended to several of these nests that had been built

in from year to year, and found them constructed as follows:—Externally, large sticks, from half an inch to an inch and a half in diameter, and two or three feet in length, piled to the height of four or five feet, and from two to three feet in breadth; these were intermixed with corn stalks, sea-weed, pieces of wet turf, in large quantities, mullein stalks, and lined with dry sea-grass; the whole forming a mass very observable at half a mile's distance, and large enough to fill a cart, and form no inconsiderable load for a horse. These materials are so well put together, as often to adhere, in large fragments, after being blown down by the wind. My learned and obliging correspondent of New York, Dr Samuel L. Mitchill, observes, that "A sort of superstition is entertained in regard to the fish-hawk. It has been considered a fortunate incident to have a nest, and a pair of these birds, on one's farm. They have, therefore, been generally respected; and neither the axe nor the gun has been lifted against them. Their nest continues from year to year. The same couple, or another, as the case may be, occupies it, season after season. Repairs are duly made, or, when demolished by storms, it is industriously rebuilt. There was one of these nests, formerly, upon the leafless summit of a venerable chestnut tree on our farm, directly in front of the house, at the distance of less than half a mile. The withered trunk and boughs, surmounted by the coarse wrought and capacious nest, was a more picturesque object than an obelisk: and the flight of the hawks, as they went forth to hunt, returned with their game, exercised themselves in wheeling round and round, and circling about it, were amusing to the beholder, almost from morning to night. The family of these hawks, old and young, was killed by the Hessian *Jagers*. A succeeding pair took possession of the nest; but, in the course of time, the prongs of the trunk so rotted away, that the nest could no longer be supported. The hawks have been obliged to seek new quarters. We have lost this part of our prospect; and

our trees have not afforded a convenient site for one of their habitations since.”

About the first of May, the female fish-hawk begins to lay her eggs, which are commonly three in number, sometimes only two, and rarely four. They are somewhat larger than those of the common hen, and nearly of the same shape. The ground colour varies, in different eggs, from a reddish cream, to nearly a white, splashed and daubed all over with dark Spanish brown, as if done by art.* During the time the female is sitting, the male frequently supplies her with fish; though she occasionally takes a short circuit to sea herself, but quickly returns again. The attention of the male, on such occasions, is regulated by the circumstances of the case. A pair of these birds, on the south side of Great Egg Harbour river, and near its mouth, were noted for several years. The female, having but one leg, was regularly furnished, while sitting, with fish in such abundance, that she seldom left the nest, and never to seek for food. This kindness was continued both before and after incubation. Some animals, who claim the name and rationality of man, might blush at the recital of this fact.

On the appearance of the young, which is usually about the last of June, the zeal and watchfulness of the parents are extreme. They stand guard, and go off to fish, alternately; one parent being always within a

* Of the palatableness of these eggs I cannot speak from personal experience; but the following incident will shew that the experiment has actually been made:—A country fellow, near Cape May, on his way to a neighbouring tavern, passing a tree, on which was a fish-hawk's nest, immediately mounted, and robbed it of the only egg it contained, which he carried with him to the tavern, and desired the landlord to make it into egg-nogg. The tavern-keeper, after a few wry faces, complied with his request, and the fellow swallowed the cordial; whether from its effects on the olfactory nerves, (for he said it smelt abominably,) on the imagination, or on the stomach alone, is uncertain, but it operated as a most outrageous emetic, and cured the man, for that time at least, of his thirst for egg-nogg. What is rather extraordinary, the landlord (Mr Beasley) assured me, that, to all appearance, the egg was perfectly fresh.

short distance of the nest. On the near approach of any person, the hawk utters a plaintive whistling note, which becomes shriller as she takes to wing, and sails around, sometimes making a rapid descent, as if aiming directly for you; but checking her course, and sweeping past, at a short distance over head, her wings making a loud whizzing in the air. My worthy friend Mr Gardiner informs me, that they have even been known to fix their claws in a negro's head, who was attempting to climb to their nest; and I had lately a proof of their daring spirit in this way, through the kindness of a friend, resident, for a few weeks, at Great Egg Harbour. I had requested of him the favour to transmit me, if possible, a live fish-hawk, for the purpose of making a drawing of it, which commission he very faithfully executed; and I think I cannot better illustrate this part of the bird's character, than by quoting his letter at large.

“ Beasley's, Great Egg Harbour, 30th June, 1811.

“ SIR,—Mr Beasley and I went to reconnoitre a fish-hawk's nest on Thursday afternoon. When I was at the nest, I was struck with so great violence on the crown of the hat, that I thought a hole was made in it. I had ascended fearlessly, and never dreamt of being attacked. I came down quickly. There were in the nest three young ones, about the size of pullets, which, though full feathered, were unable to fly. On Friday morning, I went again to the nest to get a young one, which I thought I could nurse to a considerable growth, sufficient to answer your purpose, if I should fail to procure an old one, which was represented to me as almost impossible, on account of his shyness, and the danger from his dreadful claws. On taking a young one, I intended to lay a couple of snares in the nest, for which purpose I had a strong cord in my pocket. The old birds were on the tree when Captain H. and I approached it. As a defence, profiting by the experience of yesterday, I took a walking stick with me. When I was about half up the tree, the bird I send you struck

at me repeatedly with violence; he flew round, in a small circle, darting at me at every circuit, and I striking at him. Observing that he always described a circle in the air, before he came at me, I kept a *hawk's eye* upon him, and the moment he passed me, I availed myself of the opportunity to ascend. When immediately under the nest, I hesitated at the formidable opposition I met, as his rage appeared to increase with my presumption in invading his premises. But I mounted to the nest. At that moment he darted directly at me with all his force, whizzing through the air, his cholera apparently redoubled. Fortunately for me, I struck him on the extreme joint of the right wing with my stick, which brought him to the ground. During this contest, the female was flying round and round at a respectful distance. Captain H. held him till I tied my handkerchief about his legs; the captain felt the effect of his claws. I brought away a young one to keep the old one in a good humour. I put them in a very large coop; the young one ate some fish, when broken and put into its throat; but the old one would not eat for two days. He continued sullen and obstinate, hardly changing his position. He walks about now, and is approached without danger. He takes very little notice of the young one. A Joseph Smith, working in the field where this nest is, had the curiosity to go up to look at the eggs: the bird clawed his face in a shocking manner; his eye had a narrow escape. I am told that it has never been considered dangerous to approach a hawk's nest. If this be so, this bird's character is peculiar; his affection for his young, and his valiant opposition to an invasion of his nest, entitle him to conspicuous notice. He is the *prince* of fish-hawks; his character and his portrait seem worthy of being handed to the historic muse. A hawk more worthy of the honour which awaits him could not have been found. I hope no accident will happen to him, and that he may fully answer your purpose.—Yours,

“THOMAS SMITH.”

“ This morning the female was flying to and fro, making a mournful noise.”

The young of the fish-hawk are remarkable for remaining long in the nest before they attempt to fly. Mr Smith's letter is dated June 30th, at which time, he observes, they were as large as pullets, and full feathered. Seventeen days after, I myself ascended to this same hawk's nest, where I found the two remaining young ones seemingly full grown. They made no attempts to fly, though they both placed themselves in a stern posture of defence as I examined them at my leisure. The female had procured a *second* helpmate; but he did not seem to inherit the spirit of his predecessor, for, like a true step-father, he left the nest at my approach, and sailed about at a safe distance with his mate, who shewed great anxiety and distress during the whole of my visit. It is universally asserted, by the people of the neighbourhood where these birds breed, that the young remain so long, before they fly, that the parents are obliged at last to compel them to shift for themselves, beating them with their wings, and driving them from the nest. But that they continue to assist them even after this, I know to be a fact, from my own observation, as I have seen the young bird meet its parent in the air, and receive from him the fish he carried in his claws.

The flight of the fish-hawk, his manœuvres while in search of fish, and his manner of seizing his prey, are deserving of particular notice. In leaving the nest, he usually flies direct till he comes to the sea, then sails around, in easy curving lines, turning sometimes in the air as on a pivot, apparently without the least exertion, rarely moving the wings, his legs extended in a straight line behind, and his remarkable length, and curvature, or bend of wing, distinguishing him from all other hawks. The height at which he thus elegantly glides is various, from one hundred to one hundred and fifty, and two hundred feet, sometimes much higher, all the while calmly reconnoitring the face of the deep

below. Suddenly he is seen to check his course, as if struck by a particular object, which he seems to survey for a few moments with such steadiness, that he appears fixed in air, flapping his wings. This object, however, he abandons, or rather the fish he had in his eye has disappeared, and he is again seen sailing around as before. Now his attention is again arrested, and he descends with great rapidity; but ere he reaches the surface, shoots off on another course, as if ashamed that a second victim had escaped him. He now sails at a short height above the surface, and by a zig-zag descent, and without seeming to dip his feet in the water, seizes a fish, which, after carrying a short distance, he probably drops, or yields up to the bald eagle, and again ascends, by easy spiral circles, to the higher regions of the air, where he glides about in all the ease and majesty of his species. At once, from this sublime aerial height, he descends like a perpendicular torrent, plunging into the sea with a loud rushing sound, and with the certainty of a rifle. In a few moments he emerges, bearing in his claws his struggling prey, which he always carries head foremost, and, having risen a few feet above the surface, shakes himself as a water spaniel would do, and directs his heavy and laborious course directly for the land. If the wind blow hard, and his nest lie in the quarter from whence it comes, it is amusing to observe with what judgment and exertion he beats to windward, not in a direct line, that is, *in the wind's eye*, but making several successive tacks to gain his purpose. This will appear the more striking, when we consider the size of the fish which he sometimes bears along. A shad was taken from a fish-hawk near Great Egg Harbour, on which he had begun to regale himself, and had already ate a considerable portion of it; the remainder weighed six pounds. Another fish-hawk was passing Mr Beasley's, at the same place, with a large flounder in his grasp, which struggled and shook him so, that he dropt it on the shore. The flounder was picked up, and served the whole family for dinner. It is singular that the hawk never descends to pick up a fish which he

happens to drop, either on the land or on the water. There is a kind of abstemious dignity in this habit of the hawk, superior to the gluttonous voracity displayed by most other birds of prey, particularly by the bald eagle, whose piratical robberies committed on the present species, have been already fully detailed in treating of his history. The hawk, however, in his fishing pursuits, sometimes mistakes his mark, or overrates his strength, by striking fish too large and powerful for him to manage, by whom he is suddenly dragged under; and, though he sometimes succeeds in extricating himself, after being taken three or four times down, yet oftener both parties perish. The bodies of sturgeon, and of several other large fish, with a fish-hawk fast grappled in them, have, at different times, been found dead on the shore, cast up by the waves.

The fish-hawk is doubtless the most numerous of all its genus within the United States. It penetrates far into the interior of the country up our large rivers, and their head waters. It may be said to line the sea-coast from Georgia to Canada. In some parts I have counted, at one view, more than twenty of their nests within half a mile. Mr Gardiner informs me, that, on the small island on which he resides, there are at least "three hundred nests of fish-hawks that have young, which, on an average, consume probably not less than six hundred fish daily." Before they depart in the autumn, they regularly repair their nests, carrying up sticks, sods, &c. fortifying them against the violence of the winter storms, which, from this circumstance, they would seem to foresee and expect. But, notwithstanding all their precautions, they frequently, on their return in spring, find them lying in ruins around the roots of the tree; and sometimes the tree itself has shared the same fate. When a number of hawks, to the amount of twenty or upwards, collect together on one tree, making a loud squeeling noise, there is generally a nest built soon after on the same tree. Probably this congressional assembly were settling the right of the new pair to the premises; or it might be a kind of wedding,

or joyous festive meeting on the occasion. They are naturally of a mild and peaceable disposition, living together in great peace and harmony; for though with them, as in the best regulated communities, instances of attack and robbery occur among themselves, yet these instances are extremely rare. Mr Gardiner observes, that they are sometimes seen high in the air, sailing and cutting strange gambols, with loud vociferations, darting down several hundred feet perpendicular, frequently with part of a fish in one claw, which they seem proud of, and to claim *high hook*, as the fishermen call *him* who takes the greatest number. On these occasions, they serve as a barometer to foretel the changes of the atmosphere; for, when the fish-hawks are seen thus sailing high in air, in circles, it is universally believed to prognosticate a change of weather, often a thunder storm, in a few hours. On the faith of the certainty of these signs, the experienced coaster wisely prepares for the expected storm, and is rarely mistaken.

There is one singular trait in the character of this bird, which is mentioned in treating of the purple grakle, and which I have had many opportunities of witnessing. The grakles, or crow blackbirds, are permitted by the fish-hawk to build their nests among the interstices of the sticks of which his own is constructed,—several pairs of grakles taking up their abode there, like humble vassals around the castle of their chief, laying, hatching their young, and living together in mutual harmony. I have found no less than four of these nests clustered around the sides of the former, and a fifth fixed on the nearest branch of the adjoining tree; as if the proprietor of this last, unable to find an unoccupied corner on the premises, had been anxious to share, as much as possible, the company and protection of this generous bird.

The fish-hawk is twenty-two inches in length, and five feet three inches in extent; the bill is deep black, the upper as well as lower cere, (for the base of the lower mandible has a loose moveable skin,) and also

the sides of the mouth, from the nostrils backwards, are light blue; crown and hind head pure white, front streaked with brown; through the eye, a bar of dark blackish brown passes to the neck behind, which, as well as the whole upper parts, is deep brown, the edges of the feathers lighter; shafts of the wing quills brownish white; tail slightly rounded, of rather a paler brown than the body, crossed with eight bars of very dark brown; the wings, when shut, extend about an inch beyond the tail, and are nearly black towards the tips; the inner vanes of both quill and tail feathers are whitish, barred with brown; whole lower parts pure white, except the thighs, which are covered with short plumage, and streaked down the fore part with pale brown; the legs and feet are a very pale light blue, prodigiously strong and disproportionably large, and are covered with flat scales of remarkable strength and thickness, resembling, when dry, the teeth of a large rasp, particularly on the soles, intended, no doubt, to enable the bird to seize with more security his slippery prey; the thighs are long, the legs short, feathered a little below the knee, and, as well as the feet and claws, large; the latter hooked into semicircles, black, and very sharp pointed; the iris of the eye a fiery yellow orange.

The female is full two inches longer; the upper part of the head of a less pure white, and the brown streaks on the front spreading more over the crown; the throat and upper part of the breast are also dashed with large blotches of a pale brown, and the bar passing through the eye, not of so dark a brown. The toes of both are exceedingly strong and warty, and the hind claw a full inch and a quarter in diameter. The feathers on the neck and hind head are long and narrow, and generally erected when the bird is irritated, resembling those of the eagle. The eye is destitute of the projecting bone common to most of the falcon tribe; the nostril large, and of a curving triangular shape. On dissection, the two glands on the rump, which supply the bird with oil for lubricating its feathers to protect them from the

wet, were found to be remarkably large, capable, when opened, of admitting the end of the finger, and contained a large quantity of white greasy matter, and some pure yellow oil; the gall was in small quantity. The numerous convolutions and length of the intestines surprised me; when carefully extended, they measured within an inch or two of nine feet, and were no thicker than those of a robin! The crop, or craw, was middle-sized, and contained a nearly dissolved fish; the stomach was a large oblong pouch, capable of considerable distension, and was also filled with half digested fish: no appearance of a muscular gizzard.

By the descriptions of European naturalists, it would appear, that this bird, or one near akin to it, is a native of the eastern continent in summer, as far north as Siberia; the bald buzzard of Turton almost exactly agreeing with the present species in size, colour, and manners, with the exception of its breeding or making its nest among the reeds, instead of on trees. Mr Bewick, who has figured and described the female of this bird under the appellation of the Osprey, says, that "it builds on the ground, among reeds, and lays three or four eggs of an elliptical form, rather less than those of a hen." This difference of habit may be owing to particular local circumstances, such deviations being usual among many of our native birds. The Italians are said to compare its descent upon the water to a piece of lead falling upon that element; and distinguish it by the name of *aquila piumbina*, or the leaden eagle. In the United States it is every where denominated the fish-hawk, or fishing-hawk, a name truly expressive of its habits.

The regular arrival of this noted bird at the vernal equinox, when the busy season of fishing commences, adds peculiar interest to its first appearance, and procures it many a benediction from the fishermen. With the following lines, illustrative of these circumstances, I shall conclude its history:—

Soon as the sun, great ruler of the year,
 Bends to our northern climes his bright career,
 And from the caves of ocean calls from sleep
 The finny shoals and myriads of the deep ;
 When freezing tempests back to Greenland ride,
 And day and night the equal hours divide ;
 True to the season, o'er our sea-beat shore,
 The sailing osprey high is seen to soar,
 With broad unmoving wing ; and, circling slow,
 Marks each loose straggler in the deep below ;
 Sweeps down like lightning ! plunges with a roar !
 And bears his struggling victim to the shore.

The long-housed fisherman beholds with joy,
 The well known signals of his rough employ ;
 And, as he bears his nets and oars along,
 Thus hails the welcome season with a song : —

THE FISHERMAN'S HYMN.

The osprey sails above the sound,
 The geese are gone, the gulls are flying ;
 The herring shoals swarm thick around,
 The nets are launch'd, the boats are plying ;
 Yo ho, my hearts ! let's seek the deep,
 Raise high the song, and cheerly wish her,
 Still as the bending net we sweep,
 “ God bless the fish-hawk and the fisher !”

She brings us fish—she brings us spring,
 Good times, fair weather, warmth, and plenty,
 Fine store of shad, trout, herring, ling,
 Sheepshead and drum, and old-wives' dainty.
 Yo ho, my hearts ! let's seek the deep,
 Ply every oar, and cheerly wish her,
 Still as the bending net we sweep,
 “ God bless the fish-hawk and the fisher !”

She rears her young on yonder tree,
 She leaves her faithful mate to mind 'em ;
 Like us, for fish, she sails to sea,
 And, plunging, shews us where to find 'em.
 Yo ho, my hearts ! let's seek the deep,
 Ply every oar, and cheerly wish her,
 While the slow bending net we sweep,
 “ God bless the fish-hawk and the fisher !”

SUBGENUS IV.—*FALCO BECHSTEIN*.7. *FALCO PEREGRINUS*, WILSON.—GREAT FOOTED HAWK, OR PEREGRINE FALCON.*

WILSON, PLATE LXXVI.—EDINBURGH COLLEGE MUSEUM.

THIS noble bird had excited our curiosity for a long time. Every visit which we made to the coast, was rendered doubly interesting by the wonderful stories which we heard of its exploits in fowling, and of its daring enterprize. There was not a gunner along the shore but knew it well; and each could relate something of it which bordered on the marvellous. It was described as darting with the rapidity of an arrow on the ducks when on the wing, and striking them down with the projecting bone of its breast. Even the wild geese were said to be in danger from its attacks, it having been known to sacrifice them to its rapacity.

To behold this hero, the terror of the wild fowl, and the wonder of the sportsman, was the chief object of our wishes. Day after day did we traverse the salt marshes, and explore the ponds and estuaries which the web-footed tribes frequent in immense multitudes, in the hope of obtaining the imperial depredator; even all the gunners of the district were summoned to our aid, with the assurance of a great reward if they procured him, but without success. At length, in the month of December, 1812, to the unspeakable joy of Mr Wilson, he received from Egg Harbour a fine specimen of the far famed duck hawk; which was discovered, contrary to his expectations, to be of a species which he had never before beheld.

If we were to repeat all the anecdotes which have

* It is also a European species.

been related to us of the achievements of the duck hawk, they would swell our pages at the expense, probably, of our reputation. Naturalists should be always on their guard when they find themselves compelled to resort to the observations of others, and record nothing as fact which has not been submitted to the temperate deliberations of reason. The reverse of this procedure has been a principal cause why errors and absurdities have so frequently deformed the pages of works of science, which, like a plane mirror, ought to reflect only the genuine images of nature.

From the best sources of information, we learn that this species is uncommonly bold and powerful; that it darts on its prey with astonishing velocity; and that it strikes with its formidable feet, permitting the duck to fall previously to securing it. The circumstance of the hawk's never carrying the duck off on striking it, has given rise to the belief of that service being performed by means of the breast, which vulgar opinion has armed with a projecting bone, adapted to the purpose. But this cannot be the fact, as the breast-bone of this bird does not differ from that of others of the same tribe, which would not admit of so violent a concussion.

When the water fowl perceive the approach of their enemy, a universal alarm pervades their ranks; even man himself, with his engine of destruction, is not more terrible. But the effect is different. When the latter is beheld, the whole atmosphere is enlivened with the whistling of wings; when the former is recognized, not a duck is to be seen in the air: they all speed to the water, and there remain until the hawk has passed them, diving the moment he comes near them. It is worthy of remark, that he will seldom, if ever, strike over the water, unless it be frozen; well knowing that it will be difficult to secure his quarry. This is something more than instinct.

When the sportsmen perceive the hawk knock down a duck, they frequently disappoint him of it, by being first to secure it. And as one evil turn, according to the maxim of the multitude, deserves another, our

hero takes ample revenge on them, at every opportunity, by robbing them of their game, the hard-earned fruits of their labour.

The duck hawk, it is said, often follows the steps of the gunner, knowing that the ducks will be aroused on the wing, which will afford it an almost certain chance of success.

We have been informed, that those ducks which are struck down, have their backs lacerated from the rump to the neck. If this be the fact, it is a proof that the hawk employs only its talons, which are long and stout, in the operation. One respectable inhabitant of Cape May told us, that he has seen the hawk strike from below.

This species has been long known in Europe; and in the age of falconry, was greatly valued for those qualifications which rendered it estimable to the lovers and followers of that princely amusement. But we have strong objections to its specific appellation. The epithet *peregrine* is certainly not applicable to our hawk, which is not migratory, as far as our most diligent inquiries can ascertain; and, as additional evidence of the fact, we ourselves have seen it prowling near the coast of New Jersey, in the month of May, and heard its screams, which resemble somewhat those of the bald eagle, in the swamps wherein it is said to breed. We have therefore taken the liberty of changing its English name for one which will at once express a characteristic designation, or which will indicate the species without the labour of investigation.*

“This species,” says Pennant, “breeds on the rocks of Llandidno, in Cærnarvonshire, Wales.† That promontory has been long famed for producing a generous

* “Specific names, to be perfect, ought to express some peculiarity, common to no other of the genus.” *Am. Orn.* i. p. 65.

† We suspect that Pennant is mistaken; its name denotes that it is not indigenous in Great Britain. Bewick says, “The peregrine, or passenger falcon, is *rarely* met with in Britain, and consequently is but little known with us.” *British Birds*, part i. p. 71.

kind, as appears by a letter extant in Gloddaeth library, from the lord treasurer Burleigh, to an ancestor of Sir Roger Mostyn, in which his lordship thanks him for a present of a fine cast of hawks, taken on those rocks, which belong to the family. They are also very common in the north of Scotland; and are sometimes trained for falconry, by some few gentlemen who still take delight in this amusement, in that part of Great Britain. Their flight is amazingly rapid; one that was reclaimed by a gentleman in the shire of Angus, a county on the east side of Scotland, eloped from its master with two heavy bells attached to each foot, on the 24th of September, 1772, and was killed in the morning of the 26th, near Mostyn, Flintshire.”*

The same naturalist in another place observes, that “*the American species is larger than the European.*† They are subject to vary. The black falcon, and the spotted falcon of Edwards, are of this kind; each preserves a specific mark, in the black stroke which drops from beneath the eyes, down towards the neck.

“Inhabits different parts of North America, from Hudson’s Bay, as low as Carolina; in Asia, is found on the highest parts of the Uralian and Siberian chain; wanders in summer to the very Arctic circle; is common in Kamtschatka.”‡

In the breeding season, the duck hawk retires to the recesses of the gloomy cedar swamps, on the tall trees of which it constructs its nest, and rears its young secure from all molestation. In those wilds which present obstacles almost insuperable to the foot of man, the screams of this bird, occasionally mingled with the hoarse tones of the heron, and the hooting of the great horned owl, echoing through the dreary solitude, arouse in the imagination all the frightful imagery of desola-

* *British Zoology.*

† If we were to adopt the mode of philosophizing of the *sapient* Count de Buffon, we should infer that the European species is a *variety of our more generous race, degenerated by the influence of food and climate!*

‡ *Arctic Zoology.*

tion. Mr Wilson, and the writer of this article, explored two of these swamps, in the month of May, 1813, in pursuit of the great heron and the subject of this chapter; and although they were successful in obtaining the former, yet the latter eluded their research.

The great footed hawk is twenty inches in length, and three feet eight inches in extent; the bill is inflated, short, and strong, of a light blue colour, ending in black, the upper mandible with a tooth-like process, the lower with a corresponding notch, and truncate; nostrils round, with a central point like the pistil of a flower; the eye is large and dark, surrounded with a broad bare yellowish skin, the cartilage over it yellow and prominent; frontlet whitish; the head above, cheeks, running off like mustaches, and back, are black; the wings and scapulars are brownish black, each feather edged with paler, the former long and pointed, reaching almost to the end of the tail; the primaries and secondaries are marked transversely on the inner vanes with large oblong spots of ferruginous white, the exterior edge of the tip of the secondaries curiously scalloped, as if a piece had been cut out; the tertials incline to ash colour; the lining of the wings is beautifully barred with black and white, and tinged with ferruginous; on a close examination, the scapulars and tertials are found to be barred with faint ash; all the shafts are black; the rump and tail coverts are light ash, marked with large dusky bars; the tail is rounding, black, tipped with reddish white, and crossed with eight narrow bars of very faint ash; the chin and breast, encircling the black mustaches, are of a pale buff colour; breast below and lower parts reddish buff, or pale cinnamon, handsomely marked with roundish or heart shaped spots of black; sides broadly barred with black; the femorals are elegantly ornamented with herring-bones of black on a buff ground; the vent is pale buff, marked as the femorals, though with less numerous spots; the feet and legs are of a corn yellow, the latter short and stout, feathered a little below the

knees, the bare part one inch in length; span of the foot five inches, with a large protuberant sole; the claws are large and black, hind claw the largest. Whether the cere is yellow, or flesh coloured, we were uncertain, as the bird had been some time killed when received; supposed the former.

The most striking characters of this species are the broad patch of black dropping below the eye, and the uncommonly large feet. It is stout, heavy, and firmly put together.

The bird from which the above description was taken, was shot in a cedar swamp in Cape May county, New Jersey. It was a female, and contained the remains of small birds, among which were discovered the legs of the sanderling plover.

8. *FALCO SPARVERIUS*, LINNÆUS.

AMERICAN SPARROW HAWK.

WILSON, PLATE XVI. FIG. I. FEMALE.* — EDINBURGH COLLEGE MUSEUM.

IN no department of ornithology has there been greater confusion, or more mistakes made, than among this class of birds of prey. The great difference of size between the male and female, the progressive variation of plumage to which, for several years, they are subject, and the difficulty of procuring a sufficient number of specimens for examination; all these causes conspire to lead the naturalist into almost unavoidable mistakes. For these reasons, and in order, if possible, to ascertain each species of this genus distinctly, I have determined, where any doubt or ambiguity prevails, to represent

* This species is allied to the *falco tinnunculus*, or kestrel of Europe.

both male and female, as fair and perfect specimens of each may come into my possession. According to fashionable etiquette, the honour of precedence, in the present instance, is given to the *female* of this species; both because she is the most courageous, the largest and handsomest of the two, best ascertained, and less subject to change of colour than the male, who will require some farther examination, and more observation, before we can venture to introduce him.

This bird is a constant resident in almost every part of the United States, particularly in the states north of Maryland. In the southern states there is a smaller species found, which is destitute of the black spots on the head; the legs are long and very slender, and the wings light blue. This has been supposed, by some, to be the male of the present species; but this is an error. The eye of the present species is dusky; that of the smaller species a brilliant orange; the former has the tail *rounded* at the end, the latter slightly *forked*. Such essential differences never take place between two individuals of the same species. It ought, however, to be remarked, that in all the figures and descriptions I have hitherto met with of the bird now before us, the iris is represented of a bright golden colour; but, in all the specimens I have shot, I uniformly found the eye very dark, almost black, resembling a globe of black glass. No doubt the golden colour of the iris would give the figure of the bird a more striking appearance; but, in works of natural history, to sacrifice truth to mere picturesque effect is detestable; though, I fear, but too often put in practice.

The nest of this species is usually built in a hollow tree; generally pretty high up, where the top, or a large limb, has been broken off. I have never seen its eggs; but have been told, that the female generally lays four or five, which are of a light brownish yellow colour, spotted with a darker tint; the young are fed on grasshoppers, mice, and small birds, the usual food of the parents.

The habits and manners of this bird are well known.

It flies rather irregularly, occasionally suspending itself in the air, hovering over a particular spot for a minute or two, and then shooting off in another direction. It perches on the top of a dead tree or pole, in the middle of a field or meadow, and, as it alights, shuts its long wings so suddenly, that they seem instantly to disappear; it sits here in an almost perpendicular position, sometimes for an hour at a time, frequently jerking its tail, and reconnoitring the ground below, in every direction, for mice, lizards, &c. It approaches the farm-house, particularly in the morning, skulking about the barn-yard for mice or young chickens. It frequently plunges into a thicket after small birds, as if by random; but always with a particular, and generally with a fatal, aim. One day I observed a bird of this species perched on the highest top of a large poplar, on the skirts of the wood, and was in the act of raising the gun to my eye, when he swept down with the rapidity of an arrow, into a thicket of briars, about thirty yards off, where I shot him dead, and, on coming up, found a small field sparrow quivering in his grasp. Both our aims had been taken at the same instant, and, unfortunately for him, both were fatal. It is particularly fond of watching along hedge-rows, and in orchards, where small birds usually resort. When grasshoppers are plenty, they form a considerable part of its food.

Though small snakes, mice, lizards, &c. be favourite morsels with this active bird, yet we are not to suppose it altogether destitute of delicacy in feeding. It will seldom or never eat of any thing that it has not itself killed, and even that, if not (as epicures would term it) *in good eating order*, is sometimes rejected. A very respectable friend, through the medium of Mr Bartram, informs me, that one morning he observed one of these hawks dart down on the ground, and seize a mouse, which he carried to a fence post, where, after examining it for some time, he left it, and, a little while after, pounced upon another mouse, which he instantly carried off to his nest, in the hollow of a tree hard by. The gentleman, anxious to know why the hawk had rejected

the first mouse, went up to it, and found it to be almost covered with lice, and greatly emaciated! Here was not only delicacy of taste, but sound and prudent reasoning;— If I carry this to my nest, thought he, it will fill it with vermin, and hardly be worth eating.

The blue jays have a particular antipathy to this bird, and frequently insult it by following and imitating its notes so exactly, as to deceive even those well acquainted with both. In return for all this abuse, the hawk contents himself with, now and then, feasting on the plumpest of his persecutors, who are, therefore, in perpetual dread of him; and yet, through some strange infatuation, or from fear that, if they lose sight of him, he may attack them unawares, the sparrow hawk no sooner appears than the alarm is given, and the whole posse of jays follow.

The female of this species is eleven inches long, and twenty-three from tip to tip of the expanded wings. The cere and legs are yellow; bill blue, tipped with black; space round the eye, greenish blue; iris, deep dusky; head, bluish ash; crown, rufous; seven spots of black on a white ground surround the head; whole upper parts reddish bay, transversely streaked with black; primary and secondary quills, black, spotted on their inner vanes with brownish white; whole lower parts yellowish white, marked with longitudinal streaks of brown, except the chin, vent, and femoral feathers, which are white; claws, black.

The male of this species (which is an inch and a half shorter, has the shoulder of the wings blue, and also the black marks on the head, but is, in other respects, very differently marked from the female) will be described in the next article, with such other particulars as may be thought worthy of communicating.

9. *FALCO SPARVERIUS*, LINNÆUS.

AMERICAN SPARROW HAWK.

WILSON, PLATE XXXII. FIG. II. MALE. — EDINBURGH COLLEGE MUSEUM.

THE female of this species is described in the preceding article.

The male sparrow hawk measures about ten inches in length, and twenty-one in extent; the whole upper parts of the head are of a fine slate blue, the shafts of the plumage being black, the crown excepted, which is marked with a spot of bright rufous; the slate tapers to a point on each side of the neck; seven black spots surround the head, as in the female, on a reddish white ground, which also borders each sloping side of the blue; front, lores, line over and under the eye, chin, and throat, white; femoral and vent feathers, yellowish white; the rest of the lower parts, of the same tint, each feather being streaked down the centre with a long black drop, those on the breast, slender, on the sides, larger; upper part of the back and scapulars, deep reddish bay, marked with ten or twelve transverse waves of black; whole wing-coverts and ends of the secondaries, black, tipped with white, and spotted on their inner vanes with the same; lower part of the back, the rump, and tail-coverts, plain bright bay; tail rounded, the two exterior feathers white, their inner vanes beautifully spotted with black; the next, bright bay, with a broad band of black near its end, and tipped for half an inch with yellowish white; part of its lower exterior edge, white, spotted with black, and its opposite interior edge, touched with white; the whole of the

others are very deep red bay, with a single broad band of black near the end, and tip with yellowish white; cere and legs, yellow; orbits, the same; bill, light blue; iris of the eye, dark, almost black; claws, blue black.

The character of this corresponds with that of the female, given at large in the preceding article. I have reason, however, to believe, that these birds vary considerably in the colour and markings of their plumage during the first and second years; having met with specimens every way corresponding with the above, except in the breast, which was a plain rufous white, without spots; the markings on the tail also differing a little in different specimens. These I uniformly found, on dissection, to be males; from the stomach of one of which I took a considerable part of the carcass of a robin, (*turdus migratorius*.) including the unbroken feet and claws; though the robin actually measures within half an inch as long as the sparrow hawk.

10. *FALCO COLUMBARIUS*, LINN.

PIGEON HAWK.

WILSON, PLATE XV. FIG. III. MALE. — EDINBURGH COLLEGE MUSEUM.

THIS small hawk possesses great spirit and rapidity of flight. He is generally migratory in the middle and northern states, arriving in Pennsylvania early in spring, and extending his migrations as far north as Hudson's Bay. After building and rearing his young, he retires to the south early in November. Small birds and mice are his principal food. When the reed-birds, grakles, and red-winged blackbirds congregate in large flights, he is often observed hovering in their rear, or on their flanks, picking up the weak, the wounded, or stragglers,

and frequently making a sudden and fatal sweep into the very midst of their multitudes. The flocks of robins and pigeons are honoured with the same attentions from this marauder, whose daily excursions are entirely regulated by the movements of the great body on whose unfortunate members he fattens. The individual from which the present description was taken, was shot in the meadows below Philadelphia in the month of August. He was carrying off a blackbird (*oriolus phæniceus*) from the flock, and, though mortally wounded and dying, held his prey fast till his last expiring breath, having struck his claws into its very heart. This was found to be a male. Sometimes when shot at, and not hurt, he will fly in circles over the sportsman's head, shrieking out with great violence, as if highly irritated. He frequently flies low, skimming a little above the field. I have never seen his nest.

The pigeon hawk is eleven inches long, and twenty-three broad; the whole upper parts are of a deep dark brown, except the tail, which is crossed with bars of white; the inner vanes of the quill feathers are marked with round spots of reddish brown; the bill is short, strongly toothed, of a light blue colour, and tipped with black; the skin surrounding the eye, greenish; cere, the same; temples and line over the eye, lighter brown; the lower parts, brownish white, streaked laterally with dark brown; legs, yellow; claws, black. The female is an inch and a half longer, of a still deeper colour, though marked nearly in the same manner, with the exception of some white on the hind head. The femoral, or thigh feathers, in both are of a remarkable length, reaching nearly to the feet, and are also streaked longitudinally with dark brown. The irides of the eyes of this bird have been hitherto described as being of a brilliant yellow; but every specimen I have yet met with had the iris of a deep hazel. I must therefore follow nature, in opposition to very numerous and respectable authorities.

I cannot, in imitation of European naturalists, embellish the history of this species with anecdotes of its

exploits in falconry. This science, if it may be so called, is among the few that have never yet travelled across the Atlantic; neither does it appear that the idea of training our hawks or eagles to the chase, ever suggested itself to any of the Indian nations of North America. The Tartars, however, from whom, according to certain writers, many of these nations originated, have long excelled in the practice of this sport; which is indeed better suited to an open country than to one covered with forest. Though once so honourable and so universal, it is now much disused in Europe, and in Britain is nearly extinct. Yet I cannot but consider it as a much more noble and princely amusement than horse-racing and cock-fighting, cultivated in certain states with so much care; or even than pugilism, which is still so highly patronized in some of those enlightened countries.

SUBGENUS V.—*ASTUR*, BECHSTEIN.

11. *FALCO PALUMBARIUS*, LINN.—*FALCO ATRICAPILLUS*, WILSON.

ASH-COLOURED, OR BLACK-CAP HAWK.

WILSON, PLATE LII. FIG. III.*—EDINBURGH COLLEGE MUSEUM.

OF this beautiful species I can find no precise description. The ash-coloured buzzard of Edwards differs so much from this, particularly in wanting the fine zig-zag lines below, and the black cap, that I cannot for a moment suppose them to be the same. The individual here described was shot within a few miles

* The bird here described is the goshawk, and is also a European species.

of Philadelphia, and is now preserved, in good order, in Mr Peale's museum.

Its general make and aspect denotes great strength and spirit; its legs are strong, and its claws of more than proportionate size. Should any other specimen or variety of this hawk, differing from the present, occur during the publication of this work, it will enable me more accurately to designate the species.

The black-cap hawk is twenty-one inches in length; the bill and cere are blue; eye, reddish amber; crown, black, bordered on each side by a line of white finely speckled with black; these lines of white meet on the hind head; whole upper parts, slate, tinged with brown, slightest on the quills; legs, feathered half way down, and, with the feet, of a yellow colour; whole lower parts and femorals, white, most elegantly speckled with fine transverse pencilled zig-zag lines of dusky, all the shafts being a long black line; vent, pure white.

If this be not the celebrated *goshawk*, formerly so much esteemed in falconry, it is very closely allied to it. I have never myself seen a specimen of that bird in Europe; and the descriptions of their best naturalists vary considerably; but, from a careful examination of the figure and account of the *goshawk*, given by the ingenious Mr Bewick, (*Brit. Birds*, vol. i. p. 65,) I have very little doubt that the present will be found to be the same.

The *goshawk* inhabits France and Germany; is not very common in South Britain, but more frequent in the northern parts of the island, and is found in Russia and Siberia. Buffon, who reared two young birds of this kind, a male and female, observes, that "the *goshawk*, before it has shed its feathers, that is, in its first year, is marked on the breast and belly with longitudinal brown spots; but, after it has had two moultings, they disappear, and their place is occupied by transverse waving bars, which continue during the rest of its life." He also takes notice, that though the male was much smaller than the female, it was fiercer and more vicious.

Mr Pennant informs us, that the goshawk is used by the Emperor of China in his sporting excursions, when he is usually attended by his grand falconer, and a thousand of inferior rank. Every bird has a silver plate fastened to its foot, with the name of the falconer who has the charge of it, that, in case it should be lost, it may be restored to the proper person; but, if he should not be found, the bird is delivered to another officer, called the guardian of lost birds, who, to make his situation known, erects his standard in a conspicuous place among the army of hunters. The same writer informs us, that he examined, in the Leverian Museum, a specimen of the goshawk which came from America, and which was superior in size to the European. He adds, "they are the best of all hawks for falconry."*

12. *FALCO PENNSYLVANICUS*, WILSON.—BROAD-WINGED HAWK.

WILSON, PLATE LIV. FIG. I.

THIS hawk was shot on the 6th of May, in Mr Bartram's woods, near the Schuylkill, and was afterwards presented to Mr Peale, in whose collection it now remains. It was perched on the dead limb of a high tree, feeding on something, which was afterwards found to be the meadow mouse. On my approach, it uttered a whining kind of whistle, and flew off to another tree, where I followed and shot it. Its great breadth of wing, or width of the secondaries, and also of its head and body, when compared with its length, struck me as peculiarities. It seemed a remarkably strong-built bird, handsomely marked, and was altogether unknown to me. Mr Bartram, who examined it very attentively, declared he had never before seen such a hawk. On the afternoon of the next day, I observed another, probably its mate or companion, and certainly one of the

* *Arct. Zool.* p. 204.

same species, sailing about over the same woods. Its motions were in wide circles, with unmoving wings, the exterior outline of which seemed a complete semi-circle. I was extremely anxious to procure this also, if possible; but it was attacked and driven away by a king-bird before I could effect my purpose, and I have never since been fortunate enough to meet with another. On dissection, the one I had shot proved to be a male.

In size this hawk agrees, nearly, with the *buzzardet*, (*falco albidus*,) of Turton, described also by Pennant;* but either the descriptions of these authors are very inaccurate, the change of colour which that bird undergoes very great, or the present is altogether a different species. Until, however, some other specimens of this hawk come under my observation, I can only add the following particulars of its size and plumage:—

Length, fourteen inches; extent, thirty-three inches; bill, black, blue near the base, slightly toothed; cere and corners of the mouth, yellow; irides, bright amber; frontlet and lores, white; from the mouth backwards runs a streak of blackish brown; upper parts, dark brown, the plumage tipped and the head streaked with whitish; almost all the feathers above are spotted or barred with white, but this is not seen unless they be separated by the hand; head, large, broad, and flat; cere very broad; the nostril also large; tail short, the exterior and interior feathers somewhat the shortest, the others rather longer, of a full black, and crossed with two bars of white, tipped also slightly with whitish; tail coverts, spotted with white; wings, dusky brown, indistinctly barred with black; greater part of the inner vanes, snowy; lesser coverts, and upper part of the back, tipped and streaked with bright ferruginous; the bars of black are very distinct on the lower side of the wing; lining of the wing, brownish white, beautifully marked with small arrow-heads of brown; chin, white, surrounded by streaks of black; breast and sides, elegantly spotted with large arrow-heads of brown centered with pale

* *Arct. Zool.* No. 109.

brown; belly and vent, like the breast, white, but more thinly marked with pointed spots of brown; femorals, brownish white, thickly marked with small touches of brown and white; vent, white; legs, very stout; feet, coarsely scaled, both of a dirty orange yellow; claws, semicircular, strong and very sharp, hind one considerably the largest.

While examining the plumage of this bird, a short time after it was shot, one of those winged ticks with which many of our birds are infested, appeared on the surface of the feathers, moving about, as they usually do, backwards or sideways like a crab, among the plumage, with great facility. The fish-hawk, in particular, is greatly pestered with these vermin, which occasionally leave him, as suits their convenience. A gentleman who made the experiment, assured me, that, on plunging a live fish-hawk under water, several of these winged ticks remained hovering over the spot, and, the instant the hawk rose above the surface, darted again among his plumage. The experiment was several times made, with the like result. As soon, however, as these parasites perceive the dead body of their patron beginning to become cold, they abandon it; and, if the person who holds it have his head uncovered, dive instantly among his hair, as I have myself frequently experienced; and, though driven from thence, repeatedly return, till they are caught and destroyed. There are various kinds of these ticks. Of the one found on the present hawk, the head and thorax were light brown; the legs, six in number, of a bright green, their joints moving almost horizontally, and thus enabling the creature to pass with the greatest ease between the laminæ of feathers; the wings were single, of a dark amber colour, and twice as long as the body, which widened towards the extremity, where it was slightly indented; feet, two clawed.

This insect lived for several days between the crystal and dial-plate of a watch, carried in the pocket; but, being placed for a few minutes in the sun, fell into convulsions and died.

13. *FALCO VELOX.*

SHARP-SHINNED HAWK.

WILSON, PLATE XLV. FIG. I.—YOUNG BIRD.

THIS is a bold and daring species, hitherto unknown to naturalists. The only hawk we have which approaches near it in colour is the pigeon hawk, already described in this work; but there are such striking differences in the present, not only in colour, but in other respects, as to point out decisively its claims to rank as a distinct species. Its long and slender legs and toes; its red fiery eye, feathered to the eyelids; its triangular grooved nostril, and length of tail, are all different from the pigeon hawk, whose legs are short, its eyes dark hazel, surrounded with a broad bare yellow skin, and its nostrils small and circular, centered with a slender point that rises in it like the pistil of a flower. There is no hawk mentioned by Mr Pennant either as inhabiting Europe or America, agreeing with this. I may, therefore, with confidence, pronounce it a non-descript; and have chosen a very singular peculiarity which it possesses for its specific appellation.

This hawk was shot on the banks of the Schuylkill, near Mr Bartram's. Its singularity of flight surprised me long before I succeeded in procuring it. It seemed to throw itself from one quarter of the heavens to the other, with prodigious velocity, inclining to the earth, swept suddenly down into a thicket, and instantly reappeared with a small bird in its talons. This feat I saw it twice perform, so that it was not merely an accidental manœuvre. The rapidity and seeming violence of these zig-zag excursions were really remarkable, and appeared to me to be for the purpose of seizing his prey by sudden surprise and main force of flight. I kept this hawk alive for several days, and was hopeful I might be able to cure him; but he died of his wound.

On the 15th of September, two young men whom I had despatched on a shooting expedition, met with this species on one of the ranges of the Alleghany. It was driven around in the same furious headlong manner, and had made a sweep at a red squirrel, which eluded its grasp, and itself became the victim. These are the only individuals of this bird I have been able to procure, and fortunately they were male and female.

The female of this species was thirteen inches long, and twenty-five inches in extent; the bill, black towards the point on both mandibles, but light blue at its base; cere, a fine pea green; sides of the mouth, the same; lores, pale whitish blue, beset with hairs; crown and whole upper parts, very dark brown, every feather narrowly skirted with a bright rust colour; over the eye a stripe of yellowish white, streaked with deep brown; primaries, spotted on their inner vanes with black; secondaries, crossed on both vanes with three bars of dusky, below the coverts; inner vanes of both primaries and secondaries, brownish white; all the scapulars marked with large round spots of white, not seen unless the plumage be parted with the hand; tail, long, nearly even, crossed with four bars of black and as many of brown ash, and tipped with white; throat and whole lower parts, pale yellowish white; the former marked with fine long pointed spots of dark brown, the latter with large oblong spots of reddish brown; femorals, thickly marked with spade-formed spots, on a pale rufous ground; legs, long, and feathered a little below the knee, of a greenish yellow colour, most yellow at the joints; edges of the inside of the shins, below the knee, projecting like the edge of a knife, hard and sharp, as if intended to enable the bird to hold its prey with more security between them; eye, brilliant yellow, sunk below a projecting cartilage.

The male was nearly two inches shorter; the upper parts, dark brown; the feathers, skirted with pale reddish, the front also streaked with the same; cere, greenish yellow; lores, bluish; bill, black, as in the female; streak over the eye, lighter than in the former;

chin, white; breast the same, streaked with brown; bars on the tail rather narrower, but in tint and number the same; belly and vent, white; feet and shins exactly as in the female; the toes have the same pendulous lobes which mark those of the female; the wings barred with black, very noticeable on the lower side.

Since writing the above, I have shot another specimen of this hawk, corresponding in almost every particular with the male last mentioned; and which on dissection also proves to be a male. This last had within the grasp of his sharp talons a small lizard, just killed, on which he was about to feed. How he contrived to get possession of it appeared to me matter of surprise, as lightning itself seems scarcely more fleet than this little reptile, which is known in many parts of the country by the name of the swift. So rapid are its motions, that, in passing from one place to another, it vanishes, and actually eludes the eye in running a distance of twelve or fifteen feet. It is frequently seen on fences that are covered with gray moss and lichen, which in colour it very much resembles; it seeks shelter in hollow trees, and also in the ground about their decayed roots. They are most numerous in hilly parts of the country, particularly on the declivities of the Blue Mountain, among the crevices of rocks and stones. When they are disposed to run, it is almost impossible to shoot them, as they disappear at the first touch of the trigger.

14. *FALCO PENNSYLVANICUS*,* WILSON.

SLATE COLOURED HAWK. — OLD BIRD.

WILSON, PLATE XLVI. FIG. I.

THIS elegant and spirited little hawk is a native of Pennsylvania, and of the Atlantic states generally; and

* This bird is the adult of the *falco velox*.

is now for the first time introduced to the notice of the public. It frequents the more settled parts of the country, chiefly in winter; is at all times a scarce species; flies wide, in a very irregular manner, and swiftly; preys on lizards, mice, and small birds, and is an active and daring little hunter.

The great difficulty of accurately discriminating between different species of the hawk tribe, on account of the various appearances they assume at different periods of their long lives, at first excited a suspicion that this might be one of those with which I was already acquainted, in a different dress, namely the sharp-shinned hawk just described; for such are the changes of colour to which many individuals of this genus are subject, that, unless the naturalist has recourse to those parts that are subject to little or no alteration in the full grown bird, viz. the particular conformation of the legs, nostril, tail, and the relative length of the latter to that of the wings, also the peculiar character of the countenance, he will frequently be deceived. By comparing these, the same species may often be detected under a very different garb. Were all these changes accurately known, there is no doubt but the number of species of this tribe, at present enumerated, would be greatly diminished, the same bird having been described by certain writers three, four, and even five different times as so many distinct species. Testing, however, the present hawk by the rules above-mentioned, I have no hesitation in considering it as a species different from any hitherto described; and I have classed it accordingly.

The slate-coloured hawk is eleven inches long, and twenty-one inches in extent; bill, blue black; cere and sides of the mouth, dull green; eyelid, yellow; eye, deep sunk under the projecting eyebrow, and of a fiery orange colour; upper parts of a fine slate; primaries, brown black, and, as well as the secondaries, barred with dusky; scapulars, spotted with white and brown, which is not seen unless the plumage be separated by the hand; all the feathers above are shafted with

black; tail, very slightly forked, of an ash colour, faintly tinged with brown, crossed with four broad bands of black, and tipped with white; tail, three inches longer than the wings; over the eye extends a streak of dull white; chin, white, mixed with fine black hairs; breast and belly, beautifully variegated with ferruginous and transverse spots of white; femorals, the same; vent, pure white; legs, long, very slender, and of a rich orange yellow; claws, black, large, and remarkably sharp; lining of the wing, thickly marked with heart-shaped spots of black. This bird, on dissection, was found to be a male. In the month of February, I shot another individual of this species, near Hampton, in Virginia, which agreed almost exactly with the present.

SUBGENUS VI. — *ICTINIA*, VIEILL.

15. *FALCO MISSISSIPPIENSIS*, WILSON. — MISSISSIPPI KITE.

WILSON, PLATE XXV. FIG. I. — MALE.

THIS new species I first observed in the Mississippi territory, a few miles below Natchez, on the plantation of William Dunbar, Esq. To the hospitality of this gentleman, and his amiable family, I am indebted for the opportunity afforded me of procuring this and one or two more new species. This excellent man, whose life has been devoted to science, though at that time confined to bed by a severe and dangerous indisposition, and personally unacquainted with me, no sooner heard of my arrival at the town of Natchez, than he sent a servant and horses, with an invitation and request, to come and make his house my home and head-quarters, while engaged in exploring that part of the country. The few happy days I spent there I shall never forget.

In my perambulations I frequently remarked this hawk sailing about in easy circles, and at a considerable height in the air, generally in company with the turkey

buzzards, whose manner of flight it so exactly imitates as to seem the same species, only in miniature, or seen at a more immense height. Why these two birds, whose food and manners, in other respects, are so different, should so frequently associate together in air, I am at a loss to comprehend. We cannot for a moment suppose them mutually deceived by the similarity of each other's flight: the keenness of their vision forbids all suspicion of this kind. They may perhaps be engaged, at such times, in mere amusement, as they are observed to soar to great heights previous to a storm; or, what is more probable, they may both be in pursuit of their respective food. One, that he may reconnoitre a vast extent of surface below, and trace the tainted atmosphere to his favourite carrion; the other in search of those large beetles, or coleopterous insects, that are known often to wing the higher regions of the air; and which, in the three individuals of this species of hawk which I examined by dissection, were the only substances found in their stomachs. For several miles, as I passed near Bayo Manchak, the trees were swarming with a kind of cicada, or locust, that made a deafening noise; and here I observed numbers of the hawk now before us sweeping about among the trees like swallows, evidently in pursuit of these locusts; so that insects, it would appear, are the principal food of this species. Yet when we contemplate the beak and talons of this bird, both so sharp and powerful, it is difficult to believe that they were not intended by nature for some more formidable prey than beetles, locusts, or grasshoppers; and I doubt not but mice, lizards, snakes, and small birds, furnish him with an occasional repast.

This hawk, which proved to be a male, though wounded and precipitated from a vast height, exhibited, in his distress, symptoms of great strength, and an almost unconquerable spirit. I no sooner approached to pick him up than he instantly gave battle, striking rapidly with his claws, wheeling round and round as he lay partly on his rump; and defending himself with great

vigilance and dexterity; while his dark red eye sparkled with rage. Notwithstanding all my caution in seizing him to carry him home, he struck his hind claw into my hand with such force as to penetrate into the bone. Anxious to preserve his life, I endeavoured gently to disengage it; but this made him only contract it the more powerfully, causing such pain that I had no other alternative but that of cutting the sinew of his heel with my penknife. The whole time he lived with me, he seemed to watch every movement I made; erecting the feathers of his hind head, and eyeing me with savage fierceness; considering me, no doubt, as the greater savage of the two. What effect education might have had on this species under the tutorship of some of the old European professors of falconry, I know not; but if extent of wing, and energy of character, and ease and rapidity of flight, would have been any recommendations to royal patronage, this species possesses all these in a very eminent degree.

The long pointed wings and forked tail point out the affinity of this bird to that family or subdivision of the falco genus, distinguished by the name of kites, which sail without flapping the wings, and eat from their talons as they glide along.

The Mississippi kite measures fourteen inches in length, and thirty-six inches, or three feet, in extent! The head, neck, and exterior webs of the secondaries, are of a hoary white; the lower parts a whitish ash; bill, cere, lores, and narrow line round the eye, black; back, rump, scapulars, and wing coverts, dark blackish ash; wings, very long and pointed, the third quill the longest; the primaries are black, marked down each side of the shaft with reddish sorrel; primary coverts also slightly touched with the same; all the upper plumage at the roots is white; the scapulars are also spotted with white; but this cannot be perceived unless the feathers be blown aside; tail, slightly forked, and, as well as the rump, jet black; legs, vermilion, tinged with orange, and becoming blackish towards the toes; claws, black; iris of the eye, dark red; pupil, black.

SUBGENUS VII. — *ELANUS*, SAVIGNY.16. *FALCO FURCATUS*. — SWALLOW-TAILED HAWK.

WILSON, PL. LI. FIG. II. MALE. — EDINBURGH COLLEGE MUSEUM.

THIS very elegant species inhabits the southern districts of the United States in summer; is seldom seen as far north as Pennsylvania, but is very abundant in South Carolina and Georgia, and still more so in West Florida, and the extensive prairies of Ohio and the Indiana territory. I met with these birds in the early part of May, at a place called Duck Creek, in Tennessee, and found them sailing about in great numbers near Bayo Manchac on the Mississippi, twenty or thirty being within view at the same time. At that season a species of cicada, or locust, swarmed among the woods, making a deafening noise, and I could perceive these hawks frequently snatching them from the trees. A species of lizard, which is very numerous in that quarter of the country, and has the faculty of changing its colour at will, also furnishes the swallow-tailed hawk with a favourite morsel. These lizards are sometimes of the most brilliant light green, in a few minutes change to a dirty clay colour, and again become nearly black. The swallow-tailed hawk, and Mississippi kite, feed eagerly on this lizard; and, it is said, on a small green snake also, which is the mortal enemy of the lizard, and frequently pursues it to the very extremity of the branches, where both become the prey of the hawk.*

The swallow-tailed hawk retires to the south in October, at which season, Mr Bartram informs me, they

* This animal, if I mistake not, is the *lacerta bullaris*, or bladder lizard, of Turton, vol. i. p. 666. The facility with which it changes colour is surprising, and not generally known to naturalists.

are seen in Florida, at a vast height in the air, sailing about with great steadiness; and continue to be seen thus, passing to their winter quarters, for several days. They usually feed from their claws as they fly along. Their flight is easy and graceful, with sometimes occasional sweeps among the trees, the long feathers of their tail spread out, and each extremity of it used, alternately to lower, elevate, or otherwise direct their course. I have never yet met with their nests.

These birds are particularly attached to the extensive prairies of the western countries, where their favourite snakes, lizards, grasshoppers, and locusts are in abundance. They are sometimes, though rarely, seen in Pennsylvania and New Jersey, and that only in long and very warm summers. A specimen now in the Museum of Philadelphia, was shot within a few miles of that city. We are informed, that one was taken in the South Sea, off the coast which lies between Ylo and Arica, in about lat. 23 deg. south, on the eleventh of September, by the Reverend the Father Louis Feuillée.* They are also common in Mexico, and extend their migrations as far as Peru.

The swallow-tailed hawk measures full two feet in length, and upwards of four feet six inches in extent; the bill is black; cere, yellow, covered at the base with bristles; iris of the eye, silvery cream, surrounded with a blood-red ring; whole head and neck pure white, the shafts fine black hairs; the whole lower parts also pure white; the throat and breast shafted in the same manner; upper parts, or back, black, glossed with green and purple; whole lesser coverts, very dark purple; wings long, reaching within two inches of the tip of the tail, and black; tail also very long, and remarkably forked, consisting of twelve feathers, all black, glossed with green and purple; several of the tertials white, or edged with white, but generally covered by the scapulars; inner vanes of the secondaries, white on their

† *Jour. des Obs.* tom. ii, 33.

upper half, black towards their points; lining of the wings white; legs, yellow, short, and thick, and feathered before half way below the knee; claws, much curved, whitish; outer claw, very small. The greater part of the plumage is white at the base; and, when the scapulars are a little displaced, they appear spotted with white.

This was a male in perfect plumage. The colour and markings of the male and female are nearly alike.

SUBGENUS VIII. — *BATEO*, BECHSTEIN.

17. *FALCO LAGOPUS*, WILSON. — ROUGH-LEGGED FALCON.

WILSON, PLATE XXXIII. FIG. I. — EDINBURGH COLLEGE MUSEUM.

THIS handsome species, notwithstanding its formidable size and appearance, spends the chief part of the winter among our low swamps and meadows, watching for mice, frogs, lame ducks, and other inglorious game. Twenty or thirty individuals of this family have regularly taken up their winter quarters, for several years past, and probably long anterior to that date, in the meadows below this city, between the rivers Delaware and Schuylkill, where they spend their time watching along the dry banks like cats; or sailing low and slowly over the surface of the ditches. Though rendered shy from the many attempts made to shoot them, they seldom fly far, usually from one tree to another at no great distance, making a loud squeeling as they arise, something resembling the neighing of a young colt, though in a more shrill and savage tone.

On comparing these with Pennant's description,* they corresponded so exactly, that no doubts remain of their being the same species. Towards the beginning

* *Arctic Zoology*, p. 200, No. 92.

of April, these birds abandon this part of the country, and retire to the north to breed.

They are common, during winter, in the lower parts of Maryland, and numerous in the extensive meadows below Newark, New Jersey; are frequent along the Connecticut river, and, according to Pennant, inhabit England, Norway, and Lapmark. Their flight is slow and heavy. They are often seen coursing over the surface of the meadows, long after sunset, many times in pairs. They generally roost on the tall detached trees that rise from these low grounds; and take their stations, at day-break, near a ditch, bank, or hay stack, for hours together, watching, with patient vigilance, for the first unlucky frog, mouse, or lizard, to make its appearance. The instant one of these is descried, the hawk, sliding into the air, and taking a circuitous course along the surface, sweeps over the spot, and in an instant has his prey grappled and sprawling in the air.

The rough-legged hawk measures twenty-two inches in length, and four feet two inches in extent; cere, sides of the mouth, and feet, rich yellow; legs, feathered to the toes, with brownish yellow plumage, streaked with brown; femorals the same; toes, comparatively short; claws and bill, blue black; iris of the eye, bright amber; upper part of the head, pale ochre, streaked with brown; back and wings, chocolate, each feather edged with bright ferruginous; first four primaries, nearly black about the tips, edged externally with silvery in some lights; rest of the quills, dark chocolate; lower side, and interior vanes, white; tail coverts, white; tail, rounded, white, with a broad band of dark brown near the end, and tipt with white; body below, and breast, light yellow ochre, blotched and streaked with chocolate. What constitutes a characteristic mark of this bird, is a belt, or girdle, of very dark brown, passing round the belly just below the breast, and reaching under the wings to the rump; head, very broad, and bill uncommonly small, suited to the humility of its prey.

The female is much darker, both above and below, particularly in the belt, or girdle, which is nearly black; the tail coverts are also spotted with chocolate; she is also something larger.

18. *FALCO NIGER*, WILSON. — *FALCO SANCTI-JOHANNIS*, GMELIN.
BLACK HAWK.

WILSON, PLATE LIII. FIG. I. — ADULT BIRD.

THIS is a remarkably shy and wary bird, found most frequently along the marshy shores of our large rivers; feeds on mice, frogs, and moles; sails much, and sometimes at a great height; has been seen to kill a duck on wing; sits by the side of the marshes on a stake for an hour at a time, in an almost perpendicular position, as if dozing: flies with great ease, and occasionally with great swiftness, seldom flapping the wings; seems particularly fond of river shores, swamps, and marshes; is most numerous with us in winter, and but rarely seen in summer; is remarkable for the great size of its eye, length of its wings, and shortness of its toes. The breadth of its head is likewise uncommon.

The black hawk is twenty-one inches long, and four feet two inches in extent; bill, bluish black; cere, and sides of the mouth, orange yellow; feet the same; eye, very large; iris, bright hazel; cartilage, overhanging the eye, prominent, of a dull greenish colour; general colour above, brown black, slightly dashed with dirty white; nape of the neck, pure white under the surface; front, white; whole lower parts, black, with slight tinges of brown; and a few circular touches of the same on the femorals; legs, feathered to the toes, and black touched with brownish; the wings reach rather beyond the tip of the tail; the five first primaries are white on their inner vanes; tail, rounded at the end, deep black, crossed with five narrow bands of pure white, and broadly tipped with dull white; vent, black,

spotted with white; inside vanes of the primaries, snowy; claws, black, strong and sharp; toes, remarkably short.

I strongly suspect this bird to be of the very same species with the next, though both were found to be males. Although differing greatly in plumage, yet in all their characteristic features they strikingly resemble each other. The chocolate coloured hawk of Pennant, and St John's falcon, of the same author,* are doubtless varieties of this; and, very probably, his rough-legged falcon also. His figures, however, are bad, and ill calculated to exhibit the true form and appearance of the bird.

This species is a native of North America alone. We have no account of its ever having been seen in any part of Europe; nor have we any account of its place or manner of breeding.

19. BLACK HAWK.

WILSON, PLATE LIII. FIG. II. — YOUNG BIRD.

THIS is probably a younger bird of the preceding species, being, though a male, somewhat less than its companion. Both were killed in the same meadow, at the same place and time. In form, features, and habits, it exactly agreed with the former.

This bird measures twenty inches in length, and in extent four feet; the eyes, bill, cere, toes, and claws, were as in the preceding; head above, white, streaked with black and light brown; along the eyebrows a black line; cheeks, streaked like the head; neck, streaked with black and reddish brown, on a pale yellowish white ground; whole upper parts brown black, dashed with brownish white and pale ferruginous; tail, white for half its length, ending in brown, marked with one or two

* *Arctic Zoology*, Nos. 93 and 94.

bars of dusky and a large bar of black, and tipt with dull white; wings as in the preceding, their lining variegated with black, white, and ferruginous; throat and breast brownish yellow, dashed with black; belly beautifully variegated with spots of white, black, and pale ferruginous; femorals and feathered legs the same, but rather darker; vent, plain brownish white.

The original colour of these birds in their young state may probably be pale brown, as the present individual seemed to be changing to a darker colour on the neck and sides of the head. This change, from pale brown to black, is not greater than some of the genus are actually known to undergo. One great advantage of examining living, or newly killed specimens, is, that whatever may be the difference of colour between any two, the eye, countenance, and form of the head, instantly betray the common family to which they belong; for this family likeness is never lost in the living bird, though in stuffed skins and preserved specimens it is frequently entirely obliterated. I have no hesitation, therefore, in giving it as my opinion, that the present and preceding birds are of the same species, differing only in age, both being males. Of the female I am unable at present to speak.

Pennant, in his account of the chocolate-coloured hawk, which is, very probably, the same with the present and preceding species, observes, that it preys much on ducks, sitting on a rock, and watching their rising, when it instantly strikes them.

While traversing our sea coast and salt marshes, between Cape May and Egg Harbour, I was everywhere told of a *duck hawk*, noted for striking down ducks on wing, though flying with their usual rapidity. Many extravagancies were mingled with these accounts, particularly, that it always struck the ducks with its breast-bone, which was universally said to project several inches, and to be strong and sharp. From the best verbal descriptions I could obtain of this hawk, I have strong suspicions that it is no other than the *black hawk*, as its wings were said to be long and very pointed, the colour very dark, the size nearly alike, and several other traits

given, that seemed particularly to belong to this species. As I have been promised specimens of this celebrated hawk next winter, a short time will enable me to determine the matter more satisfactorily. Few gunners in that quarter are unacquainted with the *duck hawk*, as it often robs them of their wounded birds before they are able to reach them.

20. *FALCO BOREALIS*, WILSON. — RED-TAILED HAWK.

WILSON, PLATE LII. FIG. I. — ADULT.

BIRDS naturally thinly dispersed over a vast extent of country; retiring during summer to the depth of the forests to breed; approaching the habitations of man, like other thieves and plunderers, with shy and cautious jealousy; seldom permitting a near advance; subject to great changes of plumage; and, since the decline of falconry, seldom or never domesticated,—offer to those who wish eagerly to investigate their history, and to delineate their particular character and manners, great and insurmountable difficulties. Little more can be done in such cases than to identify the species, and trace it through the various quarters of the world where it has been certainly met with.

The red-tailed hawk is most frequently seen in the lower parts of Pennsylvania during the severity of winter. Among the extensive meadows that border the Schuylkill and Delaware, below Philadelphia, where flocks of larks, (*alauda magna*,) and where mice and moles are in great abundance, many individuals of this hawk spend the greater part of the winter. Others prowl around the plantations, looking out for vagrant chickens; their method of seizing which is, by sweeping swiftly over the spot, and grappling them with their talons, and so bearing them away to the woods. The bird, from which the following description was taken,

was surprised in the act of feeding on a hen he had just killed, and which he was compelled to abandon. The remains of the chicken were immediately baited to a steel trap, and early the next morning the unfortunate red-tail was found a prisoner, securely fastened by the leg. The same hen, which the day before he had massacred, was, the very next, made the means of decoying him to his destruction,—in the eye of the farmer a system of fair and just retribution.

This species inhabits the whole United States, and, I believe, is not migratory, as I found it, in the month of May, as far south as Fort Adams, in the Mississippi territory. The young were, at that time, nearly as large as their parents, and were very clamorous, making an incessant squealing noise. One, which I shot, contained in its stomach mingled fragments of frogs and lizards.

The red-tailed hawk is twenty inches long, and three feet nine inches in extent; bill, blue black; cere, and sides of the mouth, yellow, tinged with green; lores, and spot on the under eyelid, white, the former marked with fine radiating hairs; eyebrow, or cartilage, a dull eel-skin colour, prominent, projecting over the eye; a broad streak of dark brown extends from the sides of the mouth backwards; crown and hind head, dark brown, seamed with white, and ferruginous; sides of the neck, dull ferruginous, streaked with brown; eye, large; iris, pale amber; back and shoulders, deep brown; wings, dusky, barred with blackish; ends of the five first primaries nearly black; scapulars, barred broadly with white and brown; sides of the tail coverts, white, barred with ferruginous, middle ones dark, edged with rust; tail, rounded, extending two inches beyond the wings, and of a bright red brown, with a single band of black near the end, and tipped with brownish white; on some of the lateral feathers are slight indications of the remains of other narrow bars; lower parts, brownish white; the breast, ferruginous, streaked with dark brown; across the belly, a band of interrupted spots of brown; chin, white; femorals and vent, pale

brownish white, the former marked with a few minute heart-shaped spots of brown; legs, yellow, feathered half way below the knees.

This was a male. Another specimen, shot within a few days after, agreed, in almost every particular of its colour and markings, with the present; and, on dissection, was found to be a female.

21. *FALCO LEVERIANUS*, AMERICAN BUZZARD, OR WHITE-BREADED HAWK.*

WILSON, PLATE LII. FIG. I.

It is with some doubt and hesitation that I introduce the present as a distinct species from the preceding. In their size and general aspect they resemble each other considerably; yet I have found both males and females among each; and in the present species I have sometimes found the ground colour of the tail strongly tinged with ferruginous, and the bars of dusky but slight; while in the preceding the tail is sometimes wholly red brown, the single bar of black near the tip excepted; in other specimens evident remains of numerous other bars are visible. In the meantime, both are described, and future observations may throw more light on the matter.

This bird is more numerous than the last; but frequents the same situations in winter. One, which was shot in the wing, lived with me several weeks; but refused to eat. It amused itself by frequently hopping from one end of the room to the other; and sitting for hours at the window, looking down on the passengers below. At first, when approached by any person, he generally put himself in a threatening position; but after some time he became quite familiar, permitting himself to be handled, and shutting

* This is the young of the preceding species.

his eyes, as if quite passive. Though he lived so long without food, he was found on dissection to be exceedingly fat, his stomach being enveloped in a mass of solid fat of nearly an inch in thickness.

The white-breasted hawk is twenty-two inches long, and four feet in extent; cere, pale green; bill, pale blue, black at the point; eye, bright straw colour; eyebrow, projecting greatly; head, broad, flat, and large; upper part of the head, sides of the neck and back, brown, streaked and seamed with white and some pale rust; scapulars and wing-coverts spotted with white; wing quills much resembling the preceding species; tail coverts, white, handsomely barred with brown; tail, slightly rounded, of a pale brown colour, varying in some to a sorrel, crossed by nine or ten bars of black, and tipped for half an inch with white; wings, brown, barred with dusky; inner vanes nearly all white; chin, throat, and breast, pure white, with the exception of some slight touches of brown that enclose the chin; femorals, yellowish white, thinly marked with minute touches of rust; legs, bright yellow, feathered half way down; belly, broadly spotted with black or very deep brown; the tips of the wings reach to the middle of the tail.

My reasons for inclining to consider this a distinct species from the last, is that of having uniformly found the present two or three inches larger than the former, though this may possibly be owing to their greater age.

SUBGENUS IX. — *CIRCUS*, BECHSTEIN.

22. *FALCO HYEMALIS*, WILSON. — WINTER FALCON.

WILSON, PL. XXXV. FIG. I. — ADULT MALE.

THIS elegant and spirited hawk visits us from the north early in November, and leaves us late in March.

He is a dexterous frog catcher; and, that he may pursue his profession with full effect, takes up his winter residence almost entirely among our meadows and marshes. He sometimes stuffs himself so enormously with these reptiles, that the prominency of his craw makes a large bunch, and he appears to fly with difficulty. I have taken the broken fragments, and whole carcasses of ten frogs, of different dimensions, from the crop of a single individual. Of his genius and other exploits, I am unable to say much. He appears to be a fearless and active bird, silent, and not very shy. One which I kept for some time, and which was slightly wounded, disdained all attempts made to reconcile him to confinement; and would not suffer a person to approach without being highly irritated, throwing himself backward, and striking, with expanded talons, with great fury. Though shorter winged than some of his tribe, yet I have no doubt, but, with proper care, he might be trained to strike nobler game, in a bold style, and with great effect. But the education of hawks in this country may well be postponed for a time, until fewer improvements remain to be made in that of the human subject.

Length of the winter hawk twenty inches; extent forty-one inches, or nearly three feet six inches; cere and legs, yellow, the latter long, and feathered for an inch below the knee; bill, bluish black, small, furnished with a tooth in the upper mandible; eye, bright amber, cartilage over the eye, very prominent, and of a dull green; head, sides of the neck, and throat, dark brown, streaked with white; lesser coverts with a strong glow of ferruginous; secondaries, pale brown, indistinctly barred with darker; primaries, brownish orange, spotted with black, wholly black at the tips; tail, long, slightly rounded, barred alternately with dark and pale brown; inner vanes, white, exterior feathers, brownish orange; wings, when closed, reach rather beyond the middle of the tail; tail coverts, white, marked with heart-shaped spots of brown, breast and belly, white, with numerous long drops of brown, the shafts blackish;

femoral feathers, large, pale yellow ochre, marked with numerous minute streaks of pale brown; claws, black. The legs of this bird are represented by different authors as slender; but I saw no appearance of this in those I examined.

The female is considerably darker above, and about two inches longer.

23. *FALCO LINEATUS*, WILSON.* — RED-SHOULDERED HAWK.

WILSON, PLATE LIII. FIG. III.

THIS species is more rarely met with than either of the former. Its haunts are in the neighbourhood of the sea. It preys on larks, sandpipers, and the small ringed plover, and frequently on ducks. It flies high and irregularly, and not in the sailing manner of the long-winged hawks. I have occasionally observed this bird near Egg Harbour, in New Jersey, and once in the meadows below this city. This hawk was first transmitted to Great Britain by Mr Blackburne, from Long Island, in the state of New York. With its manner of building, eggs, &c. we are altogether unacquainted.

The red-shouldered hawk is nineteen inches long; the head and back are brown, seamed and edged with rusty; bill, blue black; cere and legs, yellow; greater wing-coverts and secondaries, pale olive brown, thickly spotted on both vanes with white and pale rusty; primaries, very dark, nearly black, and barred or spotted with white; tail, rounded, reaching about an inch and a half beyond the wings, black, crossed by five bands of white, and broadly tipped with the same; whole breast and belly, bright rusty, speckled and spotted with transverse rows of white, the shafts black; chin and cheeks, pale brownish, streaked also with black; iris, reddish hazel; vent, pale ochre, tipped with rusty; legs, feathered a little below the

* This appears to be the young male of the winter falcon.

knees, long; these and the feet, a fine yellow; claws, black; femorals, pale rusty, faintly barred with a darker tint.

In the month of April I shot a female of this species, and the only one I have yet met with, in a swamp, seven or eight miles below Philadelphia. The eggs were, some of them, nearly as large as peas, from which circumstance, I think it probable, they breed in such solitary parts even in this state. In colour, size, and markings, it differed very little from the male described above. The tail was scarcely quite so black, and the white bars not so pure; it was also something larger.

24. *FALCO ULIGINOSUS*, WILSON.—*FALCO CYANEUS*, LINNÆUS.

MARSH HAWK.

WILSON, PLATE LI. FIG. I.—YOUNG FEMALE.

A DRAWING of this hawk was transmitted to Mr Edwards, more than fifty years ago, by Mr William Bartram, and engraved in Plate 291 of *Edwards's Ornithology*. At that time, and I believe till now, it has been considered as a species peculiar to this country.

I have examined various individuals of this hawk, both in summer and in the depth of winter, and find them to correspond so nearly with the ring-tail of Europe, that I have no doubt of their being the same species.

This hawk is most numerous where there are extensive meadows and salt marshes, over which it sails very low, making frequent circuitous sweeps over the same ground, in search of a species of mouse, very abundant in such situations. It occasionally flaps the wings, but is most commonly seen sailing about within a few feet of the surface. They are usually known by the name of the mouse-hawk along the sea-coast of New Jersey, where

they are very common. Several were also brought me last winter from the meadows below Philadelphia. Having never seen its nest, I am unable to describe it from my own observation. It is said, by European writers, to build on the ground, or on low limbs of trees. Mr Pennant observes, that it sometimes changes to a rust-coloured variety, except on the rump and tail. It is found, as was to be expected, at Hudson's Bay, being native in both this latitude and that of Britain. We are also informed that it is common in the open and temperate parts of Russia and Siberia; and extends as far as Lake Baikal, though it is said not to be found in the north of Europe.*

The marsh hawk is twenty-one inches long, and three feet eleven inches in extent; cere and legs, yellow, the former tinged with green, the latter long and slender; nostril, large, triangular; this and the base of the bill, thickly covered with strong curving hairs, that rise from the space between the eye and bill, arching over the base of the bill and cere; this is a particular characteristic; bill, blue, black at the end; eye, dark hazel; cartilage overhanging the eye, and also the eyelid, bluish green; spot under the eye, and line from the front over it, brownish white; head above and back, dark glossy chocolate brown, the former slightly seamed with bright ferruginous; scapulars, spotted with the same *under the surface*; lesser coverts and band of the wing, here and there edged with the same; greater coverts and primaries, tipped with whitish; quills deep brown at the extreme half, some of the outer ones hoary on the exterior edge; all the primaries, yellowish white on the inner vanes and upper half, also barred on the inner vanes with black; tail, long, extending three inches beyond the wings, rounded at the end, and of a pale sorrel colour, crossed by four broad bars of very dark brown, the two middle feathers excepted, which are barred with deep and lighter shades of chocolate brown; chin, pale ferruginous; round the neck, a collar of bright rust colour;

* Pallas, as quoted by Pennant.

breast, belly, and vent, pale rust, shafted with brown; femorals, long, tapering, and of the same pale rust tint; legs, feathered near an inch below the knee. This was a female. The male differs chiefly in being rather lighter, and somewhat less.

This hawk is particularly serviceable to the rice fields of the southern states, by the havoc it makes among the clouds of rice buntings that spread such devastation among that grain, in its early stage. As it sails low, and swiftly, over the surface of the field, it keeps the flocks in perpetual fluctuation, and greatly interrupts their depredations. The planters consider one marsh hawk to be equal to several negroes for alarming the rice-birds. Formerly the marsh hawk used to be numerous along the Schuylkill and Delaware, during the time the reeds were ripening, and the reed-birds abundant; but they have of late years become less numerous here.

Mr Pennant considers the "*strong, thick, and short legs*" of this species, as specific distinctions from the ring-tailed hawk; the legs, however, are *long and slender*; and a marsh hawk such as he has described, with strong, thick, and short legs, is no where to be found in the United States.

GENUS III.—*STRIX*, LINNÆUS.

SUBGENUS I.—*SURNIA*, DUMERIL.

25. *STRIX HUDSONIA*, WILSON.—HAWK OWL.

WILSON, PLATE L. FIG. VI.—EDINBURGH COLLEGE MUSEUM.

THIS is an inhabitant of both continents, a kind of equivocal species, or rather a connecting link between the hawk and owl tribes, resembling the latter in the feet, and in the radiating feathers round the eye and bill; but

approaching nearer to the former in the smallness of its head, narrowness of its face, and in its length of tail. In short, it seems just such a figure as one would expect to see generated between a hawk and an owl of the same size, were it possible for them to produce; and yet is as distinct, independent, and original a species as any other. It has also another strong trait of the hawk tribe,—in flying and preying by day, contrary to the general habit of owls. It is characterized as a bold and active species, following the fowler, and carrying off his game as soon as it is shot. It is said to prey on partridges and other birds; and is very common at Hudson's Bay, where it is called by the Indians *coparacoch*.* We are also informed that this same species inhabits Denmark and Sweden, is frequent in all Siberia, and on the west side of the Uralian chain as far as Casan and the Volga; but not in Russia.† It was also seen by the navigators near Sandwich Sound, in lat. 61 deg. north.

This species is very rare in Pennsylvania, and the more southern parts of the United States. Its favourite range seems to be along the borders of the arctic regions, making occasional excursions southwardly when compelled by severity of weather, and consequent scarcity of food. I some time ago received a drawing of this bird, from the district of Maine, where it was considered rare: that, and another specimen which was shot in the neighbourhood of Philadelphia, are the only two that have come under my notice. These having luckily happened to be male and female, have enabled me to give a description of both. Of their nest, or manner of breeding, we have no account.

The male of this species is fifteen inches long; the bill, orange yellow, and almost hid among the feathers; plumage of the chin, curving up over the under mandible; eyes, bright orange; head, small; face, narrow, and with very little concavity; cheeks, white; crown and hind head, dusky black, thickly marked with round spots of white; sides of the neck, marked with a large

* Edwards.

† Pennant.

curving streak of brown black, with another a little behind it of a triangular form; back, scapulars, rump, and tail coverts, brown olive, thickly speckled with broad spots of white; the tail extends three inches beyond the tips of the wings, is of a brown olive colour, and crossed with six or seven narrow bars of white, rounded at the end, and also tipped with white; the breast and chin is marked with a large spot of brown olive; upper part of the breast, light; lower, and all the parts below, elegantly barred with dark brown and white; legs and feet, covered to and beyond the claws with long whitish plumage, slightly yellow, and barred with fine lines of olive; claws, horn colour. The weight of this bird was twelve ounces.

The female is much darker above; the quills are nearly black; and the upper part of the breast is blotched with deep blackish brown.

It is worthy of remark, that in all owls that fly by night, the exterior edges and sides of the wing quills are slightly recurved, and end in fine hairs or points; by means of which the bird is enabled to pass through the air with the greatest silence, a provision necessary for enabling it the better to surprise its prey. In the hawk owl now before us, which flies by day, and to whom this contrivance would be of no consequence, it is accordingly omitted, or at least is scarcely observable. So judicious, so wise, and perfectly applicable, are all the dispositions of the Creator.

26. *STRIX NYCTEA*, WILSON. — SNOW OWL.

WILSON, PLATE XXXII. FIG. I. — MALE. — EDINBURGH COLLEGE MUSEUM.

THIS great northern hunter inhabits the coldest and most dreary regions of the northern hemisphere on both continents. The forlorn mountains of Greenland, covered with eternal ice and snows, where, for nearly

half the year, the silence of death and desolation might almost be expected to reign, furnish food and shelter to this hardy adventurer; whence he is only driven by the extreme severity of weather towards the sea shore. He is found in Lapland, Norway, and the country near Hudson's Bay, during the whole year; is said to be common in Siberia, and numerous in Kantschatka. He is often seen in Canada and the northern districts of the United States; and sometimes extends his visits to the borders of Florida. Nature, ever provident, has so effectually secured this bird from the attacks of cold, that not even a point is left exposed. The bill is almost completely hid among a mass of feathers that cover the face; the legs are clothed with such an exuberance of long, thick, hair-like plumage, as to appear nearly as large as those of a middle-sized dog, nothing being visible but the claws, which are large, black, much hooked, and extremely sharp. The whole plumage below the surface is of the most exquisitely soft, warm, and elastic kind, and so closely matted together as to make it a difficult matter to penetrate to the skin.

The usual food of this species is said to be hares, grouse, rabbits, ducks, mice, and even carrion. Unlike most of his tribe, he hunts by day as well as by twilight, and is particularly fond of frequenting the shores and banks of shallow rivers, over the surface of which he slowly sails, or sits on a rock a little raised above the water, watching for fish. These he seizes with a sudden and instantaneous stroke of the foot, seldom missing his aim. In the more southern and thickly settled parts he is seldom seen; and when he appears, his size, colour, and singular aspect, attract general notice.

In the month of October, I met with this bird on Oswego River, New York state, a little below the Falls, vigilantly watching for fish. At Pittsburg, in the month of February, I saw another, which had been shot in the wing some time before. At a place on the Ohio, called Long Reach, I examined another, which was the first ever recollected to have been seen there.

In the town of Cincinnati, state of Ohio, two of these birds alighted on the roof of the court house, and alarmed the whole town. A people more disposed to superstition, would have deduced some dire or fortunate prognostication from their selecting such a place; but the only solicitude was how to get possession of them, which, after several volleys, was at length effected. One of these, a female, I afterwards examined, when on my way through that place to New Orleans. Near Bairdstown, in Kentucky, I met with a large and very beautiful one, which appeared to be altogether unknown to the inhabitants of that quarter, and excited general surprise. A person living on the eastern shore of Maryland, shot one of these birds a few months ago, a female; and, having stuffed the skin, brought it to Philadelphia, to Mr Peale, in expectation, no doubt, of a great reward. I have examined eleven of these birds within these fifteen months last past, in different and very distant parts of the country, all of which were shot either during winter, late in the fall, or early in spring; so that it does not appear certain whether any remain during summer within the territory of the United States; though I think it highly probable that a few do, in some of the more northern inland parts, where they are most numerous during winter.

The colour of this bird is well suited for concealment, while roaming over the general waste of snows; and its flight strong and swift, very similar to that of some of our large hawks. Its hearing must be exquisite, if we judge from the largeness of these organs in it; and its voice is so dismal, that, as Pennant observes, it adds horror even to the regions of Greenland, by its hideous cries, resembling those of a man in deep distress.

The male of this species measures twenty-two inches and a half in length, and four feet six inches in breadth; head and neck, nearly white, with a few small dots of dull brown interspersed; eyes, deep sunk, under projecting eyebrows, the plumage at their internal angles, fluted, or prest in, to admit direct vision; below this it bristles up, covering nearly the whole bill; the irides

are of the most brilliant golden yellow, and the countenance, from the proportionate smallness of the head, projection of the eyebrow, and concavity of the plumage at the angle of the eye, very different from that of any other of the genus; general colour of the body, white, marked with lunated spots of pale brown above, and with semicircular dashes below; femoral feathers, long, and legs covered, even over the claws, with long shaggy hair-like down, of a dirty white; the claws, when exposed, appear large, much hooked, of a black colour, and extremely sharp pointed; back, white; tail, rounded at the end, white, slightly dotted with pale brown near the tips; wings, when closed, reach near the extremity of the tail; vent feathers, large, strong shafted, and extending also to the point of the tail; upper part of the breast and belly, plain white; body, very broad and flat.

The female, which measures two feet in length, and five feet two inches in extent, is covered more thickly with spots of a much darker colour than those on the male; the chin, throat, face, belly, and vent, are white; femoral feathers white, long, and shaggy, marked with a few heart-shaped spots of brown; legs also covered to the claws with long white hairy down; rest of the plumage white, every feather spotted or barred with dark brown, largest on the wing quills, where they are about two inches apart; fore part of the crown, thickly marked with roundish black spots; tail, crossed with bands of broad brownish spots; shafts of all the plumage, white; bill and claws, as in the male, black; third and fourth wing quill the longest; span of the foot, four inches.

From the various individuals of these birds which I have examined, I have reason to believe that the male alone approaches nearly to white in his plumage, the female rarely or never. The conformation of the eye of this bird forms a curious and interesting subject to the young anatomist. The globe of the eye is immoveably fixed in its socket, by a strong elastic hard cartilaginous case, in form of a truncated cone; this

case being closely covered with a skin, appears at first to be of one continued piece; but, on removing the exterior membrane, it is found to be formed of fifteen pieces, placed like the staves of a cask, overlapping a little at the base, or narrow end, and seem as if capable of being enlarged or contracted, perhaps by the muscular membrane with which they are encased. In five other different species of owls, which I have examined, I found nearly the same conformation of this organ, and exactly the same number of staves. The eye being thus fixed, these birds, as they view different objects, are always obliged to turn the head; and nature has so excellently adapted their neck to this purpose, that they can, with ease, turn it round, without moving the body, in almost a complete circle.

27. *STRIX NÆVIA*, WILSON. — MOTTLED OWL.

WILSON, PLATE XIX. FIG. I.—ADULT.

ON contemplating the grave and antiquated figure of this *night wanderer*, so destitute of every thing like gracefulness of shape, I can scarcely refrain from smiling at the conceit, of the ludicrous appearance this bird must have made, had nature bestowed on it the powers of song, and given it the faculty of warbling out sprightly airs, while robed in such a solemn exterior. But the great God of Nature hath, in his wisdom, assigned to this class of birds a more unsocial, and less noble, though, perhaps, not less useful, disposition, by assimilating them, not only in form of countenance, but in voice, manners, and appetite, to some particular beasts of prey; secluding them from the enjoyment of the gay sunshine of day, and giving them little more than the few solitary hours of morning and evening twilight, to procure their food and pursue their amours; while all the tuneful tribes, a few excepted, are wrapt

in silence and repose. That their true character, however, should not be concealed from those weaker animals on whom they feed, (for heaven abhors deceit and hypocrisy,) He has stamped their countenance with strong traits of their murderer the cat; and birds in this respect are, perhaps, better physiognomists than men.

The owl now before us is chiefly a native of the northern regions, arriving here, with several others, about the commencement of cold weather; frequenting the uplands and mountainous districts, in preference to the lower parts of the country; and feeding on mice, small birds, beetles, and crickets. It is rather a scarce species in Pennsylvania; flies usually in the early part of night and morning; and is sometimes observed sitting on the fences during day, when it is easily caught; its vision at that time being very imperfect.

The bird which I am about to describe, was taken in this situation, and presented to me by a friend. I kept it in the room beside me for some time, during which its usual position was such as I have given it. Its eyelids were either half shut, or slowly and alternately opening and shutting, as if suffering from the glare of day; but no sooner was the sun set, than its whole appearance became lively and animated; its full and globular eyes shone like those of a cat; and it often lowered its head, in the manner of a cock when preparing to fight, moving it from side to side, and also vertically, as if reconnoitring you with great sharpness. In flying through the room, it shifted from place to place with the silence of a spirit, (if I may be allowed the expression,) the plumage of its wings being so extremely fine and soft as to occasion little or no friction with the air,—a wise provision of nature, bestowed on the whole genus, to enable them, without giving alarm, to seize their prey in the night. For an hour or two in the evening, and about break of day, it flew about with great activity. When angry, it snapped its bill repeatedly with violence, and so loud as to be heard in the adjoining room, swelling out its eyes to their full dimen-

sions, and lowering its head as before described. It swallowed its food hastily, in large mouthfuls; and never was observed to drink. Of the eggs and nest of this species, I am unable to speak.

The mottled owl is ten inches long, and twenty-two in extent; the upper part of the head, the back, ears, and lesser wing-coverts, are dark brown, streaked and variegated with black, pale brown, and ash; wings, lighter, the greater coverts and primaries spotted with white; tail, short, even, and mottled with black, pale brown, and whitish, on a dark brown ground; its lower side, gray; horns, (as they are usually called,) very prominent, each composed of ten feathers, increasing in length from the front backwards, and lightest on the inside; face, whitish, marked with small touches of dusky, and bounded on each side with a circlet of black; breast and belly, white, beautifully variegated with ragged streaks of black, and small transverse touches of brown; legs, feathered nearly to the claws, with a kind of hairy down, of a pale brown colour; vent and under tail-coverts, white, the latter slightly marked with brown; iris of the eye, a brilliant golden yellow; bill and claws, bluish horn colour.

This was a female. The male is considerably less in size; the general colours darker; and the white on the wing-coverts not so observable.

Hollow trees, either in the woods or orchard, or close evergreens in retired situations, are the usual roosting places of this and most of our other species. These retreats, however, are frequently discovered by the nuthatch, titmouse, or blue jay, who instantly raise the alarm; a promiscuous group of feathered neighbours soon collect round the spot, like crowds in the streets of a large city, when a thief or murderer is detected; and, by their insults and vociferation, oblige the recluse to seek for another lodging elsewhere. This may account for the circumstance of sometimes finding them abroad during the day, on fences and other exposed situations.

28. *STRIX ASIO*, WILSON. — RED OWL.

WILSON, PLATE XLII. FIG. I. *

THIS is another of our nocturnal wanderers, well known by its common name, the *Little Screech Owl*; and noted for its melancholy quivering kind of wailing in the evenings, particularly towards the latter part of summer and autumn, near the farm house. On clear moonlight nights, they answer each other from various parts of the fields or orchard; roost during the day in thick evergreens, such as cedar, pine, or juniper trees, and are rarely seen abroad in sunshine. In May, they construct their nest in the hollow of a tree, often in the orchard in an old apple tree; the nest is composed of some hay and a few feathers; the eggs are four, pure white, and nearly round. The young are at first covered with a whitish down.

This specimen I kept for several weeks in the room beside me. It was caught in a barn, where it had taken up its lodging, probably for the greater convenience of mousing; and being unhurt, I had an opportunity of remarking its manners. At first, it struck itself so forcibly against the window, as frequently to deprive it, seemingly, of all sensation for several minutes: this was done so repeatedly, that I began to fear that either the glass or the owl's skull must give way. In a few days, however, it either began to comprehend something of the matter, or to take disgust at the glass, for it never repeated its attempts; and soon became quite tame and familiar. Those who have seen this bird only in the day, can form but an imperfect idea of its activity, and even sprightliness, in its proper season of exercise. Throughout the day, it was all stillness and gravity; its eyelids half shut, its neck contracted, and its head shrunk seemingly into its body; but scarcely was the sun set, and twilight began to approach, when its eyes became full and sparkling, like two living globes of fire;

* This appears to be the young of the mottled owl.

it crouched on its perch, reconnoitred every object around with looks of eager fierceness; alighted and fed; stood on the meat with clenched talons, while it tore it in morsels with its bill; flew round the room with the silence of thought, and perching, moaned out its melancholy notes with many lively gesticulations, not at all accordant with the pitiful tone of its ditty, which reminded one of the shivering moanings of a half frozen puppy.

This species is found generally over the United States, and is not migratory.

The red owl is eight inches and a half long, and twenty-one inches in extent; general colour of the plumage above, a bright nut brown, or tawny red; the shafts, black; exterior edges of the outer row of scapulars, white; bastard wing, the five first primaries, and three or four of the first greater coverts, also spotted with white; whole wing quills, spotted with dusky on their exterior webs; tail, rounded, transversely barred with dusky and pale brown; chin, breast, and sides, bright reddish brown, streaked laterally with black, intermixed with white; belly and vent, white, spotted with bright brown; legs, covered to the claws with pale brown hairy down; extremities of the toes and claws, pale bluish, ending in black; bill, a pale bluish horn colour; eyes, vivid yellow; inner angles of the eyes, eyebrows, and space surrounding the bill, whitish: rest of the face nut brown; head, horned or eared, each consisting of nine or ten feathers of a tawny red, shafted with black.

SUBGENUS II. — ULULA, CUVIER.

29. *STRIX VIRGINIANA*, WILSON. — GREAT HORNED OWL.

WILSON, PL. L. FIG. I. — EDINBURGH COLLEGE MUSEUM.

THIS noted and formidable owl is found in almost every quarter of the United States. His favourite residence, however, is in the dark solitudes of deep swamps, covered with a growth of gigantic timber; and

here, as soon as evening draws on, and mankind retire to rest, he sends forth such sounds as seem scarcely to belong to this world, startling the solitary pilgrim as he slumbers by his forest fire,

“ Making night hideous.”

Along the mountainous shores of the Ohio, and amidst the deep forests of Indiana, alone, and reposing in the woods, this ghostly watchman has frequently warned me of the approach of morning, and amused me with his singular exclamations, sometimes sweeping down and around my fire, uttering a loud and sudden *Waugh O!* *Waugh O!* sufficient to have alarmed a whole garrison. He has other nocturnal solos, no less melodious, one of which very strikingly resembles the half suppressed screams of a person suffocating, or throttled, and cannot fail of being exceedingly entertaining to a lonely benighted traveller, in the midst of an Indian wilderness!

This species inhabits the country round Hudson's Bay; and, according to Pennant, who considers it a mere variety of the eagle owl (*strix bubo*) of Europe, is found in Kamtschatka; extends even to the arctic regions, where it is often found white; and occurs as low as Astrakan. It has also been seen white in the United States; but this has doubtless been owing to disease or natural defect, and not to climate. It preys on young rabbits, squirrels, rats, mice, partridges, and small birds of various kinds. It has been often known to prowl about the farm house, and carry off chickens from roost. A very large one, wing-broken while on a foraging excursion of this kind, was kept about the house for several days, and at length disappeared, no one knew how. Almost every day after this, hens and chickens also disappeared, one by one, in an unaccountable manner, till, in eight or ten days, very few were left remaining. The fox, the minx, and weasel, were alternately the reputed authors of this mischief, until one morning, the old lady herself, rising before day to bake, in passing towards the oven, surprised her late prisoner, the owl, regaling himself on the body of a newly killed

hen! The thief instantly made for his hole, under the house, from whence the enraged matron soon dislodged him, with the brush handle, and without mercy despatched him. In this snug retreat, were found the greater part of the feathers, and many large fragments of her whole family of chickens.

There is something in the character of the owl so recluse, solitary, and mysterious, something so discordant in the tones of its voice, heard only amid the silence and gloom of night, and in the most lonely and sequestered situations, as to have strongly impressed the minds of mankind in general with sensations of awe and abhorrence of the whole tribe. The poets have indulged freely in this general prejudice; and in their descriptions and delineations of midnight storms, and gloomy scenes of nature, the owl is generally introduced to heighten the horror of the picture. Ignorance and superstition, in all ages, and in all countries, listen to the voice of the owl, and even contemplate its physiognomy, with feelings of disgust, and a kind of fearful awe. The priests, or conjurers, among some of our Indian nations, have taken advantage of the reverential horror for this bird, and have adopted the *great horned owl*, the subject of the present account, as the symbol or emblem of their office. "Among the Creeks," says Mr Bartram, in his *Travels*, p. 504, "the junior priests, or students, constantly wear a white mantle, and have a great owl-skin cased and stuffed very ingeniously, so well executed as almost to appear like the living bird, having large sparkling glass beads, or buttons, fixed in the head for eyes. This insignia of wisdom and divination they wear sometimes as a crest on the top of the head; at other times the image sits on the arm, or is borne on the hand. These bachelors are also distinguished from the other people by their taciturnity, grave and solemn countenance, dignified step, and singing to themselves songs or hymns in a low, sweet voice, as they stroll about the town."

Nothing is a more effectual cure for superstition than a knowledge of the general laws and productions

of nature ; nor more forcibly leads our reflections to the first, great, self-existent CAUSE of all, to whom our reverential awe is then humbly devoted, and not to any of his dependant creatures. With all the gloomy habits and ungracious tones of the owl, there is nothing in this bird supernatural or mysterious, or more than that of a simple bird of prey, formed for feeding by night, like many other animals, and of reposing by day. The harshness of its voice, occasioned by the width and capacity of its throat, may be intended by Heaven as an alarm and warning to the birds and animals on which it preys to secure themselves from danger. The voices of all carnivorous birds and animals are also observed to be harsh and hideous, probably for this very purpose.

The great horned owl is not migratory, but remains with us the whole year. During the day he slumbers in the thick evergreens of deep swamps, or seeks shelter in large hollow trees. He is very rarely seen abroad by day, and never but when disturbed. In the month of May they usually begin to build. The nest is generally placed in the fork of a tall tree, and is constructed of sticks piled in considerable quantities, lined with dry leaves and a few feathers. Sometimes they choose a hollow tree ; and in that case carry in but few materials. The female lays four eggs, nearly as large as those of a hen, almost globular, and of a pure white. In one of these nests, after the young had flown, were found the heads and bones of two chickens, the legs and head of the golden-winged woodpecker, and part of the wings and feathers of several other birds. It is conjectured that they hatch but once in the season.

The length of the male of this species is twenty inches ; the bill is large, black, and strong, covered at the base with a cere ; the eyes, golden yellow ; the horns are three inches in length, and very broad, consisting of twelve or fourteen feathers, their webs black, broadly edged with bright tawny ; face, rusty, bounded on each side by a band of black ; space between the eyes and bill, whitish ; whole lower parts elegantly marked with numerous transverse bars of dusky on a

bright tawny ground, thinly interspersed with white; vent, pale yellow ochre, barred with narrow lines of brown; legs and feet large, and covered with feathers or hairy down of a pale brown colour; claws, very large, blue black; tail, rounded, extending about an inch beyond the tips of the wings, crossed with six or seven narrow bars of brown, and variegated or marbled with brown and tawny; whole upper parts finely pencilled with dusky, on a tawny and whitish ground; chin, pure white, under that a band of brown, succeeded by another narrow one of white; eyes, very large.

The female is full two feet in length, and has not the white on the throat so pure. She has also less of the bright ferruginous or tawny tint below; but is principally distinguished by her superior magnitude.

30. *STRIX OTUS*, WILSON. — LONG-EARED OWL.

WILSON, PL. LI. FIG. I. — EDINBURGH COLLEGE MUSEUM.

THIS owl is common to both continents, and is much more numerous in Pennsylvania than the white, or barn owl: six or seven were found in a single tree, about fifteen miles from Philadelphia. There is little doubt but this species is found inhabiting America to a high latitude; though we have no certain accounts of the fact. Except in size, this species has more resemblance to the great horned owl than any other of its tribe. It resembles it also in breeding among the branches of tall trees; lays four eggs, of nearly a round form, and pure white.* The young are greyish white until nearly full grown, and roost during the day close together on a limb, among the thickest of the foliage. This owl is frequently seen abroad during the day, but is not remarkable for its voice or habits.

The long-eared owl is fourteen inches and a half long, and three feet two inches in extent; ears, large, composed of six feathers, gradually lengthening from

* Buffon remarks, that it rarely constructs a nest of its own; but not unfrequently occupies that of others, particularly the magpie.

the front one backwards, black, edged with rusty yellow; irides, vivid yellow; inside of the circle of the face, white, outside or cheeks, rusty; at the internal angle of the eye, a streak of black; bill, blackish horn colour; forehead and crown, deep brown, speckled with minute points of white and pale rusty; outside circle of the face, black, finely marked with small curving spots of white; back and wings, dark brown, sprinkled and spotted with white, pale ferruginous and dusky; primaries, barred with brownish yellow and dusky, darkening towards the tips; secondaries, more finely barred and powdered with white and dusky; tail, rounded at the end, of the same length with the wings, beautifully barred and marbled with dull white and pale rusty, on a dark brown ground; throat and breast, clouded with rusty, cream, black and white; belly, beautifully streaked with large arrow-heads of black; legs and thighs, plain pale rusty, feathered to the claws, which are blue black, large, and sharp; inside of the wing, brownish yellow, with a large spot of black at the root of the primaries. This was a female. Of the male I cannot speak precisely; though, from the numbers of these birds which I have examined in the fall, when it is difficult to ascertain their sex, I conjecture that they differ very little in colour.

About six or seven miles below Philadelphia, and not far from the Delaware, is a low swamp, thickly covered with trees, and inundated during great part of the year. This place is the resort of great numbers of the qua-bird, or night raven (*ardea nycticorax*), where they build in large companies. On the 25th of April, while wading among the dark recesses of this place, observing the habits of these birds, I discovered a *long-eared owl*, which had taken possession of one of their nests, and was sitting; on mounting to the nest, I found it contained four eggs, and, breaking one of these, the young appeared almost ready to leave the shell. There were numbers of the qua-birds' nests on the adjoining trees all around, and one of them actually on the same tree. Thus we see how unvarying are the manners of

this species, however remote and different the countries may be where it has taken up its residence.

31. *STRIX BRACHYOTOS*, WILSON. — SHORT-EARED OWL.

WILSON, PLATE XXXIII. FIG. III. — MALE. — EDINBURGH COLLEGE MUSEUM.

THIS is another species common to both continents, being found in Britain as far north as the Orkney Isles, where it also breeds, building its nest upon the ground, amidst the heath; arrives and disappears in the south parts of England with the woodcock, that is, in October and April; consequently does not breed there. It is called at Hudson's Bay, the mouse hawk; and is described as not flying, like other owls, in search of prey, but sitting quiet, on a stump of a tree, watching for mice. It is said to be found in plenty in the woods near Chatteau Bay, on the coast of Labrador. In the United States, it is also a bird of passage, coming to us from the north in November, and departing in April. It has the stern aspect of a keen, vigorous, and active bird; and is reputed to be an excellent mouser. It flies frequently by day, particularly in dark, cloudy weather, takes short flights; and, when sitting and looking sharply around, erects the two slight feathers that constitute its horns, which are at such times very noticeable; but, otherwise, not perceivable. No person, on slightly examining this bird after being shot, would suspect it to be furnished with horns; nor are they discovered but by careful search, or previous observation on the living bird. Bewick, in his *History of British Birds*, remarks, that this species is sometimes seen in companies, — twenty-eight of them being once counted in a turnip field in November.

Length, fifteen inches; extent, three feet four inches; general colour above, dark brown, the feathers broadly skirted with pale yellowish brown; bill, large, black; irides, rich golden yellow, placed in a bed of deep black, which radiates outwards all around, except towards

the bill, where the plumage is whitish ; ears, bordered with a semicircular line of black and tawny yellow dots ; tail, rounded, longer than usual with owls, crossed with five bands of dark brown, and as many of yellow ochre,—some of the latter have central spots of dark brown,—the whole tipped with white ; quills also banded with dark brown and yellow ochre ; breast and belly streaked with dark brown, on a ground of yellowish ; legs, thighs, and vent, plain dull yellow ; tips of the three first quill feathers, black ; legs, clothed to the claws, which are black, curved to about the quarter of a circle, and exceedingly sharp.

The female I have never seen ; but she is said to be somewhat larger, and much darker ; and the spots on the breast larger, and more numerous.

32. *STRIX NEBULOSA*, LINNÆUS. — BARRED OWL.

WILSON, PL. XXVIII. FIG. II. — EDINBURGH COLLEGE MUSEUM.

THIS is one of our most common owls. In winter particularly, it is numerous in the lower parts of Pennsylvania, among the woods that border the extensive meadows of Schuylkill and Delaware. It is very frequently observed flying during day, and certainly sees more distinctly at that time than many of its genus. In one spring, at different times, I met with more than forty of them, generally flying, or sitting exposed. I also once met with one of their nests, containing three young, in the crotch of a white oak, among thick foliage. The nest was rudely put together, composed outwardly of sticks, intermixed with some dry grass and leaves, and lined with smaller twigs. At another time, in passing through the woods, I perceived something white, on the high shaded branch of a tree, close to the trunk, that, as I thought, looked like a cat asleep. Unable to satisfy myself, I was induced to fire, when, to my surprise and regret, four young owls, of this same species, nearly full grown, came down headlong, and, fluttering for a few moments, died at my

feet. Their nest was probably not far distant. I have also seen the eggs of this species, which are nearly as large as those of a young pullet, but much more globular, and perfectly white.

These birds sometimes seize on fowls, partridges, and young rabbits; mice and small game are, however, their most usual food. The difference of size between the male and female of this owl is extraordinary, amounting sometimes to nearly eight inches in the length. Both scream during day, like a hawk.

The male barred owl measures sixteen inches and a half in length, and thirty-eight inches in extent; upper parts a pale brown, marked with transverse spots of white; wings, barred with alternate bands of pale brown, and darker; head, smooth, very large, mottled with transverse touches of dark brown, pale brown, and white; eyes, large, deep blue, the pupil not perceivable; face, or radiated circle of the eyes, grey, surrounded by an outline of brown and white dots; bill, yellow, tinged with green; breast, barred transversely with rows of brown and white; belly, streaked longitudinally with long stripes of brown, on a yellowish ground; vent, plain yellowish white; thighs and feathered legs, the same, slightly pointed with brown; toes, nearly covered with plumage; claws, dark horn colour, very sharp; tail, rounded, and remarkably concave below, barred with six broad bars of brown, and as many narrow ones of white; the back and shoulders have a cast of chestnut; at each internal angle of the eye, is a broad spot of black; the plumage of the radiated circle round the eye ends in long black hairs; and the bill is encompassed by others of a longer and more bristly kind. These probably serve to guard the eye when any danger approaches it in sweeping hastily through the woods; and those usually found on fly-catchers may have the same intention to fulfil; for, on the slightest touch of the point of any of these hairs, the nictitant membrane was instantly thrown over the eye.

The female is twenty-two inches long, and four feet in extent; the chief difference of colour consists in her

wings being broadly spotted with white; the shoulder being a plain chocolate brown; the tail extends considerably beyond the tips of the wings; the bill is much larger, and of a more golden yellow; iris of the eye, the same as that of the male.

The different character of the feathers of this, and, I believe, of most owls, is really surprising. Those that surround the bill differ little from bristles; those that surround the region of the eyes are exceeding open, and unwebbed; these are bounded by another set, generally proceeding from the external edge of the ear, of a most peculiar small, narrow, velvety kind, whose fibres are so exquisitely fine, as to be invisible to the naked eye; above, the plumage has one general character at the surface, calculated to repel rain and moisture; but, towards the roots, it is of the most soft, loose, and downy substance in nature,—so much so, that it may be touched without being felt; the webs of the wing quills are also of a delicate softness, covered with an almost imperceptible hair, and edged with a loose silky down, so that the owner passes through the air without interrupting the most profound silence. Who cannot perceive the hand of God in all these things!

33. *STRIX PASSERINA*, LINNÆUS.—LITTLE OWL.

STRIX ACADICA, GMELIN.

WILSON, PLATE XXXIV. FIG. I.—EDINBURGH COLLEGE MUSEUM.

THIS is one of the least of its whole genus; but, like many other little folks, makes up, in neatness of general form and appearance, for deficiency of size, and is, perhaps, the most shapely of all our owls. Nor are the colours and markings of its plumage inferior in simplicity and effect to most others. It also possesses an eye fully equal in spirit and brilliancy to the best of them.

This species is a general and constant inhabitant of the middle and northern states; but is found most numerous in the neighbourhood of the sea shore, and among woods and swamps of pine trees. It rarely

rambles much during day; but, if disturbed, flies a short way, and again takes shelter from the light; at the approach of twilight it is all life and activity, being a noted and dexterous mouse-catcher. It is found as far north as Nova Scotia, and even Hudson's Bay; is frequent in Russia; builds its nest generally in pines, half way up the tree, and lays two eggs, which, like those of the rest of its genus, are white. The melancholy and gloomy umbrage of those solitary evergreens forms its favourite haunts, where it sits dozing and slumbering all day, lulled by the roar of the neighbouring ocean.

The little owl is seven inches and a half long, and eighteen inches in extent; the upper parts are a plain brown olive, the scapulars and some of the greater and lesser coverts being spotted with white; the first five primaries are crossed obliquely with five bars of white; tail, rounded, rather darker than the body, crossed with two rows of white spots, and tipped with white; whole interior vanes of the wings, spotted with the same; auriculars, yellowish brown; crown, upper part of the neck, and circle surrounding the ears, beautifully marked with numerous points of white on an olive brown ground; front, pure white, ending in long blackish hairs; at the internal angle of the eyes, a broad spot of black radiating outwards; irides, pale yellow; bill, a blackish horn colour; lower parts, streaked with yellow ochre and reddish bay; thighs, and feathered legs, pale buff; toes, covered to the claws, which are black, large, and sharp-pointed.

The bird, from which the foregoing description was taken, was shot on the sea shore, near Great Egg Harbour, in New Jersey, in the month of November, and, on dissection, was found to be a female. Turton describes a species called the white-fronted owl (*S. albifrons*,) which, in every thing except the size, agrees with this bird, and has, very probably, been taken from a young male, which is sometimes found considerably less than the female.

SUBGENUS III. — *STRIX*, SAVIGNY.34. *STRIX FLAMMEA*, LINNÆUS.—WHITE, OR BARN OWL.

WILSON, PLATE L. FIG. II.—EDINBURGH COLLEGE MUSEUM.

THIS owl, though so common in Europe, is rare in this part of the United States, and is only found here during very severe winters. This may possibly be owing to the want of those favourite recesses in this part of the world, which it so much affects in the eastern continent. The multitudes of old ruined castles, towers, monasteries, and cathedrals, that everywhere rise to view in those countries, are the chosen haunts of this well-known species. Its savage cries at night give, with vulgar minds, a cast of supernatural horror to those venerable mouldering piles of antiquity. This species, being common to both continents, doubtless extends to the arctic regions. It also inhabits Tartary, where, according to Pennant, "the Monguls and natives almost pay it divine honours, because they attribute to this species the preservation of the founder of their empire, Gingham Khan. That prince, with his small army, happened to be surprised and put to flight by his enemies, and forced to conceal himself in a little coppice; an owl settled on the bush under which he was hid, and induced his pursuers not to search there, as they thought it impossible that any man could be concealed in a place where that bird would perch. From thenceforth they held it to be sacred, and every one wore a plume of the feathers of this species on his head. To this day the Kalmucs continue the custom on all great festivals; and some tribes have an idol in form of an owl, to which they fasten the real legs of one."*

This species is rarely found in Pennsylvania in summer. Of its place and manner of building, I am unable, from my own observation, to speak. The bird itself has been several times found in the hollow of a tree,

* *Arctic Zoology*, p. 235.

and was once caught in a barn in my neighbourhood. European writers inform us, that it makes no nest, but deposits its eggs in the holes of walls, and lays five or six, of a whitish colour; is said to feed on mice and small birds, which, like the most of its tribe, it swallows whole, and afterwards emits the bones, feathers, and other indigestible parts, at its mouth, in the form of small round cakes, which are often found in the empty buildings it frequents. During its repose it is said to make a blowing noise resembling the snoring of a man.*

It is distinguished in England by various names, the barn owl, the church owl, gillihowlet, and screech owl. In the lowlands of Scotland it is universally called the hoolet.

The white or barn owl is fourteen inches long, and upwards of three feet six inches in extent; bill, a whitish horn colour, longer than is usual among its tribe; space surrounding each eye remarkably concave, the radiating feathers meeting in a high projecting ridge, arching from the bill upwards; between these lies a thick tuft of bright tawny feathers, that are scarcely seen, unless the ridges be separated; face, white, surrounded by a border of narrow thickset velvety feathers, of a reddish cream colour at the tip, pure silvery white below, and finely shafted with black; whole upper parts, a bright tawny yellow, thickly sprinkled with whitish and pale purple, and beautifully interspersed with larger drops of white, each feather of the back and wing-coverts ending in an oblong spot of white bounded by black; head, large, tumid; sides of the neck, pale yellow ochre, thinly sprinkled with small touches of dusky; primaries and secondaries the same, thinly barred, and thickly sprinkled with dull purplish brown; tail, two inches shorter than the tips of the wings, even, or very slightly forked, pale yellowish, crossed with five bars of brown, and thickly dotted with the same; whole lower parts, pure white, thinly interspersed with small round spots of blackish; thighs, the

* Bewick, I. p. 20.

same; legs, long, thinly covered with short white down nearly to the feet, which are of a dirty white, and thickly warted; toes, thinly clad with white hairs; legs and feet, large and clumsy; the ridge, or shoulder of the wing is tinged with bright orange brown. The aged bird is more white; in some, the spots of black on the breast are wanting, and the colour below, a pale yellow; in others, a pure white.

The female measures fifteen inches and a half in length, and three feet eight inches in extent; is much darker above; the lower parts tinged with tawny, and marked also with round spots of black. One of these was lately sent me, which was shot on the border of the meadows below Philadelphia. Its stomach contained the mangled carcasses of four large meadow mice, hair, bones, and all. The common practice of most owls is, after breaking the bones, to swallow the mouse entire; the bones, hair, and other indigestible parts, are afterwards discharged from the mouth in large roundish dry balls, that are frequently met with in such places as these birds usually haunt.

As the meadow mouse is so eagerly sought after by those birds, and also by great numbers of hawks, which regularly, at the commencement of winter, resort to the meadows below Philadelphia, and to the marshes along the sea shore, for the purpose of feeding on these little animals, some account of them may not be improper in this place. The species appears not to have been taken notice of by Turton in the latest edition of his translation of Linnæus. From the nose to the insertion of the tail it measures four inches; the tail is between three quarters and an inch long, hairy, and usually curves upwards; the fore feet are short, five-toed, the inner toe very short, but furnished with a claw; hind feet also five-toed; the ears are shorter than the fur, through which, though large, they are scarcely noticeable; the nose is blunt; the colour of the back is dark brown, that of the belly, hoary; the fur is long and extremely fine; the hind feet are placed very far back, and are also short; the eyes exceeding small. This mischievous

creature is a great pest to the meadows, burrowing in them in every direction; but is particularly injurious to the embankments raised along the river, perforating them in numerous directions, and admitting the water, which afterwards effects dangerous breaches, inundating large extents of these low grounds,—and thus they become the instruments of their own destruction. In their general figure they bear great resemblance to the common musk rat, and, like them, swim and dive well. They feed on the bulbous roots of plants, and also on garlic, of which they are remarkably fond.

Another favourite prey of most of our owls is a species of bat, which also appears to be a nondescript. The length of this bat, from the nose to the tip of the tail, is four inches; the tail itself is as long as the body, but generally curls up inwards; the general colour is a bright iron gray, the fur being of a reddish cream at bottom, then strongly tinged with lake, and minutely tipped with white; the ears are scarcely half an inch long, with two slight valves; the nostrils are somewhat tubular; fore teeth, in the upper jaw none, in the lower four, not reckoning the tusks; the eyes are very small black points; the chin, upper part of the breast and head, are of a pale reddish cream colour; the wings have a single hook, or claw each, and are so constructed, that the animal may hang either with its head or tail downward. I have several times found two hanging fast locked together behind a leaf, the hook of one fixed in the mouth of the other; the hind feet are furnished with five toes, sharp-clawed; the membrane of the wings is dusky, shafts, light brown; extent, twelve inches. In a cave, not far from Carlisle, in Pennsylvania, I found a number of these bats in the depth of winter, in very severe weather: they were lying on the projecting shelves of the rocks, and, when the brand of fire was held near them, wrinkled up their mouths, shewing their teeth; when held in the hand for a short time, they became active, and, after being carried into a stove room, flew about as lively as ever.

ORDER II.

PASSERES, LINNÆUS.



TRIBE I.

SCANSORES, ILLIGER.

FAMILY III.

PSITTACINI, ILLIGER.

GENUS IV.—PSITTACUS, LINNEUS.

SUBGENUS—PSITTACUS, VIEILL.

35. *PSITTACUS CAROLINENSIS*, WIL. — CAROLINA PARROT.

WILSON, PLATE XXVI. FIG. I. — EDINBURGH COLLEGE MUSEUM.

OF one hundred and sixty-eight kinds of parrots, enumerated by European writers as inhabiting the various regions of the globe, this is the only species found native within the territory of the United States. The vast and luxuriant tracts lying within the torrid zone, seem to be the favourite residence of those noisy, numerous, and richly plumaged tribes. The Count de Buffon has, indeed, circumscribed the whole genus of parrots to a space not extending more than twenty-three degrees on each side of the equator: but later discoveries have shewn this statement to be incorrect, as these birds have been found on our continent as far south as the Straits of Magellan, and even on the remote shores of Van Diemen's Land, in Terra Australasia. The species now under consideration is also known to inhabit the interior of Louisiana, and the shores of Mississippi and Ohio, and their tributary waters, even beyond the Illinois river, to the neighbourhood of Lake Michigan, in lat. 42 deg. north; and, contrary to the generally received opinion, is chiefly *resident* in all

these places. Eastward, however, of the great range of the Alleghany, it is seldom seen farther north than the state of Maryland; though straggling parties have been occasionally observed among the valleys of the Juniata; and, according to some, even twenty-five miles to the north-west of Albany, in the state of New York.* But such accidental visits furnish no certain criteria, by which to judge of their usual extent of range; those aerial voyagers, as well as others who navigate the deep, being subject to be cast away, by the violence of the elements, on distant shores and unknown countries.

From these circumstances of the northern residence of this species, we might be justified in concluding it to be a very hardy bird, more capable of sustaining cold than nine-tenths of its tribe; and so I believe it is; having myself seen them, in the month of February, along the banks of the Ohio, in a snow-storm, flying about like pigeons, and in full cry.

The preference, however, which this bird gives to the western countries, lying in the same parallel of latitude with those eastward of the Alleghany mountains, which it rarely or never visits, is worthy of remark; and has been adduced, by different writers, as a proof of the superior mildness of climate in the former to that of the latter. But there are other reasons for this partiality equally powerful, though hitherto overlooked; namely, certain peculiar features of country to which these birds are particularly and strongly attached: these are, low rich alluvial bottoms, along the borders of creeks, covered with a gigantic growth of sycamore trees, or button-wood; deep, and almost impenetrable swamps, where the vast and towering cypress lift their still more majestic heads; and those singular salines, or, as they are usually called, *licks*, so generally interspersed over that country, and which are regularly and eagerly visited by the paroquets. A still greater inducement is the superior abundance of their favourite

* BARTON'S *Fragments*, &c. p. 6, Introduction.

fruits. That food which the paroquet prefers to all others is the seeds of the cockle bur, a plant rarely found in the lower parts of Pennsylvania or New York; but which unfortunately grows in too great abundance along the shores of the Ohio and Mississippi, so much so as to render the wool of those sheep that pasture where it most abounds, scarcely worth the cleaning, covering them with one solid mass of burs, wrought up and imbedded into the fleece, to the great annoyance of this valuable animal. The seeds of the cypress tree and hackberry, as well as beech nuts, are also great favourites with these birds; the two former of which are not commonly found in Pennsylvania, and the latter by no means so general or so productive. Here, then, are several powerful reasons, more dependent on soil than climate, for the preference given by these birds to the luxuriant regions of the west. Pennsylvania, indeed, and also Maryland, abound with excellent apple orchards, on the ripe fruit of which the paroquets occasionally feed. But I have my doubts whether their depredations in the orchard be not as much the result of wanton play and mischief, as regard for the seeds of the fruit, which they are supposed to be in pursuit of. I have known a flock of these birds alight on an apple tree, and have myself seen them twist off the fruit, one by one, strewing it in every direction around the tree, without observing that any of the depredators descended to pick them up. To a paroquet, which I wounded and kept for some considerable time, I very often offered apples, which it uniformly rejected; but burs, or beech nuts, never. To another very beautiful one, which I brought from New Orleans, and which is now sitting in the room beside me, I have frequently offered this fruit, and also the seeds separately, which I never knew it to taste. Their local attachments, also, prove that food, more than climate, determines their choice of country. For even in the states of Ohio, Kentucky, and the Mississippi territory, unless in the neighbourhood of such places as have been described, it is rare to see them. The inhabitants of Lexington, as many of them

assured me, scarcely ever observe them in that quarter. In passing from that place to Nashville, a distance of two hundred miles, I neither heard nor saw any, but at a place called Madison's lick. In passing on, I next met with them on the banks and rich flats of the Tennessee river: after this, I saw no more till I reached Bayo St Pierre, a distance of several hundred miles: from all which circumstances, I think we cannot, from the residence of these birds, establish with propriety any correct standard by which to judge of the comparative temperatures of different climates.

In descending the river Ohio, by myself, in the month of February, I met with the first flock of paroquets, at the mouth of the Little Sioto. I had been informed, by an old and respectable inhabitant of Marietta, that they were sometimes, though rarely, seen there. I observed flocks of them, afterwards, at the mouth of the Great and Little Miami, and in the neighbourhood of numerous creeks that discharge themselves into the Ohio. At Big Bone lick, thirty miles above the mouth of Kentucky river, I saw them in great numbers. They came screaming through the woods in the morning, about an hour after sunrise, to drink the salt water, of which they, as well as the pigeons, are remarkably fond. When they alighted on the ground, it appeared at a distance as if covered with a carpet of the richest green, orange, and yellow: they afterwards settled, in one body, on a neighbouring tree, which stood detached from any other, covering almost every twig of it, and the sun, shining strongly on their gay and glossy plumage, produced a very beautiful and splendid appearance. Here I had an opportunity of observing some very particular traits of their character: having shot down a number, some of which were only wounded, the whole flock swept repeatedly around their prostrate companions, and again settled on a low tree, within twenty yards of the spot where I stood. At each successive discharge, though showers of them fell, yet the affection of the survivors seemed rather to increase; for, after a few circuits around the place, they again

alighted near me, looking down on their slaughtered companions with such manifest symptoms of sympathy and concern, as entirely disarmed me. I could not but take notice of the remarkable contrast between their elegant manner of flight, and their lame crawling gait among the branches. They fly very much like the wild pigeon, in close compact bodies, and with great rapidity, making a loud and outrageous screaming, not unlike that of the red-headed woodpecker. Their flight is sometimes in a direct line; but most usually circuitous, making a great variety of elegant and easy serpentine meanders, as if for pleasure. They are particularly attached to the large sycamores, in the hollow of the trunks and branches of which they generally roost, thirty or forty, and sometimes more, entering at the same hole. Here they cling close to the sides of the tree, holding fast by the claws and also by the bills. They appear to be fond of sleep, and often retire to their holes during the day, probably to take their regular *siesta*. They are extremely sociable with, and fond of each other, often scratching each other's heads and necks, and always, at night, nestling as close as possible to each other, preferring, at that time, a perpendicular position, supported by their bill and claws. In the fall, when their favourite cockle burs are ripe, they swarm along the coast, or high grounds of the Mississippi, above New Orleans, for a great extent. At such times, they are killed and eaten by many of the inhabitants; though, I confess, I think their flesh very indifferent. I have several times dined on it from necessity, in the woods: but found it merely passable, with all the sauce of a keen appetite to recommend it.

A very general opinion prevails, that the brains and intestines of the Carolina paroquet are a sure and fatal poison to cats. I had determined, when at Big Bone, to put this to the test of experiment; and for that purpose collected the brains and bowels of more than a dozen of them. But after close search, Mistress Puss was not to be found, being engaged perhaps on more agreeable business. I left the medicine with Mr Colquhoun's

agent, to administer it by the first opportunity, and write me the result; but I have never yet heard from him. A respectable lady near the town of Natchez, and on whose word I can rely, assured me, that she herself had made the experiment, and that, whatever might be the cause, the cat had actually died either on that or the succeeding day. A French planter near Bayo Fourche pretended to account to me for this effect by positively asserting, that the seeds of the cockle burs on which the paroquets so eagerly feed, were deleterious to cats; and thus their death was produced by eating the intestines of the bird. These matters might easily have been ascertained on the spot, which, however, a combination of trifling circumstances prevented me from doing. I several times carried a dose of the first description in my pocket till it became insufferable, without meeting with a suitable *patient*, on whom, like other professional gentlemen, I might conveniently make a fair experiment.

I was equally unsuccessful in my endeavours to discover the time of incubation or manner of building among these birds. All agreed that they breed in hollow trees; and several affirmed to me that they had seen their nests. Some said they carried in no materials; others that they did. Some made the eggs white; others speckled. One man assured me that he cut down a large beech tree, which was hollow, and in which he found the broken fragments of upwards of twenty paroquet eggs, which were of a greenish yellow colour. The nests, though destroyed in their texture by the falling of the tree, appeared, he said, to be formed of small twigs glued to each other, and to the side of the tree, in the manner of the chimney swallow. He added, that if it were the proper season, he could point out to me the weed from which they procured the gluey matter. From all these contradictory accounts nothing certain can be deduced, except that they build in companies, in hollow trees. That they commence incubation late in summer, or very early in spring, I think highly probable, from the numerous dissections

I made in the months of March, April, May, and June ; and the great variety which I found in the colour of the plumage of the head and neck of both sexes, during the two former of these months, convinces me, that the young birds do not receive their full colours until the early part of the succeeding summer.

While parrots and paroquets, from foreign countries, abound in almost every street of our large cities, and become such great favourites, no attention seems to have been paid to our own, which in elegance of figure and beauty of plumage is certainly superior to many of them. It wants indeed that disposition for perpetual screaming and chattering that renders some of the former pests, not only to their keepers, but to the whole neighbourhood in which they reside. It is alike docile and sociable ; soon becomes perfectly familiar ; and, until equal pains be taken in its instruction, it is unfair to conclude it incapable of equal improvement in the language of man.

As so little has hitherto been known of the disposition and manners of this species, the reader will not, I hope, be displeased at my detailing some of these, in the history of a particular favourite, my sole companion in many a lonesome day's march.

Anxious to try the effects of education on one of those which I procured at Big Bone lick, and which was but slightly wounded in the wing, I fixed up a place for it in the stern of my boat, and presented it with some cockle burs, which it freely fed on in less than an hour after being on board. The intermediate time between eating and sleeping was occupied in gnawing the sticks that formed its place of confinement, in order to make a practicable breach ; which it repeatedly effected. When I abandoned the river, and travelled by land, I wrapt it up closely in a silk handkerchief, tying it tightly around, and carried it in my pocket. When I stopped for refreshment, I unbound my prisoner, and gave it its allowance, which it generally despatched with great dexterity, unhusking the seeds from the bur in a twinkling ; in doing which it always employed

its left foot to hold the bur, as did several others that I kept for some time. I began to think that this might be peculiar to the whole tribe, and that they all were, if I may use the expression, left-footed; but by shooting a number afterwards while engaged in eating mulberries, I found sometimes the left, sometimes the right foot stained with the fruit; the other always clean; from which, and the constant practice of those I kept, it appears, that like the human species in the use of their hands, they do not prefer one or the other indiscriminately, but are either left or right footed. But to return to my prisoner: In recommitting it to "durance vile" we generally had a quarrel; during which it frequently paid me in kind for the wound I had inflicted, and for depriving it of liberty, by cutting and almost disabling several of my fingers with its sharp and powerful bill. The path through the wilderness between Nashville and Natchez is in some places bad beyond description. There are dangerous creeks to swim, miles of morass to struggle through, rendered almost as gloomy as night by a prodigious growth of timber, and an underwood of canes and other evergreens; while the descent into these sluggish streams is often ten or fifteen feet perpendicular into a bed of deep clay. In some of the worst of these places, where I had, as it were, to fight my way through, the paroquet frequently escaped from my pocket, obliging me to dismount and pursue it through the worst of the morass before I could regain it. On these occasions I was several times tempted to abandon it; but I persisted in bringing it along. When at night I encamped in the woods, I placed it on the baggage beside me, where it usually sat, with great composure, dozing and gazing at the fire till morning. In this manner I carried it upwards of a thousand miles in my pocket, where it was exposed all day to the jolting of the horse, but regularly liberated at meal times and in the evening, at which it always expressed great satisfaction. In passing through the Chickasaw and Chactaw nations, the Indians, wherever I stopped to feed, collected around

me, men, women, and children, laughing and seeming wonderfully amused with the novelty of my companion. The Chickasaws called it in their language "*Kelinky*;" but when they heard me call it Poll, they soon repeated the name; and wherever I chanced to stop among these people, we soon became familiar with each other through the medium of Poll. On arriving at Mr Dunbar's, below Natchez, I procured a cage, and placed it under the piazza, where by its call it soon attracted the passing flocks; such is the attachment they have for each other. Numerous parties frequently alighted on the trees immediately above, keeping up a constant conversation with the prisoner. One of these I wounded slightly in the wing, and the pleasure Poll expressed on meeting with this new companion was really amusing. She crept close up to it as it hung on the side of the cage, chattering to it in a low tone of voice, as if sympathizing in its misfortune, scratched about its head and neck with her bill; and both at night nestled as close as possible to each other, sometimes Poll's head being thrust among the plumage of the other. On the death of this companion, she appeared restless and inconsolable for several days. On reaching New Orleans, I placed a looking glass beside the place where she usually sat, and the instant she perceived her image, all her former fondness seemed to return, so that she could scarcely absent herself from it a moment. It was evident that she was completely deceived. Always when evening drew on, and often during the day, she laid her head close to that of the image in the glass, and began to doze with great composure and satisfaction. In this short space she had learnt to know her name; to answer and come when called on; to climb up my clothes, sit on my shoulder, and eat from my mouth. I took her with me to sea, determined to persevere in her education; but, destined to another fate, poor Poll, having one morning, about daybreak wrought her way through the cage, while I was asleep, instantly flew overboard, and perished in the Gulf of Mexico.

The Carolina, or Illinois parrot, (for it has been described under both these appellations,) is thirteen inches long, and twenty-one in extent; forehead and cheeks, orange red; beyond this, for an inch and a half, down and round the neck, a rich and pure yellow; shoulder and bend of the wing, also edged with rich orange red. The general colour of the rest of the plumage is a bright yellowish silky green, with light blue reflections, lightest and most diluted with yellow below; greater wing-coverts and roots of the primaries, yellow, slightly tinged with green; interior webs of the primaries, deep dusky purple, almost black, exterior ones, bluish green; tail, long, cuneiform, consisting of twelve feathers, the exterior one only half the length, the others increasing to the middle ones, which are streaked along the middle with light blue; shafts of all the larger feathers, and of most part of the green plumage, black; knees and vent, orange yellow; feet, a pale whitish flesh colour; claws, black; bill, white, or slightly tinged with pale cream; iris of the eye, hazel; round the eye is a small space without feathers, covered with a whitish skin; nostrils placed in an elevated membrane at the base of the bill, and covered with feathers; chin, wholly bare of feathers, but concealed by those descending on each side; from each side of the palate hangs a lobe or skin of a blackish colour; tongue, thick and fleshy; inside of the upper mandible near the point, grooved exactly like a file, that it may hold with more security.

The female differs very little in her colours and markings from the male. After examining numerous specimens, the following appear to be the principal differences. The yellow on the neck of the female does not descend quite so far; the interior vanes of the primaries are brownish, instead of black, and the orange red on the bend and edges of the wing is considerably narrower; in other respects, the colours and markings are nearly the same.

The young birds of the preceding year, of both sexes, are generally destitute of the yellow on the head and

neck, until about the beginning or middle of March, having those parts wholly green, except the front and cheeks, which are orange red in them as in the full grown birds. Towards the middle of March the yellow begins to appear, in detached feathers, interspersed among the green, varying in different individuals. In some which I killed about the last of that month, only a few green feathers remained among the yellow; and these were fast assuming the yellow tint: for the colour changes without change of plumage. A number of these birds, in all their grades of progressive change from green to yellow, have been deposited in Mr Peale's museum.

What is called by Europeans the Illinois parrot (*psittacus pertinax*) is evidently the young bird in its imperfect colours. Whether the present species be found as far south as Brazil, as these writers pretend, I am unable to say; but, from the great extent of country in which I have myself killed and examined these birds, I am satisfied that the present species, now described, is the only one inhabiting the United States.

Since the foregoing was written, I have had an opportunity, by the death of a tame Carolina paroquet, to ascertain the fact of the poisonous effects of their head and intestines on cats. Having shut up a cat and her two kittens, (the latter only a few days old,) in a room with the head, neck, and whole intestines of the paroquet, I found, on the next morning, the whole eaten except a small part of the bill. The cat exhibited no symptom of sickness; and, at this moment, three days after the experiment has been made, she and her kittens are in their usual health. Still, however, the effect might have been different, had the daily food of the bird been cockle burs, instead of Indian corn.

FAMILY IV.

AMPHIBOLI, ILLIGER.

GENUS V.—*COCYZUS*, VIEILL.

36. *COCYZUS AMERICANUS*, BONAPARTE.

CUCULUS CAROLINENSIS, WILSON. — YELLOW-BILLED CUCKOO.

WILSON, PLATE XXVIII. FIG. I. — EDINBURGH COLLEGE MUSEUM.

A STRANGER who visits the United States for the purpose of examining their natural productions, and passes through our woods in the month of May or June, will sometimes hear, as he traverses the borders of deep, retired, high timbered hollows, an uncouth guttural sound, or note, resembling the syllables *howe, howe, howe howe howe*, beginning slowly, but ending so rapidly, that the notes seem to run into each other; and *vice versa*: he will hear this frequently, without being able to discover the bird or animal from which it proceeds, as it is both shy and solitary, seeking always the thickest foliage for concealment. This is the yellow-billed cuckoo, the subject of the present account. From the imitative sound of its note, it is known in many parts by the name of the *cow-bird*; it is also called in Virginia, the *rain crow*, being observed to be most clamorous immediately before rain.

This species arrives in Pennsylvania, from the south, about the twenty-second of April, and spreads over the country, as far at least as Lake Ontario; is numerous in the Chickasaw and Chactaw nations; and also breeds in the upper parts of Georgia; preferring, in all these places, the borders of solitary swamps, and apple orchards. It leaves us, on its return southward, about the middle of September.

The singular, I will not say unnatural, conduct of the European cuckoo (*cuculus canorus*), which never constructs a nest for itself, but drops its eggs in those of other birds, and abandons them to their mercy and management, is so universally known, and so proverbial, that the whole tribe of cuckoos have, by some inconsiderate people, been stigmatized as destitute of all parental care and affection. Without attempting to account for this remarkable habit of the European species, far less to consider as an error what the wisdom of Heaven has imposed as a duty upon the species, I will only remark, that the bird now before us builds its own nest, hatches its own eggs, and rears its own young; and, in conjugal and parental affection, seems nowise behind any of its neighbours of the grove.

Early in May, they begin to pair, when obstinate battles take place among the males. About the tenth of that month, they commence building. The nest is usually fixed among the horizontal branches of an apple tree; sometimes in a solitary thorn, crab, or cedar, in some retired part of the woods. It is constructed, with little art, and scarcely any concavity, of small sticks and twigs, intermixed with green weeds, and blossoms of the common maple. On this almost flat bed, the eggs, usually three or four in number, are placed; these are of a uniform greenish blue colour, and of a size proportionable to that of the bird. While the female is sitting, the male is generally not far distant, and gives the alarm, by his notes, when any person is approaching. The female sits so close, that you may almost reach her with your hand, and then precipitates herself to the ground, feigning lameness, to draw you away from the spot, fluttering, trailing her wings, and tumbling over, in the manner of the partridge, woodcock, and many other species. Both parents unite in providing food for the young. This consists, for the most part, of caterpillars, particularly such as infest apple trees. The same insects constitute the chief part of their own sustenance. They are accused, and with some justice, of sucking the eggs of

other birds, like the crow, the blue jay, and other pillagers. They also occasionally eat various kinds of berries. But, from the circumstance of destroying such numbers of very noxious larvæ, they prove themselves the friends of the farmer, and are highly deserving of his protection.

The yellow-billed cuckoo is thirteen inches long, and sixteen inches in extent; the whole upper parts are of a dark glossy drab, or what is usually called a quaker colour, with greenish silky reflections; from this must, however, be excepted the inner vanes of the wings, which are bright reddish cinnamon; the tail is long, composed of ten feathers, the two middle ones being of the same colour as the back, the others, which gradually shorten to the exterior ones, are black, largely tipped with white; the two outer ones are scarcely half the length of the middle ones. The whole lower parts are pure white; the feathers covering the thighs being large, like those of the hawk tribe; the legs and feet are light blue, the toes placed two before and two behind, as in the rest of the genus. The bill is long, a little bent, very broad at the base, dusky black above, and yellow below; the eye hazel, feathered close to the eyelid, which is yellow. The female differs little from the male; the four middle tail feathers in her are of the same uniform drab; and the white, with which the others are tipped, not so pure as in the male.

In examining this bird by dissection, the inner membrane of the gizzard, which in many other species is so hard and muscular, in this is extremely lax and soft, capable of great distension; and, what is remarkable, is covered with a growth of fine down, or hair, of a light fawn colour. It is difficult to ascertain the particular purpose which nature intends by this excrescence; perhaps it may serve to shield the tender parts from the irritating effects produced by the hairs of certain caterpillars, some of which are said to be almost equal to the sting of a nettle.

The hairs alluded to are doubtless those of the Caterpillars.

37. *COCYZUS ERYTHROPHthalmus*, BONAPARTE.

CUCULUS ERYTHROPHthalmus, WILSON. — BLACK-BILLED CUCKOO.

WILSON, PLATE XXVIII. FIG. II.—EDINBURGH COLLEGE MUSEUM.

THIS cuckoo is nearly as numerous as the former, but has hitherto escaped the notice of European naturalists; or, from its general resemblance, has been confounded with the preceding. Its particular markings, however, and some of its habits, sufficiently characterize it as a distinct species. Its general colour above is nearly that of the former, inclining more to a pale ash on the cheeks and front; it is about an inch less in length; the tail is of a uniform dark silky drab, except at the tip, where each feather is marked with a spot of white, bordered above with a slight touch of dull black; the bill is wholly black, and much smaller than that of the preceding; and it wants the bright cinnamon on the wings. But what constitutes its most distinguishing trait is, a bare wrinkled skin, of a deep red colour, that surrounds the eye. The female differs little in external appearance from the male.

The black-billed cuckoo is particularly fond of the sides of creeks, feeding on small shell fish, snails, &c. I have also often found broken pieces of oyster shells in its gizzard, which, like that of the other, is covered with fine downy hair.

The nest of this bird is most commonly built in a cedar, much in the same manner, and of nearly the same materials, as that of the other; but the eggs are smaller, usually four or five in number, and of a rather deeper greenish blue.

This bird is likewise found in the state of Georgia, and has not escaped the notice of Mr Abbot, who is satisfied of its being a distinct species from the preceding.

FAMILY V.

SAGITTILINGUES, ILLIGER.

GENUS VI. — *PICUS*, LINNÆUS.

38. *PICUS PRINCIPALIS*, LINNÆUS. — IVORY-BILLED WOODPECKER.

WILSON, PL. XXIX. FIG. I. — MALE. — EDINBURGH COLLEGE MUSEUM.

THIS majestic and formidable species, in strength and magnitude, stands at the head of the whole class of woodpeckers hitherto discovered. He may be called the king or chief of his tribe; and nature seems to have designed him a distinguished characteristic in the superb carmine crest and bill of polished ivory with which she has ornamented him. His eye is brilliant and daring; and his whole frame so admirably adapted for his mode of life, and method of procuring subsistence, as to impress on the mind of the examiner the most reverential ideas of the Creator. His manners have also a dignity in them superior to the common herd of woodpeckers. Trees, shrubbery, orchards, rails, fence posts, and old prostrate logs, are alike interesting to those, in their humble and indefatigable search for prey; but the royal hunter now before us, scorns the humility of such situations, and seeks the most towering trees of the forest; seeming particularly attached to those prodigious cypress swamps, whose crowded giant sons stretch their bare and blasted or moss-hung arms midway to the skies. In these almost inaccessible recesses, amid ruinous piles of impending timber, his trumpet-

like note and loud strokes resound through the solitary savage wilds, of which he seems the sole lord and inhabitant. Wherever he frequents he leaves numerous monuments of his industry behind him. We there see enormous pine trees with cartloads of bark lying around their roots, and chips of the trunk itself in such quantities as to suggest the idea that half a dozen of axe-men had been at work there for the whole morning. The body of the tree is also disfigured with such numerous and so large excavations, that one can hardly conceive it possible for the whole to be the work of a woodpecker. With such strength, and an apparatus so powerful, what havoc might he not commit, if numerous, on the most useful of our forest trees! and yet with all these appearances, and much of vulgar prejudice against him, it may fairly be questioned whether he is at all injurious; or, at least, whether his exertions do not contribute most powerfully to the protection of our timber. Examine closely the tree where he has been at work, and you will soon perceive, that it is neither from motives of mischief nor amusement that he slices off the bark, or digs his way into the trunk.—For the sound and healthy tree is the least object of his attention. The diseased, infested with insects, and hastening to putrefaction, are *his* favourites; there the deadly crawling enemy have formed a lodgement between the bark and tender wood, to drink up the very vital part of the tree. It is the ravages of these vermin which the intelligent proprietor of the forest deplures, as the sole perpetrators of the destruction of his timber. Would it be believed that the larvæ of an insect, or fly, no larger than a grain of rice, should silently, and in one season, destroy some thousand acres of pine trees, many of them from two to three feet in diameter, and a hundred and fifty feet high! Yet whoever passes along the high road from Georgetown to Charleston, in South Carolina, about twenty miles from the former place, can have striking and melancholy proofs of this fact. In some places

the whole woods, as far as you can see around you, are dead, stripped of the bark, their wintry-looking arms and bare trunks bleaching in the sun, and tumbling in ruins before every blast, presenting a frightful picture of desolation. And yet ignorance and prejudice stubbornly persist in directing their indignation against the bird now before us, the constant and mortal enemy of these very vermin, as if the hand that probed the wound to extract its cause, should be equally detested with that which inflicted it; or as if the thief-catcher should be confounded with the thief. Until some effectual preventive or more complete mode of destruction can be devised against these insects, and their larvæ, I would humbly suggest the propriety of protecting, and receiving with proper feelings of gratitude, the services of this and the whole tribe of woodpeckers, letting the odium of guilt fall to its proper owners.

In looking over the accounts given of the ivory-billed woodpecker by the naturalists of Europe, I find it asserted, that it inhabits from New Jersey to Mexico. I believe, however, that few of them are ever seen to the north of Virginia, and very few of them even in that state. The first place I observed this bird at, when on my way to the south, was about twelve miles north of Wilmington in North Carolina. Having wounded it slightly in the wing, on being caught, it uttered a loudly reiterated, and most piteous note, exactly resembling the violent crying of a young child; which terrified my horse so, as nearly to have cost me my life. It was distressing to hear it. I carried it with me in the chair, under cover, to Wilmington. In passing through the streets, its affecting cries surprised every one within hearing, particularly the females, who hurried to the doors and windows with looks of alarm and anxiety. I drove on, and, on arriving at the piazza of the hotel, where I intended to put up, the landlord came forward, and a number of other persons who happened to be there, all equally alarmed at what they heard; this was greatly increased by my asking, whether he could furnish me with accommodations for myself

and my baby. The man looked blank and foolish, while the others stared with still greater astonishment. After diverting myself for a minute or two at their expense, I drew my woodpecker from under the cover, and a general laugh took place. I took him up stairs and locked him up in my room, while I went to see my horse taken care of. In less than an hour I returned, and, on opening the door, he set up the same distressing shout, which now appeared to proceed from grief that he had been discovered in his attempts at escape. He had mounted along the side of the window, nearly as high as the ceiling, a little below which he had begun to break through. The bed was covered with large pieces of plaster; the lath was exposed for at least fifteen inches square, and a hole, large enough to admit the fist, opened to the weather-boards; so that in less than another hour he would certainly have succeeded in making his way through. I now tied a string round his leg, and, fastening it to the table, again left him. I wished to preserve his life, and had gone off in search of suitable food for him. As I reascended the stairs, I heard him again hard at work, and on entering had the mortification to perceive that he had almost entirely ruined the mahogany table to which he was fastened, and on which he had wreaked his whole vengeance. While engaged in taking a drawing, he cut me severely in several places, and, on the whole, displayed such a noble and unconquerable spirit, that I was frequently tempted to restore him to his native woods. He lived with me nearly three days, but refused all sustenance, and I witnessed his death with regret.

The head and bill of this bird is in great esteem among the southern Indians, who wear them by way of amulet or charm, as well as ornament; and, it is said, dispose of them to the northern tribes at considerable prices. An Indian believes that the head, skin, or even feathers of certain birds, confer on the wearer all the virtues or excellencies of those birds. Thus I have

seen a coat made of the skins, heads, and claws of the raven; caps stuck round with heads of butcher-birds, hawks, and eagles; and as the disposition and courage of the ivory-billed woodpecker are well known to the savages, no wonder they should attach great value to it, having both beauty, and, in their estimation, distinguished merit to recommend it.

This bird is not migratory, but resident in the countries where it inhabits. In the low countries of the Carolinas it usually prefers the large timbered cypress swamps for breeding in. In the trunk of one of these trees, at a considerable height, the male and female alternately, and in conjunction, dig out a large and capacious cavity for their eggs and young. Trees thus dug out have frequently been cut down, with sometimes the eggs and young in them. This hole, according to information,—for I have never seen one myself,—is generally a little winding, the better to keep out the weather, and from two to five feet deep. The eggs are said to be generally four, sometimes five, as large as a pullet's, pure white, and equally thick at both ends,—a description that, except in size, very nearly agrees with all the rest of our woodpeckers. The young begin to be seen abroad about the middle of June. Whether they breed more than once in the same season is uncertain.

So little attention do the people of the countries where these birds inhabit, pay to the minutiae of natural history, that, generally speaking, they make no distinction between the ivory-billed and pileated woodpecker; and it was not till I shewed them the two birds together, that they knew of any difference. The more intelligent and observing part of the natives, however, distinguish them by the name of the large and lesser *logcocks*. They seldom examine them but at a distance, gunpowder being considered too precious to be thrown away on woodpeckers; nothing less than a turkey being thought worth the value of a load.

The food of this bird consists, I believe, entirely of

insects and their larvæ. The pileated woodpecker is suspected of sometimes tasting the Indian corn: the ivory-billed never. His common note, repeated every three or four seconds, very much resembles the tone of a trumpet, or the high note of a clarionet, and can plainly be distinguished at the distance of more than half a mile; seeming to be immediately at hand, though perhaps more than one hundred yards off. This it utters while mounting along the trunk or digging into it. At these times it has a stately and novel appearance; and the note instantly attracts the notice of a stranger. Along the borders of the Savannah river, between Savannah and Augusta, I found them very frequently; but my horse no sooner heard their trumpet-like note, than, remembering his former alarm, he became almost ungovernable.

The ivory-billed woodpecker is twenty inches long, and thirty inches in extent; the general colour is black, with a considerable gloss of green when exposed to a good light; iris of the eye, vivid yellow; nostrils, covered with recumbent white hairs; fore part of the head, black; rest of the crest of a most splendid red, spotted at the bottom with white, which is only seen when the crest is erected; this long red plumage being ash-coloured at its base, above that white, and ending in brilliant red; a stripe of white proceeds from a point, about half an inch below each eye, passes down each side of the neck, and along the back, where they are about an inch apart, nearly to the rump; the first five primaries are wholly black; on the next five the white spreads from the tip higher and higher to the secondaries, which are wholly white from their coverts downward. These markings, when the wings are shut, make the bird appear as if his back were white; hence he has been called by some of our naturalists the large white-backed woodpecker. The neck is long; the beak an inch broad at the base, of the colour and consistence of ivory, prodigiously strong and elegantly fluted. The tail is black, tapering from the two exte-

rior feathers, which are three inches shorter than the middle ones, and each feather has the singularity of being greatly concave below; the wing is lined with yellowish white; the legs are about an inch and a quarter long, the exterior toe about the same length, the claws exactly semicircular and remarkably powerful, the whole of a light blue or lead colour. The female is about half an inch shorter, the bill rather less, and the whole plumage of the head black, glossed with green; in the other parts of the plumage, she exactly resembles the male. In the stomachs of three which I opened, I found large quantities of a species of worm called borers, two or three inches long, of a dirty cream colour, with a black head; the stomach was an oblong pouch, not muscular like the gizzards of some others. The tongue was worm-shaped, and for half an inch at the tip as hard as horn, flat, pointed, of the same white colour as the bill, and thickly barbed on each side.

39. *PICUS PILEATUS*, LINNÆUS. — PILEATED WOODPECKER.

WILSON, PL. XXIX. FIG. II. — MALE. — EDINBURGH COLLEGE MUSEUM.

THIS American species is the second in size among his tribe, and may be styled the great northern chief of the woodpeckers, though, in fact, his range extends over the whole of the United States from the interior of Canada to the Gulf of Mexico. He is very numerous in the Genesee country, and in all the tracts of high timbered forests, particularly in the neighbourhood of our large rivers, where he is noted for making a loud and almost incessant cackling before wet weather; flying at such times in a restless uneasy manner from tree to tree, making the woods echo to his outcry. In Pennsylvania and the northern states he is called the black woodcock; in the southern states, the logcock. Almost every old trunk in the forest where he resides bears the marks of his chisel.

Wherever he perceives a tree beginning to decay, he examines it round and round with great skill and dexterity, strips off the bark in sheets of five or six feet in length, to get at the hidden cause of the disease, and labours with a gaiety and activity really surprising. I have seen him separate the greatest part of the bark from a large dead pine tree, for twenty or thirty feet, in less than a quarter of an hour. Whether engaged in flying from tree to tree, in digging, climbing, or barking, he seems perpetually in a hurry. He is extremely hard to kill, clinging close to the tree even after he has received his mortal wound; nor yielding up his hold but with his expiring breath. If slightly wounded in the wing, and dropt while flying, he instantly makes for the nearest tree, and strikes with great bitterness at the hand stretched out to seize him; and can rarely be reconciled to confinement. He is sometimes observed among the hills of Indian corn, and it is said by some that he frequently feeds on it. Complaints of this kind are, however, not general; many farmers doubting the fact, and conceiving that at these times he is in search of insects which lie concealed in the husk. I will not be positive that they never occasionally taste maize; yet I have opened and examined great numbers of these birds, killed in various parts of the United States, from Lake Ontario to the Alatomaha river, but never found a grain of Indian corn in their stomachs.

The pileated woodpecker is not migratory, but braves the extremes of both the arctic and torrid regions. Neither is he gregarious, for it is rare to see more than one or two, or at the most three, in company. Formerly they were numerous in the neighbourhood of Philadelphia; but gradually, as the old timber fell, and the country became better cleared, they retreated to the forest. At present few of those birds are to be found within ten or fifteen miles of the city.

Their nest is built, or rather the eggs are deposited, in the hole of a tree, dug out by themselves, no other

materials being used but the soft chips of rotten wood. The female lays six large eggs of a snowy whiteness; and, it is said, they generally raise two broods in the same season.

This species is eighteen inches long, and twenty-eight in extent; the general colour is a dusky brownish black; the head is ornamented with a conical cap of bright scarlet; two scarlet mustaches proceed from the lower mandible; the chin is white; the nostrils are covered with brownish white hair-like feathers, and this stripe of white passes from thence down the side of the neck to the sides, spreading under the wings; the upper half of the wings are white, but concealed by the black coverts; the lower extremities of the wings are black, so that the white on the wing is not seen but when the bird is flying, at which time it is very prominent; the tail is tapering, the feathers being very convex above, and strong; the legs are of a leaden gray colour, very short, scarcely half an inch; the toes very long; the claws strong and semicircular, and of a pale blue; the bill is fluted, sharply ridged, very broad at the base, bluish black above, below and at the point bluish white; the eye is of a bright golden colour, the pupil black; the tongue, like those of its tribe, is worm-shaped, except near the tip, where for one-eighth of an inch it is horny, pointed, and beset with barbs.

The female has the forehead, and nearly to the crown, of a light brown colour, and the mustaches are dusky, instead of red. In both a fine line of white separates the red crest from the dusky line that passes over the eye.

40. *PICUS AURATUS*, LINNÆUS. — GOLD-WINGED WOODPECKER.

WILSON, PLATE III. FIG. I. — EDINBURGH COLLEGE MUSEUM.

THIS elegant bird is well known to our farmers and junior sportsmen, who take every opportunity of destroying him; the former, for the supposed trespasses he commits on their Indian corn, or the trifle he will bring in market, and the latter for the mere pleasure of destruction, and perhaps for the flavour of his flesh, which is in general esteem. In the state of Pennsylvania, he can scarcely be called a bird of passage, as, even in severe winters, they may be found within a few miles of the city of Philadelphia; and I have known them exposed for sale in market every week during the months of November, December, and January, and that, too, in more than commonly rigorous weather. They no doubt, however partially, migrate, even here; being much more numerous in spring and fall, than in winter. Early in the month of April, they begin to prepare their nest, which is built in the hollow body, or branch of a tree, sometimes, though not always, at a considerable height from the ground; for I have frequently known them fix on the trunk of an old apple tree, at not more than six feet from the root. The sagacity of this bird in discovering, under a sound bark, a hollow limb or trunk of a tree, and its perseverance in perforating it for the purpose of incubation, is truly surprising; the male and female alternately relieving and encouraging each other, by mutual caresses, renewing their labours for several days, till the object is attained, and the place rendered sufficiently capacious, convenient, and secure. At this employment they are so extremely intent, that they may be heard till a very late hour in the evening, thumping like carpenters. I have seen an instance

where they had dug first five inches straight forward, and then downward more than twice that distance, through a solid black oak. They carry in no materials for their nest, the soft chips and dust of the wood serving all their purpose. The female lays six white eggs, almost transparent, very thick at the greater end, and tapering suddenly to the other. The young early leave the nest, and, climbing to the higher branches, are there fed by their parents.

The food of this bird varies with the season. When the common cherries, bird cherries, and berries of the sour gum, successively ripen, he regales plentifully on them, particularly on the latter; but the chief food of this species, or that which is most usually found in his stomach, is wood lice, and the young and larvæ of ants, of which he is so immoderately fond, that I have frequently found his stomach distended with a mass of these, and these only, as large nearly as a plumb: for the procuring of these insects, nature has remarkably fitted him. The bills of woodpeckers, in general, are straight, grooved or channelled, wedge-shaped, and compressed to a thin edge at the end, that they may the easier penetrate the hardest wood; that of the gold-winged woodpecker is long, slightly bent, ridged only on the top, and tapering almost to a point, yet still retaining a little of the wedge form there. Both, however, are admirably adapted for the peculiar manner each has of procuring its food. The former, like a powerful wedge, to penetrate the dead and decaying branches, after worms and insects; the latter, like a long and sharp pickaxe, to dig up the hillocks of pismires, that inhabit old stumps in prodigious multitudes. These beneficial services would entitle him to some regard from the husbandman, were he not accused, and perhaps not without just cause, of being too partial to the Indian corn, when in that state which is usually called *roasting-ears*. His visits are indeed rather frequent about this time; and the farmer, suspecting what is going on, steals through among the rows with his

gun, bent on vengeance, and, forgetful of the benevolent sentiment of the poet, that

— Just as wide of justice he must fall,
Who thinks all made for one, not one for all.

But farmers, in general, are not much versed in poetry, and pretty well acquainted with the value of corn, from the hard labour requisite in raising it.

In rambling through the woods one day, I happened to shoot one of these birds, and wounded him slightly on the wing. Finding him in full feather, and seemingly but little hurt, I took him home, and put him into a large cage, made of willows, intending to keep him in my own room, that we might become better acquainted. As soon as he found himself enclosed on all sides, he lost no time in idle fluttering, but, throwing himself against the bars of the cage, began instantly to demolish the willows, battering them with great vehemence, and uttering a loud piteous kind of cackling, similar to that of a hen when she is alarmed, and takes to wing. Poor Baron Trenck never laboured with more eager diligence at the walls of his prison, than this son of the forest in his exertions for liberty; and he exercised his powerful bill with such force, digging into the sticks, seizing and shaking them so from side to side, that he soon opened for himself a passage; and, though I repeatedly repaired the breach, and barricaded every opening, in the best manner I could, yet, on my return into the room, I always found him at large, climbing up the chairs, or running about the floor, where, from the dexterity of his motions, moving backward, forward, and sidewise, with the same facility, it became difficult to get hold of him again. Having placed him in a strong wire cage, he seemed to give up all hopes of making his escape, and soon became very tame; fed on young ears of Indian corn; refused apples, but ate the berries of the sour gum greedily, small winter grapes, and several other kinds of berries; exercised himself frequently in climbing, or

rather hopping perpendicularly along the sides of the cage; and, as evening drew on, fixed himself in a high hanging, or perpendicular position, and slept with his head in his wing. As soon as dawn appeared, even before it was light enough to perceive him distinctly across the room, he descended to the bottom of the cage, and began his attack on the ears of Indian corn, rapping so loud, as to be heard from every room in the house. After this he would sometimes resume his former position, and take another nap. He was beginning to become very amusing, and even sociable, when, after a lapse of several weeks, he became drooping, and died, as I conceived, from the effects of his wound.

Some European naturalists, (and, among the rest, Linnæus himself, in his tenth edition of *Systema Naturæ*,) have classed this bird with the genus *cuculus*, or cuckoo, informing their readers, that it possesses many of the habits of the cuckoo; that it is almost always on the ground; is never seen to climb trees like the other woodpeckers, and that its bill is altogether unlike theirs; every one of which assertions, I must say, is incorrect, and could have only proceeded from an entire unacquaintance with the manners of the bird. Except in the article of the bill, and that, as has been before observed, is still a little wedge-formed at the point, it differs in no one characteristic from the rest of its genus. Its nostrils are covered with tufts of recumbent hairs, or small feathers; its tongue is round, worm-shaped, flattened towards the tip, pointed, and furnished with minute barbs; it is also long, missile, and can be instantaneously protruded to an uncommon distance. The *os hyoides*, or internal parts of the tongue, like those of its tribe, is a substance, for strength and elasticity, resembling whalebone, divided into two branches, each the thickness of a knitting needle, that pass, one on each side of the neck, to the hind head, where they unite, and run up along the skull in a groove, covered with a thin membrane, or

sheath; descend into the upper mandible by the right side of the right nostril, and reach to within half an inch of the point of the bill, to which they are attached by another extremely elastic membrane, that yields when the tongue is thrown out, and contracts as it is retracted. In the other woodpeckers we behold the same apparatus, differing a little in different species. In some, these cartilaginous substances reach only to the top of the cranium; in others, they reach to the nostril; and, in one species, they are wound round the bone of the right eye, which projects considerably more than the left, for its accommodation.

The tongue of the gold-winged woodpecker, like the others, is also supplied with a viscid fluid, secreted by two glands that lie under the ear on each side, and are at least five times larger in this species than in any other of its size; with this the tongue is continually moistened, so that every small insect it touches instantly adheres to it. The tail, in its strength and pointedness, as well as the feet and claws, prove that the bird was designed for climbing; and in fact I have scarcely ever seen it on a tree five minutes at a time without climbing; hopping not only upward and downward, but spirally; pursuing and playing with its fellow in this manner round the body of the tree. I have also seen them a hundred times alight on the trunk of the tree, though they more frequently alight on the branches; but that they climb, construct like nests, lay the same number and the like coloured eggs, and have the manners and habits of the woodpeckers, is notorious to every American naturalist; while neither in the form of their body, nor any other part, except in the bill being somewhat bent, and the toes placed two before and two behind, have they the smallest resemblance whatever to the cuckoo.

It may not be improper, however, to observe, that there is another species of woodpecker, called also gold-winged,* which inhabits the country near the

* *Picus vafer*, Turton's Linn.

Cape of Good Hope, and resembles the present, it is said, almost exactly in the colour and form of its bill, and in the tint and markings of its plumage, with this difference, that the mustaches are red, instead of black, and the lower side of the wings, as well as their shafts, are also red, where the other is golden yellow. It is also considerably less. With respect to the habits of this new species, we have no particular account; but there is little doubt that they will be found to correspond with the one we are now describing.

The abject and degraded character which the Count de Buffon, with equal eloquence and absurdity, has drawn of the whole tribe of woodpeckers, belongs not to the elegant and sprightly bird now before us. How far it is applicable to any of them will be examined hereafter. He is not "constrained to drag out an insipid existence in boring the bark and hard fibres of trees to extract his prey," for he frequently finds in the loose mouldering ruins of an old stump (the capital of a nation of pismires) more than is sufficient for the wants of a whole week. *He* cannot be said to "lead a mean and gloomy life, without an intermission of labour," who usually feasts by the first peep of dawn, and spends the early and sweetest hours of morning on the highest peaks of the tallest trees, calling on his mate or companions, or pursuing and gamboling with them round the larger limbs and body of the tree for hours together; for such are really his habits. Can it be said, that "necessity never grants an interval of sound repose" to that bird, who, while other tribes are exposed to all the peltings of the midnight storm, lodges dry and secure in a snug chamber of his own constructing? or that "the narrow circumference of a tree circumscribes *his* dull round of life," who, as seasons and inclination inspire, roams from the frigid to the torrid zone, feasting on the abundance of various regions? Or is it a proof that "his appetite is never softened by delicacy of taste," because he so often varies his bill of fare, occasionally preferring to animal food the rich milkiness

of young Indian corn, and the wholesome and nourishing berries of the wild cherry, sour gum, and red cedar? Let the reader turn to any living representative of the species, and say whether his looks be "sad and melancholy." It is truly ridiculous and astonishing that such absurdities should escape the lips or pen of one so able to do justice to the respective merits of every species; but Buffon had too often a favourite theory to prop up, that led him insensibly astray; and so, forsooth, the whole family of woodpeckers must look sad, sour, and be miserable, to satisfy the caprice of a whimsical philosopher, who takes it into his head that they are, and ought to be so!

But the Count is not the only European who has misrepresented and traduced this beautiful bird. One has given him brown legs;* another a yellow neck; † a third has declared him a cuckoo; ‡ and, in an English translation of Linnæus's *System of Nature*, lately published, he is characterized as follows: "Body, striated with black and gray; cheeks, red; chin, black; never climbs on trees;" § which is just as correct as if, in describing the human species, we should say—skin striped with black and green; cheeks, blue; chin, orange; never walks on foot, &c. The pages of natural history should resemble a faithful mirror, in which mankind may recognize the true images of the living originals; instead of which, we find this department of them too often like the hazy and rough medium of wretched window-glass, through whose crooked protuberances every thing appears so strangely distorted, that one scarcely knows their most intimate neighbours and acquaintances.

The gold-winged woodpecker has the back and wings above of a dark umber, transversely marked with equidistant streaks of black; upper part of the head, an iron gray; cheeks and parts surrounding the eyes, a

* See *Encyc. Brit. Art. Picus.* † Latham. ‡ Klein.

§ "P. griseo nigroque transversim striatus"——"truncos arborum non scandit."—*Ind. Orn.* vol. I, p. 242.

fine cinnamon colour; from the lower mandible a strip of black, an inch in length, passes down each side of the throat, and a lunated spot, of a vivid blood red, covers the hind head, its two points reaching within half an inch of each eye; the sides of the neck, below this, incline to a bluish gray; throat and chin, a very light cinnamon or fawn colour; the breast is ornamented with a broad crescent of deep black; the belly and vent, white, tinged with yellow, and scattered with innumerable round spots of black, every feather having a distinct central spot, those on the thighs and vent being heart-shaped and largest; the lower or inner side of the wing and tail, shafts of all the larger feathers, and indeed of almost every feather, are of a beautiful golden yellow; that on the shafts of the primaries being very distinguishable, even when the wings are shut; the rump is white, and remarkably prominent; the tail-coverts white, and curiously serrated with black; upper side of the tail, and the tip below, black, edged with light loose filaments of a cream colour, the two exterior feathers, serrated with whitish; shafts, black towards the tips, the two middle ones, nearly wholly so; bill, an inch and a half long, of a dusky horn colour, somewhat bent, ridged only on the top, tapering, but not to a point, that being a little wedge-formed; legs and feet, light blue; iris of the eye, hazel; length, twelve inches; extent, twenty. The female differs from the male chiefly in the greater obscurity of the fine colours, and in wanting the black mustaches on each side of the throat. This description was taken from a very beautiful and perfect specimen.

Though this species, generally speaking, is migratory, yet they often remain with us in Pennsylvania during the whole winter. They also inhabit the continent of North America, from Hudson's Bay to Georgia; and have been found by voyagers on the north-west coast of America. They arrive at Hudson's Bay in April, and leave it in September. Mr Hearne, however, informs us, that "the gold-winged woodpecker is almost

the only species of woodpecker that winters near Hudson's Bay." The natives there call it *Ou-thee-guan-nor-ow*, from the golden colour of the shafts and under side feathers of the wings. It has numerous provincial appellations in the different states of the Union, such as "High-hole," from the situation of its nest, and "Hittock," "Yucker," "Piut," "Flicker," by which last it is usually known in Pennsylvania. These names have probably originated from a fancied resemblance of its notes to the sound of the words; for one of its most common cries consists of two notes, or syllables, frequently repeated, which, by the help of the hearer's imagination, may easily be made to resemble any or all of them.

41. *PICUS ERYTHROCEPHALUS*, LINNÆUS. — RED-HEADED
WOODPECKER.

WILSON, PLATE IX. FIG. I. — EDINBURGH COLLEGE MUSEUM.

THERE is perhaps no bird in North America more universally known than this. His tri-coloured plumage, red, white, and black, glossed with steel blue, is so striking, and characteristic; and his predatory habits in the orchards and cornfields, added to his numbers, and fondness for hovering along the fences, so very notorious, that almost every child is acquainted with the red-headed woodpecker. In the immediate neighbourhood of our large cities, where the old timber is chiefly cut down, he is not so frequently found; and yet, at this present time, June, 1808, I know of several of their nests within the boundaries of the city of Philadelphia. Two of these are in button-wood trees (*platanus occidentalis*), and another in the decayed limb of a large elm. The old ones, I observe, make their excursions regularly to the woods beyond the Schuylkill, about a mile distant; preserving great silence and circumspection in visiting their nests, — precautions not much attended to by them in the depth of the woods,

because there the prying eye of man is less to be dreaded. Towards the mountains, particularly in the vicinity of creeks and rivers, these birds are extremely abundant, especially in the latter end of summer. Wherever you travel in the interior at that season, you hear them screaming from the adjoining woods, rattling on the dead limbs of trees, or on the fences, where they are perpetually seen flitting from stake to stake, on the roadside, before you. Wherever there is a tree, or trees, of the wild cherry, covered with ripe fruit, there you see them busy among the branches; and, in passing orchards, you may easily know where to find the earliest, sweetest apples, by observing those trees, on or near which the red-headed woodpecker is skulking; for he is so excellent a connoisseur in fruit, that wherever an apple or pear tree is found broached by him, it is sure to be among the ripest and best flavoured: when alarmed, he seizes a capital one by striking his open bill deep into it, and bears it off to the woods. When the Indian corn is in its rich, succulent, milky state, he attacks it with great eagerness, opening a passage through the numerous folds of the husk, and feeding on it with voracity. The girdled, or deadened timber, so common among cornfields in the back settlements, are his favourite retreats, whence he sallies out to make his depredations. He is fond of the ripe berries of the sour gum, and pays pretty regular visits to the cherry trees, when loaded with fruit. Towards fall he often approaches the barn or farm house, and raps on the shingles and weather boards: he is of a gay and frolicsome disposition; and half a dozen of the fraternity are frequently seen diving and vociferating around the high dead limbs of some large tree, pursuing and playing with each other, and amusing the passenger with their gambols. Their note or cry is shrill and lively, and so much resembles that of a species of tree-frog, which frequents the same tree, that it is sometimes difficult to distinguish the one from the other.

Such are the *vicious* traits, if I may so speak, in the character of the red-headed woodpecker; and I doubt

not but, from what has been said on this subject, that some readers would consider it meritorious to exterminate the whole tribe as a nuisance: and, in fact, the legislatures of some of our provinces, in former times, offered premiums to the amount of twopence per head for their destruction.* But let us not condemn the species unheard: they exist; they must therefore be necessary. If their merits and usefulness be found, on examination, to preponderate against their vices, let us avail ourselves of the former, while we guard as well as we can against the latter.

Though this bird occasionally regales himself on fruit, yet his natural and most usual food is insects, particularly those numerous and destructive species that penetrate the bark and body of the tree to deposit their eggs and larvæ, the latter of which are well known to make immense havoc. That insects are his natural food is evident from the construction of his wedge-formed bill, the length, elasticity, and figure of his tongue, and the strength and position of his claws; as well as from his usual habits. In fact, insects form at least two-thirds of his subsistence; and his stomach is scarcely ever found without them. He searches for them with a dexterity and intelligence, I may safely say, more than human; he perceives, by the exterior appearance of the bark, where they lurk below; when he is dubious, he rattles vehemently on the outside with his bill, and his acute ear distinguishes the terrified vermin shrinking within to their inmost retreats, where his pointed and barbed tongue soon reaches them. The masses of bugs, caterpillars, and other larvæ, which I have taken from the stomachs of these birds, have often surprised me. These larvæ, it should be remembered, feed not only on the buds, leaves, and blossoms, but on the very vegetable life of the tree, the alburnum, or newly forming bark and wood; the consequence is, that whole branches and whole trees decay under the silent ravages of these destructive vermin; witness

* Kalm.

the late destruction of many hundred acres of pine trees, in the north-eastern parts of South Carolina;* and the thousands of peach trees that yearly decay from the same cause. Will any one say, that, taking half a dozen, or half a hundred, apples from a tree is equally ruinous with cutting it down? or, that the services of a useful animal should not be rewarded with a small portion of that which it has contributed to preserve? We are told, in the benevolent language of the Scriptures, not to muzzle the mouth of the ox that treadeth out the corn; and why should not the same generous liberality be extended to this useful family of birds, which forms so powerful a phalanx against the inroads of many millions of destructive vermin?

The red-headed woodpecker is, properly speaking, a bird of passage; though, even in the eastern states, individuals are found during moderate winters, as well as in the states of New York and Pennsylvania; in Carolina they are somewhat more numerous during that season, but not one-tenth of what are found in summer. They make their appearance in Pennsylvania about the 1st of May, and leave us about the middle of October. They inhabit from Canada to the Gulf of Mexico, and are also found on the western coast of North America. About the middle of May they begin to construct their nests, which, like the rest of the genus, they form in the body or large limbs of trees, taking in no materials, but smoothing it within to the proper shape and size. The female lays six eggs, of a pure white, marked, chiefly at the great end, with reddish spots; and the young make their first appearance about the 20th of June. During the first season the head and neck of the young birds are blackish gray, which has occasioned some European writers to mistake them for females; the white on the wing is also spotted with black; but in the succeeding spring

* In one place, on a tract of two thousand acres of pine land, on the Sampit river, near Georgetown, at least ninety trees in every hundred were destroyed by this pernicious insect: a small, black winged bug, resembling the weevil, but somewhat larger.

they receive their perfect plumage, and the male and female then differ only in the latter being rather smaller, and its colours not quite so vivid; both have the head and neck deep scarlet; the bill light blue, black towards the extremity, and strong; back, primaries, wing-coverts, and tail, black, glossed with steel-blue; rump, lower part of the back, secondaries, and whole under parts from the breast downward, white; legs and feet, bluish green; claws, light blue; round the eye, a dusky narrow skin, bare of feathers; iris, dark hazel; total length, nine inches and a half; extent, seventeen inches.

Notwithstanding the care which this bird, in common with the rest of its genus, takes to place its young beyond the reach of enemies, within the hollows of trees, yet there is one deadly foe, against whose depredations neither the height of the tree, nor the depth of the cavity, is the least security. This is the black snake (*coluber constrictor*,) who frequently glides up the trunk of the tree, and, like a skulking savage, enters the woodpecker's peaceful apartment, devours the eggs or helpless young, in spite of the cries and flutterings of the parents; and, if the place be large enough, coils himself up in the spot they occupied, where he will sometimes remain for several days. The eager school-boy, after hazarding his neck to reach the woodpecker's hole, at the triumphant moment when he thinks the nestlings his own, and strips his arm, launching it down into the cavity, and grasping what he conceives to be the callow young, starts with horror at the sight of a hideous snake, and almost drops from his giddy pinnacle, retreating down the tree with terror and precipitation. Several adventures of this kind have come to my knowledge; and one of them that was attended with serious consequences, where both snake and boy fell to the ground; and a broken thigh, and long confinement, cured the adventurer completely of his ambition for robbing woodpecker's nests.

42. *PICUS CAROLINUS*, LINN.—RED-BELLIED WOODPECKER.

WILSON, PLATE VII. FIG. II.—EDINBURGH COLLEGE MUSEUM.

THIS species possesses all the restless and noisy habits so characteristic of its tribe. It is more shy and less domestic than the red-headed one (*P. erythrocephalus*), or any of the other spotted woodpeckers. It is also more solitary. It prefers the largest, high-timbered woods, and tallest decayed trees of the forest; seldom appearing near the ground, on the fences, or in orchards, or open fields; yet where the trees have been deadened, and stand pretty thick, in fields of Indian corn, as is common in new settlements, I have observed it to be very numerous; and have found its stomach sometimes completely filled with that grain. Its voice is hoarser than any of the others; and its usual note "chow," has often reminded me of the barking of a little lapdog. It is a most expert climber, possessing extraordinary strength in the muscles of its feet and claws, and moves about the body and horizontal limbs of the trees, with equal facility in all directions. It rattles, like the rest of the tribe, on the dead limbs,—and with such violence, as to be heard, in still weather, more than half a mile off,—and listens to hear the insects it has alarmed. In the lower side of some lofty branch that makes a considerable angle with the horizon, the male and female, in conjunction, dig out a circular cavity for their nest, sometimes out of the solid wood, but more generally into a hollow limb, twelve or fifteen inches above where it becomes solid. This is usually performed early in April. The female lays five eggs of a pure white, or almost semitransparent; and the young generally make their appearance towards the latter end of May, or beginning of June, climbing up to the higher parts of the tree, being as yet unable to fly. In this situation they are fed for several days, and often become the prey of the hawks. From seeing the old

ones continuing their caresses after this period, I believe that they often, and perhaps always, produce two broods in a season. During the greatest part of the summer, the young have the ridge of the neck and head of a dull brownish ash; and a male of the third year has received his complete colours.

The red-bellied woodpecker is ten inches in length, and seventeen in extent; the bill is nearly an inch and a half in length, wedged at the point, but not quite so much grooved as some others, strong, and of a bluish black colour; the nostrils are placed in one of these grooves, and covered with curving tufts of light brown hairs, ending in black points; the feathers on the front stand more erect than usual, and are of a dull yellowish red; from thence, along the whole upper part of the head and neck, down the back, and spreading round to the shoulders, is of the most brilliant golden glossy red; the whole cheeks, line over the eye, and under side of the neck, is a pale buff colour, which, on the breast and belly, deepens into a yellowish ash, stained on the belly with a blood red; the vent and thigh feathers are dull white, marked down their centres with heart-formed and long arrow-pointed spots of black. The back is black, crossed with transverse curving lines of white; the wings are also black; the lesser wing-coverts circularly tipped, and the whole primaries and secondaries beautifully crossed with bars of white, and also tipped with the same; the rump is white, interspersed with touches of black; the tail-coverts, white near the extremities; the tail consists of ten feathers, the two middle ones black, their interior webs or vanes white, crossed with diagonal spots of black; these, when the edges of the two feathers just touch, coincide, and form heart-shaped spots; a narrow sword-shaped line of white runs up the exterior side of the shafts of the same feathers; the next four feathers, on each side, are black; the outer edges of the exterior ones, barred with black and white, which, on the lower side, seems to cross the whole vane; the extremities of the whole tail, except the outer feather, are black,

sometimes touched with yellowish or cream colour; the legs and feet are of a bluish green, and the iris of the eye red. The tongue, or os hyoides, passes up over the hind head, and is attached, by a very elastic retractile membrane, to the base of the right nostril; the extremity of the tongue is long, horny, very pointed, and thickly edged with barbs, the other part of the tongue is worm-shaped. In several specimens, I found the stomach nearly filled with pieces of a species of fungus, that grows on decayed wood, and, in all, with great numbers of insects, seeds, gravel, &c. The female differs from the male in having the crown, for an inch, of a fine ash, and the black not so intense; the front is reddish as in the male, and the whole hind head, down to the back, likewise of the same rich red as his. In the bird, from which this latter description was taken, I found a large cluster of minute eggs, to the number of fifty, or upwards, in the beginning of the month of March.

This species inhabits a large extent of country, in all of which it seems to be resident, or nearly so. I found them abundant in Upper Canada, and in the northern parts of the state of New York, in the month of November; they also inhabit the whole Atlantic states as far as Georgia, and the southern extremity of Florida, as well as the interior parts of the United States, as far west as Chilicothe, in the state of Ohio, and, according to Buffon, Louisiana. They are said to be the only woodpeckers found in Jamaica; though I question whether this be correct; and to be extremely fond of the capsicum, or Indian pepper.* They are certainly much hardier birds, and capable of subsisting on coarser and more various fare, and of sustaining a greater degree of cold, than several other of our woodpeckers. They are active and vigorous; and, being almost continually in search of insects that injure our forest trees, do not seem to deserve the injurious epithets that almost all writers have given them. It is true, they

* Sloane.

frequently perforate the timber in pursuit of these vermin, but this is almost always in dead and decaying parts of the tree, which are the nests and nurseries of millions of destructive insects. Considering matters in this light, I do not think their services overpaid by all the ears of Indian corn they consume; and would protect them, within my own premises, as being more useful than injurious.

43. *PICUS VARIUS*, LINNÆUS. — YELLOW-BELLIED WOODPECKER.

WILSON, PL. IX. FIG. II. — ADULT MALE. — EDINBURGH COLLEGE MUSEUM.

THIS beautiful species is one of our resident birds. It visits our orchards in the month of October in great numbers, is occasionally seen during the whole winter and spring, but seems to seek the depths of the forest, to rear its young in; for during summer it is rarely seen among our settlements; and even in the intermediate woods I have seldom met with it in that season. According to Brisson it inhabits the continent from Cayenne to Virginia; and I may add, as far as to Hudson's Bay, where, according to Hutchins, they are called *Meksewe Paupastaow*,* they are also common in the states of Kentucky and Ohio, and have been seen in the neighbourhood of St Louis. They are reckoned by Georgi among the birds that frequent the Lake Baikal, in Asia,† but their existence there has not been satisfactorily ascertained.

The habits of this species are similar to those of the hairy and downy woodpeckers, with which it generally associates. The only nest of this bird which I have met with was in the body of an old pear-tree, about ten or eleven feet from the ground. The hole was almost exactly circular, small for the size of the bird, so that it crept in and out with difficulty; but suddenly widened, descending by a small angle and then rounding

* Latham.

† Ibid.

downward about fifteen inches. On the smooth solid wood lay four white eggs. This was about the 25th of May. Having no opportunity of visiting it afterwards I cannot say whether it added any more eggs to the number; I rather think it did not, as it appeared at that time to be sitting.

The yellow-bellied woodpecker is eight inches and a half long, and in extent fifteen inches; whole crown, a rich and deep scarlet, bordered with black on each side, and behind forming a slight crest, which it frequently erects;* from the nostrils, which are thickly covered with recumbent hairs, a narrow strip of white runs downward, curving round the breast, mixing with the yellowish white on the lower part of the breast; throat, the same deep scarlet as the crown, bordered with black, proceeding from the lower mandible on each side, and spreading into a broad rounding patch on the breast; this black, in birds of the first and second year, is dusky gray, the feathers being only crossed with circular touches of black; a line of white, and below it another of black, proceed, the first from the upper part of the eye, the other from the posterior half of the eye, and both lose themselves on the neck and back; back, dusky yellow, sprinkled and elegantly waved with black; wings, black, with a large oblong spot of white; the primaries, tipped and spotted with white; the three secondaries next the body are also variegated with white; rump, white, bordered with black; belly, yellow; sides under the wings, more dusky yellow, marked with long arrow-heads of black; legs and feet, greenish blue; tail, black, consisting of ten feathers, the two outward feathers on each side tipped with white, the next totally black, the fourth edged on its inner vane half way down with white, the middle one white on its interior vane, and spotted with black; tongue, flat, horny for half an inch at the tip, pointed, and armed along its sides with reflected barbs; the other extremities of the tongue pass up behind the

* This circumstance seems to have been overlooked by naturalists.

skull in a groove, and end near the right nostril; in birds of the first and second year they reach only to the crown; bill, an inch long, channelled, wedge-formed at the tip, and of a dusky horn colour. The female is marked nearly as the male, but wants the scarlet on the throat, which is whitish; she is also darker under the wings and on the sides of the breast. The young of the first season, of both sexes, in October, have the crown sprinkled with black and deep scarlet; the scarlet on the throat may be also observed in the young males. The principal food of these birds is insects; and they seem particularly fond of frequenting orchards, boring the trunks of the apple trees in their eager search after them. On opening them, the liver appears very large, and of a dirty gamboge colour; the stomach strongly muscular, and generally filled with fragments of beetles and gravel. In the morning they are extremely active in the orchards, and rather shyer than the rest of their associates. Their cry is also different, but, though it is easily distinguishable in the woods, cannot be described by words.

44. *PICUS VILLOSUS*, LINNÆUS. — HAIRY WOODPECKER.

WILSON, PL. IX. FIG. III. MALE. — EDINBURGH COLLEGE MUSEUM.

THIS is another of our resident birds, and, like the former, a haunter of orchards and borer of apple trees, an eager hunter of insects, their eggs and larvæ in old stumps and old rails, in rotten branches and crevices of the bark; having all the characters of the woodpecker strongly marked. In the month of May he retires with his mate to the woods, and either seeks out a branch already hollow, or cuts out an opening for himself. In the former case I have known his nest more than five feet distant from the mouth of the hole; and in the latter he digs first horizontally, if in the body of the tree, six or eight inches, and then downward, obtusely, for twice that distance; carrying up

the chips with his bill, and scraping them out with his feet. They also not unfrequently choose the orchard for breeding in, and even an old stake of the fence, which they excavate for this purpose. The female lays five white eggs, and hatches in June. This species is more numerous than the last in Pennsylvania, and more domestic; frequently approaching the farm-house and skirts of the town. In Philadelphia I have many times observed them examining old ragged trunks of the willow and poplar while people were passing immediately below. Their cry is strong, shrill, and tremulous; they have also a single note or *chuck*, which they often repeat, in an eager manner, as they hop about, and dig into the crevices of the tree. They inhabit the continent from Hudson's Bay to Carolina and Georgia.

The hairy woodpecker is nine inches long, and fifteen in extent; crown, black; line over and under the eye, white; the eye is placed in a black line, that widens as it descends to the back; hind head, scarlet, sometimes intermixed with black; nostrils hid under remarkably thick, bushy, recumbent hairs or bristles; under the bill are certain long hairs thrown forward and upward; bill, a bluish horn colour, grooved, wedged at the end, straight, and about an inch and a quarter long; touches of black, proceeding from the lower mandible, end in a broad black strip that joins the black on the shoulder; back, black, divided by a broad lateral strip of white, the feathers composing which are loose and unwebbed, resembling hairs, whence its name; rump and shoulders of the wing, black; wings, black, tipped and spotted with white, three rows of spots being visible on the secondaries, and five on the primaries; greater wing-coverts also spotted with white; tail, as in the others, cuneiform, consisting of ten strong-shafted and pointed feathers, the four middle ones black, the next partially white, the two exterior ones white, tinged at the tip with a brownish burnt colour; tail-coverts, black; whole lower side, pure white; legs, feet, and claws, light blue, the latter remarkably large and strong; inside

of the mouth, flesh coloured; tongue, pointed, beset with barbs, and capable of being protruded more than an inch and a half; the os hyoides, in this species, passes on each side of the neck, ascends the skull, passes down towards the nostril, and is wound round the bone of the right eye, which projects considerably more than the left for its accommodation. The great mass of hairs that cover the nostril, appears to be designed as a protection to the front of the head, when the bird is engaged in digging holes into the wood. The membrane which encloses the brain in this, as in all the other species of woodpeckers, is also of extraordinary strength, no doubt to prevent any bad effects from violent concussion while the bird is employed in digging for food. The female wants the red on the hind head; and the white below is tinged with brownish. The manner of flight of these birds has been already described under a former species, as consisting of alternate risings and sinkings. The hairy woodpeckers generally utter a loud tremulous scream as they set off, and when they alight. They are hard to kill; and, like the red-headed woodpecker, hang by the claws, even of a single foot, as long as a spark of life remains, before they drop.

This species is common at Hudson's Bay; and has lately been found in England. Dr Latham examined a pair which were shot near Halifax, in Yorkshire; and on comparing the male with one brought from North America, could perceive no difference, but in a slight interruption of the red that marked the hind head of the former; a circumstance which I have frequently observed in our own. The two females corresponded exactly.

45. *PICUS PUBESCENS*, LINNÆUS. — DOWNY WOODPECKER.

WILSON, PLATE IX. FIG. IV. — MALE. — EDINBURGH COLLEGE MUSEUM.

THIS is the smallest of our woodpeckers, and so exactly resembles the former in its tints and markings, and in almost every thing except its diminutive size, that I wonder how it passed through the Count de Buffon's hands without being branded as a "spurious race, degenerated by the influence of food, climate, or some unknown cause." But, though it has escaped this infamy, charges of a much more heinous nature have been brought against it, not only by the writer above mentioned, but by the whole venerable body of zoologists in Europe, who have treated of its history, viz. that it is almost constantly boring and digging into apple-trees; and that it is the most destructive of its whole genus to the orchards. The first part of this charge I shall not pretend to deny; how far the other is founded in truth will appear in the sequel. Like the two former species, it remains with us the whole year. About the middle of May, the male and female look out for a suitable place for the reception of their eggs and young. An apple, pear, or cherry-tree, often in the near neighbourhood of the farm-house, is generally pitched upon for this purpose. The tree is minutely reconnoitred for several days previous to the operation, and the work is first begun by the male, who cuts out a hole in the solid wood as circular as if described with a pair of compasses. He is occasionally relieved by the female, both parties working with the most indefatigable diligence. The direction of the hole, if made in the body of the tree, is generally downwards, by an angle of thirty or forty degrees, for the distance of six or eight inches, and then straight down for ten or twelve more; within roomy, capacious, and as smooth as if polished by the cabinetmaker; but the entrance is judiciously left just so large as to admit the bodies of the owners. During this labour, they regu-

larly carry out the chips, often strewing them at a distance to prevent suspicion. This operation sometimes occupies the chief part of a week. Before she begins to lay, the female often visits the place, passes out and in, examines every part both of the exterior and interior, with great attention, as every prudent tenant of a new house ought to do, and at length takes complete possession. The eggs are generally six, pure white, and laid on the smooth bottom of the cavity. The male occasionally supplies the female with food while she is sitting; and about the last week in June the young are perceived making their way up the tree, climbing with considerable dexterity. All this goes on with great regularity where no interruption is met with; but the house wren, who also builds in the hollow of a tree, but who is neither furnished with the necessary tools nor strength for excavating such an apartment for himself, allows the woodpeckers to go on, till he thinks it will answer his purpose, then attacks them with violence, and generally succeeds in driving them off. I saw some weeks ago a striking example of this, where the woodpeckers we are now describing, after commencing in a cherry-tree within a few yards of the house, and having made considerable progress, were turned out by the wren; the former began again on a pear-tree in the garden, fifteen or twenty yards off, whence, after digging out a most complete apartment, and one egg being laid, they were once more assaulted by the same impertinent intruder, and finally forced to abandon the place.

The principal characteristics of this little bird are diligence, familiarity, perseverance, and a strength and energy in the head and muscles of the neck, which are truly astonishing. Mounted on the infected branch of an old apple-tree, where insects have lodged their corroding and destructive brood in crevices between the bark and wood, he labours sometimes for half an hour incessantly at the same spot, before he has succeeded in dislodging and destroying them. At these times you may walk up pretty close to the tree, and even stand

immediately below it, within five or six feet of the bird, without in the least embarrassing him; the strokes of his bill are distinctly heard several hundred yards off; and I have known him to be at work for two hours together on the same tree. Buffon calls this "incessant toil and slavery," their attitude "a painful posture," and their life "a dull and insipid existence;" expressions improper, because untrue; and absurd, because contradictory. The posture is that for which the whole organization of his frame is particularly adapted; and though, to a wren or a humming-bird, the labour would be both toil and slavery, yet to him it is, I am convinced, as pleasant and as amusing, as the sports of the chase to the hunter, or the sucking of flowers to the humming-bird. The eagerness with which he traverses the upper and lower sides of the branches; the cheerfulness of his cry, and the liveliness of his motions while digging into the tree and dislodging the vermin, justify this belief. He has a single note, or *chink*, which, like the former species, he frequently repeats. And when he flies off, or alights on another tree, he utters a rather shriller cry, composed of nearly the same kind of note, quickly reiterated. In fall and winter, he associates with the titmouse, creeper, &c. both in their wood and orchard excursions; and usually leads the van. Of all our woodpeckers, none rid the apple-trees of so many vermin as this, digging off the moss which the negligence of the proprietor had suffered to accumulate, and probing every crevice. In fact, the orchard is his favourite resort in all seasons; and his industry is unequalled, and almost incessant, which is more than can be said of any other species we have. In fall, he is particularly fond of boring the apple-trees for insects, digging a circular hole through the bark just sufficient to admit his bill, after that second, third, &c. in pretty regular horizontal circles round the body of the tree; these parallel circles of holes are often not more than an inch or an inch and a half apart, and sometimes so close together, that I have covered eight or ten of them at once with a dollar. From

nearly the surface of the ground up to the first fork, and sometimes far beyond it, the whole bark of many apple-trees is perforated in this manner, so as to appear as if made by successive discharges of buck-shot; and our little woodpecker, the subject of the present account, is the principal perpetrator of this supposed mischief,—I say supposed, for so far from these perforations of the bark being ruinous, they are not only harmless, but, I have good reason to believe, really beneficial to the health and fertility of the tree. I leave it to the philosophical botanist to account for this; but the fact I am confident of. In more than fifty orchards which I have myself carefully examined, those trees which were marked by the woodpecker (for some trees they never touch, perhaps because not penetrated by insects,) were uniformly the most thriving, and seemingly the most productive; many of these were upwards of sixty years old, their trunks completely covered with holes, while the branches were broad, luxuriant, and loaded with fruit. Of decayed trees, more than three-fourths were untouched by the woodpecker. Several intelligent farmers, with whom I have conversed, candidly acknowledge the truth of these observations, and with justice look upon these birds as beneficial; but the most common opinion is, that they bore the trees to suck the sap, and so destroy its vegetation; though pine and other resinous trees, on the juices of which it is not pretended they feed, are often found equally perforated. Were the sap of the tree their object, the saccharine juice of the birch, the sugar maple, and several others, would be much more inviting, because more sweet and nourishing than that of either the pear or apple-tree; but I have not observed one mark on the former for ten thousand that may be seen on the latter; besides, the early part of spring is the season when the sap flows most abundantly; whereas it is only during the months of September, October, and November, that woodpeckers are seen so indefatigably engaged in orchards, probing every crack and crevice, boring through the bark, and

what is worth remarking, chiefly on the south and southwest sides of the tree, for the eggs and larvæ deposited there by the countless swarms of summer insects. These, if suffered to remain, would prey upon the very vitals, if I may so express it, of the tree, and in the succeeding summer give birth to myriads more of their race, equally destructive.

Here, then, is a whole species, I may say, genus, of birds, which Providence seems to have formed for the protection of our fruit and forest trees from the ravages of vermin, which every day destroy millions of those noxious insects that would otherwise blast the hopes of the husbandman; and which even promote the fertility of the tree; and, in return, are proscribed by those who ought to have been their protectors; and incitements and rewards held out for their destruction! Let us examine better into the operations of nature, and many of our mistaken opinions and groundless prejudices will be abandoned for more just, enlarged, and humane modes of thinking.

The length of the downy woodpecker is six inches and three quarters, and its extent twelve inches; crown, black; hind head, deep scarlet; stripe over the eye, white; nostrils, thickly covered with recumbent hairs, or small feathers, of a cream colour; these, as in the preceding species, are thick and bushy, as if designed to preserve the forehead from injury during the violent action of digging; the back is black, and divided by a lateral strip of white, loose, downy, unwebbed feathers; wings, black, spotted with white; tail-coverts, rump, and four middle feathers of the tail, black; the other three on each side, white, crossed with touches of black; whole under parts, as well as the sides of the neck, white; the latter marked with a streak of black, proceeding from the lower mandible, exactly as in the hairy woodpecker; legs and feet, bluish green; claws, light blue, tipped with black; tongue, formed like that of the preceding species, horny towards the tip, where, for one-eighth of an inch, it is barbed; bill, of a bluish horn colour, grooved, and wedge-formed, like most of the

genus; eye, dark hazel. The female wants the red on the hind head, having that part white; and the breast and belly are of a dirty white.

This, and the two former species, are generally denominated *sap-suckers*. They have also several other provincial appellations, equally absurd, which it may, perhaps, be more proper to suppress than to sanction by repeating.

46. *PICUS QUERULUS*, WILSON. — RED-COCKADED WOODPECKER.

WILSON, PLATE XV. FIG. I.

THIS new species I first discovered in the pine woods of North Carolina. The singularity of its voice, which greatly resembles the chirping of young nestlings, and the red streak on the side of its head, suggested the specific name I have given it. It also extends through South Carolina and Georgia, at least, as far as the Altamaha river. Observing the first specimen I found, to be so slightly marked with red, I suspected it to be a young bird, or imperfect in its plumage; but, the great numbers I afterwards shot, satisfied me that this is a peculiarity of the species. It appeared exceedingly restless, active, and clamorous; and every where I found its manners the same.

This bird seems to be an intermediate link between the red-bellied and the hairy woodpecker. It has the back of the former, and the white belly and spotted neck of the latter; but wants the breadth of red in both, and is less than either.

This woodpecker is seven inches and a half long, and thirteen broad; the upper part of the head is black; the back barred with twelve white transversely semi-circular lines, and as many of black, alternately; the cheeks and sides of the neck are white; whole lower parts the same; from the lower mandible, a list of black passes towards the shoulder of the wing, where it is lost in small black spots on each side of the breast; the

wings are black, spotted with white; the four middle tail feathers, black; the rest white, spotted with black; rump, black, variegated with white; the vent, white, spotted with black; the hairs that cover the nostrils are of a pale cream colour; the bill, deep slate. But, what forms the most distinguishing peculiarity of this bird, is a fine line of vermilion on each side of the head, seldom occupying more than the edge of a single feather. The female is destitute of this ornament; but, in the rest of her plumage, differs in nothing from the male. The iris of the eye, in both, was hazel.

The stomachs of all those I opened were filled with small black insects, and fragments of large beetles. The posterior extremities of the tongue reached nearly to the base of the upper mandible.

47. *PICUS TORQUATUS*, WILSON. — LEWIS'S WOODPECKER.

WILSON, PLATE XX. FIG. III.

THIS bird, and one or two others which will afterwards be given,* were discovered in the remote regions of Louisiana, by an exploring party, under the command of Captain George Merriwether Lewis, and Lieutenant, now General, William Clark, in their memorable expedition across the continent to the Pacific Ocean. These birds are entitled to a distinguished place in the pages of AMERICAN ORNITHOLOGY, both as being, till now, altogether unknown to naturalists, and as natives of what *is*, or, at least *will be*, and that at no distant period, part of the western territory of the United States.

Of this very beautiful and singularly marked species, I am unable to give any farther account than as relates to its external appearance. Several skins of this species were preserved, all of which I examined with care, and found little or no difference among them, either in the tints or disposition of the colours.

* These are *Clark's Crow*, and the *Louisiana Tanager*.

The length of this was eleven inches and a half; the back, wings, and tail were black, with a strong gloss of green; upper part of the head, the same; front, chin, and cheeks, beyond the eyes, a dark rich red; round the neck passes a broad collar of white, which spreads over the breast, and looks as if the fibres of the feathers had been silvered: these feathers are also of a particular structure, the fibres being separate, and of a hair-like texture; belly, deep vermilion, and of the same strong hair-like feathers, intermixed with silvery ones; vent, black; legs and feet, dusky, inclining to greenish blue; bill, dark horn colour.

For a more particular, and doubtless a more correct account of this and the others, the reader is referred to General Clark's History of the Expedition. The three birds I shall introduce, are but a small part of the valuable collection of new subjects in natural history, discovered and preserved, amidst a thousand dangers and difficulties by these two enterprising travellers, whose intrepidity was only equalled by their discretion, and by their active and laborious pursuit of whatever might tend to render their journey useful to science and to their country. It was the request and particular wish of Captain Lewis, made to me in person, that I should make drawings of such of the feathered tribes as had been preserved, and were new. That brave soldier, that amiable and excellent man, over whose solitary grave in the wilderness I have since shed tears of affliction, having been cut off in the prime of his life, I hope I shall be pardoned for consecrating this humble note to his memory, until a more able pen shall do better justice to the subject.

TRIBE II.

AMBULATOIRES, ILLIGER.

FAMILY VI.

ANGULIROSTRES, ILLIGER.

GENUS VII.—*ALCEDO*, LINNEUS.

48. *ALCEDO ALCYON*, LINNÆUS. — BELTED KINGSFISHER.

WILSON, PL. XXIII. FIG. I. — FEMALE. — EDINBURGH COLLEGE MUSEUM.

THIS is a general inhabitant of the banks and shores of all our fresh water rivers, from Hudson's Bay to Mexico; and is the only species of its tribe found within the United States. This last circumstance, and its characteristic appearance, make it as universally known here, as its elegant little brother, the common kingsfisher of Europe, is in Britain. Like the love-lorn swains, of whom poets tell us, he delights in murmuring streams and falling waters; not, however, merely that they may sooth his ear, but for a gratification somewhat more substantial. Amidst the roar of the cataract, or over the foam of a torrent, he sits perched upon an overhanging bough, glancing his piercing eye in every direction below for his scaly prey, which, with a sudden circular plunge, he sweeps from their native element, and swallows in an instant. His voice, which is not unlike the twirling of a watchman's rattle, is naturally loud, harsh, and sudden; but is softened by the sound of the brawling streams and cascades among which he generally rambles. He courses along the windings of the brook or river, at a small height above the surface, sometimes suspending himself by the rapid action of his wings, like certain

species of hawks, ready to pounce on the fry below; now and then settling on an old dead overhanging limb to reconnoitre. Mill-dams are particularly visited by this feathered fisher; and the sound of his pipe is as well known to the miller, as the rattling of his own hopper. Rapid streams, with high perpendicular banks, particularly if they be of a hard clayey, or sandy nature, are also favourite places of resort for this bird; not only because in such places the small fish are more exposed to view, but because those steep and dry banks are the chosen situations for his nest. Into these he digs with bill and claws horizontally, sometimes to the extent of four or five feet, at the distance of a foot or two from the surface. The few materials he takes in are not always placed at the extremity of the hole, that he and his mate may have room to turn with convenience. The eggs are five, pure white, and the first brood usually comes out about the beginning of June, and sometimes sooner, according to that part of the country where they reside. On the shores of Kentucky river, near the town of Frankfort, I found the female sitting early in April. They are very tenacious of their haunts, breeding for several successive years in the same hole, and do not readily forsake it, even though it be visited. An intelligent young gentleman informed me, that having found where a kingfisher built, he took away its eggs from time to time, leaving always one behind, until he had taken no less than eighteen from the same nest. At some of these visits, the female, being within, retired to the extremity of the hole, while he withdrew the egg, and next day, when he returned, he found she had laid again as usual.

The fabulous stories related by the ancients of the nest, manner of hatching, &c. of the kingfisher, are too trifling to be repeated here. Over the winds and the waves the humble kingfishers of our days, at least the species now before us, have no control. Its nest is neither constructed of glue nor fish bones; but of loose grass and a few feathers. It is not thrown on the surface of the water to float about, with its proprietor,

at random, but snugly secured from the winds and the weather in the recesses of the earth; neither is its head or its feathers believed, even by the most illiterate of our clowns or seamen, to be a charm for love, a protection against witchcraft, or a security for fair weather. It is neither venerated, like those of the Society Isles, nor dreaded, like those of some other countries; but is considered merely as a bird that feeds on fish; is generally fat; relished by *some* as good eating; and is now and then seen exposed for sale in our markets.

Though the kingfisher generally remains with us, in Pennsylvania, until the commencement of cold weather, it is seldom seen here in winter; but returns to us early in April. In North and South Carolina, I observed numbers of these birds in the months of February and March. I also frequently noticed them on the shores of the Ohio, in February, as high up as the mouth of the Muskingum.

I suspect this bird to be a native of the Bahama Islands, as well as of our continent. In passing between these isles and the Florida shore, in the month of July, a kingfisher flew several times round our ship, and afterwards shot off to the south.

The length of this species is twelve inches and a half, extent twenty; back and whole upper parts, a light bluish slate colour; round the neck is a collar of pure white, which reaches before to the chin; head, large, crested; the feathers, long and narrow, black in the centre, and generally erect; the shafts of all the feathers, except the white plumage, are black; belly and vent, white; sides under the wings, variegated with blue; round the upper part of the breast passes a band of blue, interspersed with some light brown feathers; before the eye is a small spot of white, and another immediately below it; the bill is three inches long from the point to the slit of the mouth, strong, sharp-pointed, and black, except near the base of the lower mandible, and at the tip, where it is of a horn colour; primaries and interior webs of the secondaries, black, spotted

with white; the interior vanes of the tail feathers, elegantly spotted with white on a jet black ground; lower side, light coloured; exterior vanes, blue; wing-coverts and secondaries, marked with small specks of white; legs, extremely short; when the bird perches, it generally rests on the lower side of the second joint, which is thereby thick and callous; claws, stout and black; whole leg, of a dirty yellowish colour; above the knee, bare of feathers for half an inch; the two exterior toes united together for nearly their whole length.

The female is sprinkled all over with specks of white; the band of blue around the upper part of the breast is nearly half reddish brown; and a little below this, passes a band of bright reddish bay, spreading on each side under the wings. The blue and rufous feathers on the breast are strong, like scales. The head is also of a much darker blue than the back, and the white feathers on the chin and throat of an exquisite fine glossy texture, like the most beautiful satin.

FAMILY VII.

GREGARII, ILLIGER.

GENUS VIII.—*STURNUS*, LINNEUS.

49. *STURNUS LUDOVICIANUS*, LINN.—*ALAUDA MAGNA*, WILSON.

MEADOW LARK.

WILSON, PLATE XIX. FIG. II. — EDINBURGH COLLEGE MUSEUM.

THOUGH this well known species cannot boast of the powers of song which distinguish that "harbinger of day," the sky lark of Europe, yet in richness of plumage, as well as in sweetness of voice, (as far as his few notes extend,) he stands eminently its superior. He differs from the greater part of his tribe in wanting the long straight hind claw, which is probably the reason why he has been classed, by some naturalists, with the starlings. But, in the particular form of his bill, in his manners, plumage, mode and place of building his nest, nature has clearly pointed out his proper family.

This species has a very extensive range; having myself found them in Upper Canada, and in each of the States from New Hampshire to New Orleans. Mr Bartram also informs me, that they are equally abundant in East Florida. Their favourite places of retreat are pasture fields and meadows, particularly the latter, which have conferred on them their specific name; and no doubt supplies them abundantly with the particular seeds and insects on which they feed. They are rarely or never seen in the depth of the woods; unless where, instead of underwood, the ground is covered with rich grass, as in the Chactaw and Chickasaw countries, where I met with them in considerable numbers in the months of May and June. The extensive and luxuriant prairies between Vincennes and St Louis also abound with them.

It is probable that, in the more rigorous regions of

the north, they may be birds of passage, as they are partially so here; though I have seen them among the meadows of New Jersey, and those that border the rivers Delaware and Schuylkill, in all seasons; even when the ground was deeply covered with snow. There is scarcely a market day in Philadelphia, from September to March, but they may be found in market. They are generally considered, for size and delicacy, little inferior to the quail, or what is here usually called the partridge, and valued accordingly. I once met with a few of these birds in the month of February, during a deep snow, among the heights of the Alleghany, between Shippensburgh and Somerset, gleaning on the road, in company with the small snow-birds. In the State of South Carolina and Georgia, at the same season of the year, they swarm among the rice plantations, running about the yards and out-houses, accompanied by the kildeers, with little appearance of fear, as if quite domesticated.

These birds, after the building season is over, collect in flocks; but seldom fly in a close compact body; their flight is something in the manner of the grouse and partridge, laborious and steady, sailing, and renewing the rapid action of the wings alternately. When they alight on trees or bushes, it is generally on the tops of the highest branches, whence they send forth a long, clear, and somewhat melancholy note, that, in sweetness and tenderness of expression, is not surpassed by any of our numerous warblers. This is sometimes followed by a kind of low, rapid chattering, the particular call of the female; and again the clear and plaintive strain is repeated as before. They afford tolerably good amusement to the sportsman, being most easily shot while on the wing; as they frequently squat among the long grass, and spring within gunshot. The nest of this species is built generally in, or below, a thick tuft, or tussock of grass; it is composed of dry grass, and fine bent laid at bottom, and wound all around, leaving an arched entrance level with the ground; the inside is lined with fine stalks of the same materials, disposed

with great regularity. The eggs are four, sometimes five, white, marked with specks, and several large blotches of reddish brown, chiefly at the thick end. Their food consists of caterpillars, grub worms, beetles, and grass seeds, with a considerable proportion of gravel. Their general name is the meadow lark; among the Virginians, they are usually called the old field lark.

The length of this bird is ten inches and a half, extent, sixteen and a half; throat, breast, belly, and line from the eye to the nostrils, rich yellow; inside lining and edge of the wing, the same; an oblong crescent of deep velvety black ornaments the lower part of the throat; lesser wing-coverts, black, broadly bordered with pale ash; rest of the wing feathers, light brown, handsomely serrated with black; a line of yellowish white divides the crown, bounded on each side by a stripe of black, intermixed with bay, and another line of yellowish white passes over each eye, backwards; cheeks, bluish white; back, and rest of the upper parts, beautifully variegated with black, bright bay, and pale ochre; tail wedged, the feathers neatly pointed, the four outer ones on each side, nearly all white; sides, thighs, and vent, pale yellow ochre, streaked with black; upper mandible, brown; lower, bluish white; eyelids, furnished with strong black hairs; legs and feet, very large, and of a pale flesh colour.

The female has the black crescent more skirted with gray, and not of so deep a black. In the rest of her markings, the plumage differs little from that of the male. I must here take notice of a mistake committed by Mr Edwards in his *History of Birds*, vol. vi, p. 123, where, on the authority of a bird dealer of London, he describes the calandre lark, (a native of Italy and Russia,) as belonging also to North America, and having been brought from Carolina. I can say with confidence, that, in all my excursions through that and the rest of the southern States, I never met such a bird, nor any person who had ever seen it. I have no hesitation in believing, that the calandre is not a native of the United States.

GENUS IX.—*ICTERUS*, BRISSON.SUBGENUS II.—*ICTERUS*.50. *ICTERUS BALTIMORUS*, DAUDE.—*ORIOLOUS BALTIMORUS*, WILS.

BALTIMORE BIRD, OR ORIOLE.

WILSON, PL. I. FIG. III.—MALE.—EDINBURGH COLLEGE MUSEUM.

THIS is a bird of passage, arriving in Pennsylvania, from the south, about the beginning of May, and departing towards the latter end of August, or beginning of September. From the singularity of its colours, the construction of its nest, and its preferring the apple trees, weeping willows, walnut and tulip trees adjoining the farm house, to build on, it is generally known, and, as usual, honoured with a variety of names, such as hang-nest, hanging-bird, golden robin, fire bird, (from the bright orange seen through the green leaves, resembling a flash of fire,) &c. but more generally the Baltimore bird, so named, as Catesby informs us, from its colours, which are black and orange, being those of the arms or livery of Lord Baltimore, formerly proprietary of Maryland.

The Baltimore oriole is seven inches in length; bill almost straight, strong, tapering to a sharp point, black, and sometimes lead coloured, above, the lower mandible light blue towards the base. Head, throat, upper part of the back and wings, black; lower part of the back, rump, and whole under parts, a bright orange, deepening into vermilion on the breast; the black on the shoulders is also divided by a band of orange; exterior edges of the greater wing-coverts, as well as the edges of the secondaries, and part of those of the primaries, white; the tail feathers under the coverts, orange; the two middle ones, from thence to the tips, are black, the next five, on each side, black near the coverts, and

orange towards the extremities, so disposed, that when the tail is expanded, and the coverts removed, the black appears in the form of a pyramid, supported on an arch of orange. Tail slightly forked, the exterior feather on each side, a quarter of an inch shorter than the others; legs and feet, light blue, or lead colour; iris of the eye, hazel.

The female has the head, throat, upper part of the neck and back, of a dull black, each feather being skirted with olive yellow; lower part of the back, ramp, upper tail-coverts, and whole lower parts, orange yellow, but much duller than that of the male; the whole wing feathers are of a deep dirty brown, except the quills, which are exteriorly edged, and the greater wing-coverts, and next superior row, which are broadly tipped with a dull yellowish white; tail, olive yellow; in some specimens, the two middle feathers have been found partly black, in others wholly so; the black on the throat does not descend so far as in the male, is of a lighter tinge, and more irregular; bill, legs, and claws, light blue.

Buffon and Latham, have both described the male of the bastard Baltimore, (*oriolus spurius*), as the female Baltimore. Mr Pennant has committed the same mistake; and all the ornithologists of Europe, with whose works I am acquainted, who have undertaken to figure and describe these birds, have mistaken the proper males and females, and confounded the two species together in a very confused and extraordinary manner, for which, indeed, we ought to pardon them, on account of their distance from the native residence of these birds, and the strange alterations of colour which the latter are subject to.

This obscurity I have endeavoured to clear up in the plate containing the male and female of the *oriolus spurius* in their different changes of dress, as well as in their perfect plumage; and by introducing representations of the eggs of both, have, I hope, put the identity of these two species beyond all future dispute or ambiguity.

Almost the whole genus of orioles belong to America, and, with a few exceptions, build pensile nests. Few of them, however, equal the Baltimore in the construction of these receptacles for their young, and in giving them, in such a superior degree, convenience, warmth, and security. For these purposes he generally fixes on the high bending extremities of the branches, fastening strong strings of hemp or flax round two forked twigs, corresponding to the intended width of the nest; with the same materials, mixed with quantities of loose tow, he interweaves or fabricates a strong firm kind of cloth, not unlike the substance of a hat in its raw state, forming it into a pouch of six or seven inches in depth, lining it substantially with various soft substances, well interwoven with the outward netting, and, lastly, finishes with a layer of horse hair; the whole being shaded from the sun and rain by a natural pent-house, or canopy of leaves. As to a hole being left in the side for the young to be fed and void their excrements through, as Pennant and others relate, it is certainly an error: I have never met with any thing of the kind in the nest of the Baltimore.

Though birds of the same species have, generally speaking, a common form of building, yet, contrary to the usually received opinion, they do not build exactly in the same manner. As much difference will be found in the style, neatness, and finishing of the nests of the Baltimores, as in their voices. Some appear far superior workmen to others: and probably age may improve them in this, as it does in their colours. I have a number of their nests now before me, all completed, and with eggs. One of these, the neatest, is in the form of a cylinder, of five inches diameter, and seven inches in depth, rounded at bottom. The opening at top is narrowed, by a horizontal covering, to two inches and a half in diameter. The materials are flax, hemp, tow, hair, and wool, woven into a complete cloth; the whole tightly sewed through and through with long horse hairs, several of which measure two feet in length. The bottom is composed of thick tufts of cow hair,

sewed also with strong horse hair. This nest was hung on the extremity of the horizontal branch of an apple tree, fronting the southeast, was visible a hundred yards off, though shaded from the sun; and was the work of a very beautiful and perfect bird. The eggs are five, white, slightly tinged with flesh colour, marked on the greater end with purple dots, and on the other parts with long hair-like lines, intersecting each other in a variety of directions. I am thus minute in these particulars, from a wish to point out the specific difference between the true and bastard Baltimore, which Dr Latham, and some others, suspect to be only the same bird in different stages of colour.

So solicitous is the Baltimore to procure proper materials for his nest, that, in the season of building, the women in the country are under the necessity of narrowly watching their thread that may chance to be out bleaching, and the farmer to secure his young grafts; as the Baltimore, finding the former, and the strings which tie the latter, so well adapted for his purpose, frequently carries off both; or, should the one be over heavy, and the other too firmly tied, he will tug at them a considerable time before he gives up the attempt. Skeins of silk and hanks of thread have been often found, after the leaves were fallen, hanging round the Baltimore's nest; but so woven up, and entangled, as to be entirely irreclaimable. Before the introduction of Europeans, no such material could have been obtained here; but, with the sagacity of a good architect, he has improved this circumstance to his advantage; and the strongest and best materials are uniformly found in those parts by which the whole is supported.

Their principal food consists of caterpillars, beetles, and bugs, particularly one of a brilliant glossy green, fragments of which I have almost always found in their stomach, and sometimes these only.

The song of the Baltimore is a clear mellow whistle, repeated at short intervals as he gleans among the branches. There is in it a certain wild plaintiveness and *naïveté* extremely interesting. It is not uttered

with the rapidity of the ferruginous thrush, (*turdus rufus*,) and some other eminent songsters; but with the pleasing tranquillity of a careless ploughboy, whistling merely for his own amusement. When alarmed by an approach to his nest, or any such circumstance, he makes a kind of rapid chirruping, very different from his usual note. This, however, is always succeeded by those mellow tones which seem so congenial to his nature.

High on yon poplar, clad in glossiest green,
 The orange, black-capp'd Baltimore is seen;
 The broad extended boughs still please him best,
 Beneath their bending skirts he hangs his nest;
 There his sweet mate, secure from every harm,
 Broods o'er her spotted store, and wraps them warm;
 Lists to the noontide hum of busy bees,
 Her partner's mellow song, the brook, the breeze;
 These day by day the lonely hours deceive,
 From dewy morn to slow descending eve.
 Two weeks elapsed, behold! a helpless crew
 Claim all her care and her affection too;
 On wings of love the assiduous nurses fly,
 Flowers, leaves, and boughs, abundant food supply;
 Glad chants their guardian as abroad he goes,
 And waving breezes rock them to repose.

The Baltimore inhabits North America, from Canada to Mexico, and is even found as far south as Brazil. Since the streets of our cities have been planted with that beautiful and stately tree, the Lombardy poplar, these birds are our constant visitors during the early part of summer; and, amid the noise and tumult of coaches, drays, wheelbarrows, and the din of the multitude, they are heard chanting "their native wood notes wild;" sometimes, too, within a few yards of an oysterman, who stands bellowing, with the lungs of a Stentor, under the shade of the same tree; so much will habit reconcile even birds to the roar of the city, and to sounds and noises, that, in other circumstances, would put a whole grove of them to flight.

These birds are several years in receiving their complete plumage. Sometimes the whole tail of a male individual in spring is yellow, sometimes only the two

middle feathers are black, and frequently the black on the back is skirted with orange, and the tail tipt with the same colour. Three years, I have reason to believe, are necessary to fix the full tint of the plumage, and then the male bird appears as already described.

51. *ICTERUS BALTIMORUS*, WILSON.

FEMALE BALTIMORE ORIOLE.

WILSON, PLATE LIII. FIG. IV.

THE history of this beautiful species has been particularly detailed in the preceding article; but a few particulars may here be added: The males generally arrive several days before the females, saunter about their wonted places of residence, and seem lonely, and less sprightly, than after the arrival of their mates. In the spring and summer of 1811, a Baltimore took up its abode in Mr Bartram's garden, whose notes were so singular as particularly to attract my attention; they were as well known to me as the voice of my most intimate friend. On the 30th of April, 1812, I was again surprised and pleased at hearing this same Baltimore in the garden, whistling his identical old chant; and I observed, that he particularly frequented that quarter of the garden where the tree stood, on the pendent branches of which he had formed his nest the preceding year. This nest had been taken possession of by the house wren, a few days after the Baltimore's brood had abandoned it; and, curious to know how the little intruder had furnished it within, I had taken it down early in the fall, after the wren herself had also raised a brood of six young in it, and which was her second that season. I found it stript of its original lining, floored with sticks, or small twigs, above which were laid feathers; so that the usual complete nest of the wren occupied the interior of that of the Baltimore.

The chief difference between the male and female Baltimore oriole is the superior brightness of the orange colour of the former to that of the latter. The black on the head, upper part of the back and throat of the female, is intermixed with dull orange; whereas, in the male, those parts are of a deep shining black; the tail of the female also wants the greater part of the black, and the whole lower parts are of a much dusker orange.

I have observed, that these birds are rarely seen in pine woods, or where these trees generally prevail. On the ridges of our high mountains they are seldom to be met with. In orchards, and on well cultivated farms, they are most numerous, generally preferring such places to build in, rather than the woods or forest.

52. *ICTERUS SPURIUS*, BONAPARTE.—*ORIOLOUS MUTATUS*, WILSON.

ORCHARD ORIOLE.

WILSON, PL. IV. FIG. I. FEMALE; FIG. II. MALE, TWO YEARS OLD; FIG. III. MALE, THREE YEARS OLD; FIG. IV. THE ADULT MALE. — EDINBURGH COLLEGE MUSEUM.

THERE are no circumstances, relating to birds, which tend so much to render their history obscure and perplexing, as the various changes of colour which many of them undergo. These changes are in some cases periodical; in others progressive; and are frequently so extraordinary, that, unless the naturalist has resided for years in the country where the birds inhabit, and has examined them at almost every season, he is extremely liable to be mistaken and imposed on by their novel appearance. Numerous instances of this kind might be cited, from the pages of European writers, in which the same bird has been described two, three, and even four different times, by the same person; and each time as a different kind. The species we are now about to examine is a remarkable example of this; and it has

never, to my knowledge, been either accurately figured or described.

The Count de Buffon, in introducing what he supposed to be the male of this bird, but which appears evidently to have been the female of the Baltimore oriole, makes the following observations, which I give in the words of his translator :—“ This bird is so called (spurious Baltimore,) because the colours of its plumage are not so lively as in the preceding (*Baltimore o.*) In fact, when we compare these birds, and find an exact correspondence in every thing except the colours, and not even in the distribution of these, but only in the different tints they assume ; we cannot hesitate to infer, that the spurious Baltimore is a variety of a more generous race, degenerated by the influence of climate, or some other accidental cause.”

How the influence of climate could affect one portion of a species and not the other, when both reside in the same climate, and feed nearly on the same food ; or what accidental cause could produce a difference so striking, and also so regular, as exists between the two, are, I confess, matters beyond my comprehension. But, if it be recollected, that the bird which the Count was thus philosophizing upon, was nothing more than the female Baltimore oriole, which exactly corresponds to the description of his male bastard Baltimore, the difficulties at once vanish, and with them the whole superstructure of theory founded on this mistake. Dr Latham, also, while he confesses the great confusion and uncertainty that prevail between the true and bastard Baltimore, and their females, considers it highly probable that the whole will be found to belong to one and the same species, in their different changes of colour. In this conjecture, however, the worthy naturalist has likewise been mistaken ; and I shall endeavour to point out the fact, as well as this source of this mistake.

And here I cannot but take notice of the name which naturalists have bestowed on this bird, and which is certainly remarkable. Specific names, to be perfect, ought to express some peculiarity, common to no other

of the genus; and should, at least, be consistent with truth; but, in the case now before us, the name has no one merit of the former, nor even that of the latter to recommend it, and ought henceforth to be rejected as highly improper, and calculated, like that of *goatsucker*, and many others equally ridiculous, to perpetuate that error from which it originated. The word *bastard*, among men, has its determinate meaning; but when applied to a whole species of birds, perfectly distinct from any other, originally deriving their peculiarities of form, manners, colour, &c. from the common source of all created beings, and perpetuating them, by the usual laws of generation, as unmixed and independent as any other; is, to call it by no worse name, a gross absurdity. Should the reader be displeased at this, I beg leave to remind him, that, as the faithful historian of our feathered tribes, I must be allowed the liberty of vindicating them from every misrepresentation whatever, whether originating in ignorance or prejudice; and of allotting to each respective species, as far as I can distinguish, that rank and place in the great order of nature to which it is entitled.

To convince the foreigner, (for Americans have no doubt on the subject,) I will add, that I conclude this bird to be specifically different from the Baltimore, from the following circumstances: its size—it is less, and more slender; its colours, which are different, and *very differently disposed*; the form of its bill, which is sharper pointed, and more bent; the form of its tail, which is not *even*, but *wedged*; its notes, which are neither so full nor so mellow, and uttered with much more rapidity; its mode of building, and the materials it uses, both of which are different; and, lastly, the shape and colour of the eggs of each, which are evidently unlike. If all these circumstances—and I could enumerate a great many more—be not sufficient to designate this as a distinct species, by what criterion, I would ask, are we to discriminate between a *variety* and an *original* species, or to assure ourselves, that the

great horned owl is not, in fact, a *bastard* goose, or the carrion crow a mere variety of the humming-bird?

These mistakes have been occasioned by several causes. Principally by the changes of colour to which the birds are subject, and the distance of Europeans from the country they inhabit. Catesby, it is true, while here, described and figured the Baltimore, and perhaps was the first who published figures of either species; but he entirely omitted saying any thing of the female, and, instead of the male and female of the present species, as he thought, he has only figured the male in two of his different dresses; and succeeding compilers have followed and repeated the same error. Another cause may be assigned, viz. the extreme shyness of the female orchard oriole. This bird has hitherto escaped the notice of European naturalists, or has been mistaken for another species, or perhaps for a young bird of the first season, which it almost exactly resembles. In none of the numerous works on ornithology has it ever before appeared in its proper character; though the male has been known to Europeans for more than a century, and has usually been figured in one of his dresses as male, and in another as female; these varying according to the fluctuating opinions of different writers. It is amusing to see how gentlemen have groped in the dark in pairing these two species of orioles, of which the following examples may be given.

Buffon's and Latham's Baltimore oriole.	{	<i>Male</i> —Male Baltimore.
		<i>Female</i> —Male orchard oriole.
Spurious Baltimore of ditto.	{	<i>Male</i> —Female Baltimore.
		<i>Female</i> —Male orchard oriole.
Pennant's Baltimore oriole.	{	<i>Male</i> —Male Baltimore.
		<i>Female</i> —Young male Baltimore.
Spurious oriole of ditto.	{	<i>Male</i> —Male orchard oriole.
		<i>Female</i> —Ditto ditto.
Catesby's Baltimore oriole.	{	<i>Male</i> —Male Baltimore.
		<i>Female</i> —Not mentioned.
Spurious Baltimore of ditto.	{	<i>Male</i> —Male orchard oriole.
		<i>Female</i> —Ditto ditto.

Among all these authors Catesby is doubtless the most inexcusable, having lived for several years in America, where he had an opportunity of being more correct: yet, when it is considered, that the female of this bird is so much shyer than the male, that it is seldom seen; and that, while the males are flying around and bewailing an approach to their nest, the females keep aloof, watching every movement of the enemy in restless but silent anxiety; it is less to be wondered at, I say, that two birds of the same kind, but different in plumage, making their appearance together at such times, should be taken for male and female of the same nest, without doubt or examination, as, from that strong sympathy for each other's distress which prevails so universally among them at this season, it is difficult sometimes to distinguish between the sufferer and the sympathizing neighbour.

The female of the orchard oriole is six inches and a half in length, and eleven inches in extent, the colour above is a yellow olive, inclining to a brownish tint on the back; the wings are dusky brown, lesser wing-coverts tipped with yellowish white, greater coverts and secondaries exteriorly edged with the same, primaries slightly so; tail, rounded at the extremity, the two exterior feathers three quarters of an inch shorter than the middle ones; whole lower parts, yellow; bill and legs, light blue; the former bent a little, very sharp pointed, and black towards the extremity; iris of the eye, hazel; pupil, black. The young male of the first season corresponds nearly with the above description. But in the succeeding spring he makes his appearance with a large patch of black marking the front, lores, and throat. In this stage, too, the black sometimes makes its appearance on the two middle feathers of the tail; and slight stains of reddish are seen commencing on the sides and belly. The rest of the plumage as in the female: this continuing nearly the same, on the same bird, during the remainder of the season. At the same time, other individuals are found, which are at least birds of the third summer. These are mottled

with black and olive on the upper parts of the back, and with reddish bay and yellow on the belly, sides, and vent, scattered in the most irregular manner, not alike in any two individuals; and, generally, the two middle feathers of the tail are black, and the others centred with the same colour. When this bird is approaching to its perfect plumage, the black spreads over the whole head, neck, upper part of the back, breast, wings, and tail; the reddish bay, or bright chestnut occupying the lower part of the breast, the belly, vent, rump, tail-coverts, and three lower rows of the lesser wing-coverts. The black on the head is deep and velvety; that of the wings inclining to brown; the greater wing-coverts are tipped with white. In the same orchard, and at the same time, males in each of these states of plumage may be found, united to their respective plain-coloured mates. I may add, that Mr Charles W. Peale, proprietor of the museum in Philadelphia, who, as a practical naturalist, stands deservedly first in the first rank of American connoisseurs; and who has done more for the promotion of that sublime science than all our speculative theorists together, has expressed to me his perfect conviction of the changes which these birds pass through; having himself examined them both in spring and towards the latter part of summer, and having at the present time in his possession thirty or forty individuals of this species, in almost every gradation of change.

In all these, the manners, mode of building, food, and notes are, generally speaking, the same, differing no more than those of any other individuals belonging to one common species. The female appears always nearly the same.

I have said that these birds construct their nests very differently from the Baltimores. They are so particularly fond of frequenting orchards, that scarcely one orchard in summer is without them. They usually suspend their nest from the twigs of the apple tree; and often from the extremities of the outward branches. It is formed exteriorly of a particular species of long,

tough, and flexible grass, knit, or sewed through and through in a thousand directions, as if actually done with a needle. An old lady of my acquaintance, to whom I was one day shewing this curious fabrication, after admiring its texture for some time, asked me, in a tone between joke and earnest, whether I did not think it possible to learn these birds to darn stockings? This nest is hemispherical, three inches deep by four in breadth; the concavity scarcely two inches deep by two in diameter. I had the curiosity to detach one of the fibres, or stalks of dried grass, from the nest, and found it to measure thirteen inches in length, and in that distance was thirty-four times hooked through and returned, winding round and round the nest! The inside is usually composed of the light downy appendages attached to the seeds of the *Platanus occidentalis*, or button-wood, which form a very soft and commodious bed. Here and there the outward work is extended to an adjoining twig, round which it is strongly twisted, to give more stability to the whole, and prevent it from being overset by the wind.

When they choose the long pendent branches of the weeping willow to build in, as they frequently do, the nest, though formed of the same materials, is made much deeper, and of slighter texture. The circumference is marked out by a number of these pensile twigs that descend on each side like ribs, supporting the whole; their thick foliage, at the same time, completely concealing the nest from view. The depth in this case is increased to four or five inches, and the whole is made much slighter. These long pendent branches, being sometimes twelve and even fifteen feet in length, have a large sweep in the wind, and render the first of these precautions necessary, to prevent the eggs or young from being thrown out; and the close shelter afforded by the remarkable thickness of the foliage is, no doubt, the cause of the latter. Two of these nests, such as I have here described, are now lying before me, and exhibit not only art in the construction, but judgment in adapting their fabrication

so judiciously to their particular situations. If the actions of birds proceeded, as some would have us believe, from the mere impulses of that thing called *instinct*, individuals of the same species would uniformly build their nest in the same manner, wherever they might happen to fix it; but it is evident from those just mentioned, and a thousand such circumstances, that they reason *à priori*, from cause to consequence; providently managing with a constant eye to future necessity and convenience.

The eggs are usually four, of a very pale bluish tint, with a few small specks of brown, and spots of dark purple.

The orchard oriole, though partly a dependant on the industry of the farmer, is no sneaking pilferer, but an open, and truly beneficent friend. To all those countless multitudes of destructive bugs and caterpillars that infest the fruit trees in spring and summer, preying on the leaves, blossoms, and embryo of the fruit, he is a deadly enemy; devouring them wherever he can find them, and destroying, on an average, some hundreds of them every day, without offering the slightest injury to the fruit, however much it may stand in his way. I have witnessed instances where the entrance to his nest was more than half closed up by a cluster of apples, which he could have easily demolished in half a minute; but, as if holding the property of his patron sacred, or, considering it as a natural bulwark to his own, he slid out and in with the greatest gentleness and caution. I am not sufficiently conversant in entomology to particularize the different species of insects on which he feeds, but I have good reason for believing that they are almost altogether such as commit the greatest depredations on the fruits of the orchard; and, as he visits us at a time when his services are of the greatest value, and, like a faithful guardian, takes up his station where the enemy is most to be expected, he ought to be held in respectful esteem, and protected by every considerate husbandman. Nor is the gaiety of his song one of his least recommendations. Being an exceedingly active,

sprightly, and restless bird, he is on the ground—on the trees—flying and carolling in his hurried manner, in almost one and the same instant. His notes are shrill and lively, but uttered with such rapidity, and seeming confusion, that the ear is unable to follow them distinctly. Between these, he has a single note, which is agreeable and interesting. Wherever he is protected, he shews his confidence and gratitude by his numbers and familiarity. In the botanic gardens of my worthy and scientific friends, the Messrs Bartrams of Kingsess, which present an epitome of almost every thing that is rare, useful, and beautiful in the vegetable kingdom of this western continent, and where the murderous gun scarce ever intrudes, the orchard oriole revels without restraint through thickets of aromatic flowers and blossoms, and, heedless of the busy gardener that labours below, hangs his nest, in perfect security, on the branches over his head.

The female sits fourteen days; the young remain in the nest ten days afterwards, before they venture abroad, which is generally about the middle of June. Nests of this species, with eggs, are sometimes found so late as the 20th of July, which must either belong to birds that have lost their first nest, or, it is probable, that many of them raise two brood of young in the same season, though I am not positive of the fact.

The orchard orioles arrive in Pennsylvania rather later than the Baltimores, commonly about the first week in May, and extend as far as the province of Maine. They are also more numerous towards the mountains than the latter species. In traversing the country near the Blue ridge, in the month of August, I have seen at least five of this species for one of the Baltimore. Early in September, they take their departure for the south; their term of residence here being little more than four months. Previous to their departure, the young birds become gregarious, and frequent the rich extensive meadows of the Schuylkill, below Philadelphia, in flocks of from thirty to forty, or upwards. They are easily raised from the nest, and

soon become agreeable domestics. One which I reared and kept through the winter, whistled with great clearness and vivacity at two months old. It had an odd manner of moving its head and neck slowly and regularly, and in various directions, when intent on observing any thing, without stirring its body. This motion was as slow and regular as that of a snake. When at night a candle was brought into the room, it became restless, and evidently dissatisfied, fluttering about the cage, as if seeking to get out; but, when the cage was placed on the same table with the candle, it seemed extremely well pleased, fed and drank, drest, shook, and arranged its plumage, sat as close to the light as possible, and sometimes chanted a few broken, irregular notes in that situation, as I sat writing or reading beside it. I also kept a young female of the same nest, during the greater part of winter, but could not observe, in that time, any change in its plumage.

SUBGENUS III. — *XANTHORNIUS*.52. *ICTERUS PHÆNICEUS*, DAUD. — *STURNUS PREDATORIUS*, WILS.

RED-WINGED STARLING.

WILSON, PLATE XXX. FIG. I. — MALE. — FIG. II, FEMALE.

THIS notorious and celebrated corn thief, the long reputed plunderer and pest of our honest and laborious farmers, now presents himself before us, with his female copartner in iniquity, to receive the character due for their very active and distinguished services. In investigating the nature of these, I shall endeavour to render strict historical justice to this noted pair; adhering to the honest injunctions of the poet,

Nothing extenuate,
Nor set down aught in malice.

Let the reader divest himself equally of prejudice, and

we shall be at no loss to ascertain accurately their true character.

The red-winged starlings, though generally migratory in the States north of Maryland, are found during winter in immense flocks, sometimes associated with the purple grakles, and often by themselves, along the whole lower parts of Virginia, both Carolinas, Georgia, and Louisiana, particularly near the sea coast, and in the vicinity of large rice and corn fields. In the months of January and February, while passing through the former of these countries, I was frequently entertained with the aerial evolutions of these great bodies of starlings. Sometimes they appeared driving about like an enormous black cloud carried before the wind, varying its shape every moment. Sometimes suddenly rising from the fields around me with a noise like thunder; while the glittering of innumerable wings of the brightest vermilion amid the black cloud they formed, produced on these occasions a very striking and splendid effect. Then descending like a torrent, and covering the branches of some detached grove, or clump of trees, the whole congregated multitude commenced one general concert or chorus, that I have plainly distinguished at the distance of more than two miles; and, when listened to at the intermediate space of about a quarter of a mile, with a slight breeze of wind to swell and soften the flow of its cadences, was to me grand, and even sublime. The whole season of winter, that, with most birds, is past in struggling to sustain life in silent melancholy, is, with the red-wings, one continued carnival. The profuse gleanings of the old rice, corn, and buckwheat fields, supply them with abundant food, at once ready and nutritious; and the intermediate time is spent either in aerial manœuvres, or in grand vocal performances, as if solicitous to supply the absence of all the tuneful summer tribes, and to cheer the dejected face of nature with their whole combined powers of harmony.

About the 20th of March, or earlier, if the season be open, they begin to enter Pennsylvania in numerous,

though small parties. These migrating flocks are usually observed from daybreak to eight or nine in the morning, passing to the north, chattering to each other as they fly along; and, in spite of all our antipathy, their well known notes and appearance, after the long and dreary solitude of winter, inspire cheerful and pleasing ideas of returning spring, warmth, and verdure. Selecting their old haunts, every meadow is soon enlivened by their presence. They continue in small parties to frequent the low borders of creeks, swamps, and ponds, till about the middle of April, when they separate in pairs to breed; and, about the last week in April or first in May, begin to construct their nest. The place chosen for this is generally within the precincts of a marsh or swamp, meadow, or other like watery situation,—the spot, usually a thicket of alder bushes, at the height of six or seven feet from the ground; sometimes in a detached bush, in a meadow of high grass; often in a tussock of rushes or coarse rank grass; and not unfrequently on the ground: in all of which situations, I have repeatedly found them. When in a bush, they are generally composed outwardly of wet rushes, picked from the swamp, and long tough grass in large quantity, and well lined with very fine bent. The rushes, forming the exterior, are generally extended to several of the adjoining twigs, round which they are repeatedly and securely twisted; a precaution absolutely necessary for its preservation, on account of the flexible nature of the bushes in which it is placed. The same caution is observed when a tussock is chosen, by fastening the tops together, and intertwining the materials of which the nest is formed with the stalks of rushes around. When placed on the ground, less care and fewer materials being necessary, the nest is much simpler and slighter than before. The female lays five eggs, of a very pale light blue, marked with faint tinges of light purple and long straggling lines and dashes of black. It is not uncommon to find several nests in the same thicket, within a few feet of each other.

During the time the female is sitting, and, still more

particularly after the young are hatched, the male, like most other birds that build in low situations, exhibits the most violent symptoms of apprehension and alarm on the approach of any person to its near neighbourhood. Like the lapwing of Europe, he flies to meet the intruder, hovers at a short height over-head, uttering loud notes of distress; and, while in this situation, displays to great advantage the rich glowing scarlet of his wings, heightened by the jetty black of his general plumage. As the danger increases, his cries become more shrill and incessant, and his motions rapid and restless; the whole meadow is alarmed, and a collected crowd of his fellows hover around, and mingle their notes of alarm and agitation with his. When the young are taken away, or destroyed, he continues for several days near the place, restless and dejected, and generally recommences building soon after, in the same meadow. Towards the beginning or middle of August, the young birds begin to fly in flocks, and at that age nearly resemble the female, with the exception of some reddish or orange, that marks the shoulders of the males, and which increases in space and brilliancy as winter approaches. It has been frequently remarked, that, at this time, the young birds chiefly associate by themselves, there being sometimes not more than two or three old males observed in a flock of many thousands. These, from the superior blackness and rich red of their plumage, are very conspicuous.

Before the beginning of September, these flocks have become numerous and formidable; and the young ears of maize, or Indian corn, being then in their soft, succulent, milky state, present a temptation that cannot be resisted. Reinforced by numerous and daily flocks from all parts of the interior, they pour down on the low countries in prodigious multitudes. Here they are seen, like vast clouds, wheeling and driving over the meadows and devoted corn fields, darkening the air with their numbers. Then commences the work of destruction on the corn, the husks of which, though composed of numerous envelopments of closely wrapt

leaves, are soon completely or partially torn off; while from all quarters myriads continue to pour down like a tempest, blackening half an acre at a time; and, if not disturbed, repeat their depredations till little remains but the cob and the shrivelled skins of the grain; what little is left of the tender ear, being exposed to the rains and weather, is generally much injured. All the attacks and havoc made at this time among them with the gun, and by the hawks,—several species of which are their constant attendants,—has little effect on the remainder. When the hawks make a sweep among them, they suddenly open on all sides, but rarely in time to disappoint them of their victims; and, though repeatedly fired at, with mortal effect, they only remove from one field to an adjoining one, or to another quarter of the same enclosure. From dawn to nearly sunset, this open and daring devastation is carried on, under the eye of the proprietor; and a farmer, who has any considerable extent of corn, would require half-a-dozen men at least, with guns, to guard it; and even then, all their vigilance and activity would not prevent a good tithe of it from becoming the prey of the black-birds. The Indians, who usually plant their corn in one general field, keep the whole young boys of the village all day patrolling round and among it; and each being furnished with bow and arrows, with which they are very expert, they generally contrive to destroy great numbers of them.

It must, however, be observed, that this scene of pillage is principally carried on in the low countries, not far from the sea-coast, or near the extensive flats that border our large rivers; and is also chiefly confined to the months of August and September. After this period, the corn having acquired its hard shelly coat, and the seeds of the reeds or wild oats, with a profusion of other plants, that abound along the river shores, being now ripe, and in great abundance, they present a new and more extensive field for these marauding multitudes. The reeds also supply them with convenient roosting places, being often in almost unapproach-

able morasses; and thither they repair every evening from all quarters of the country. In some places, however, when the reeds become dry, advantage is taken of this circumstance, to destroy these birds, by a party secretly approaching the place, under cover of a dark night, setting fire to the reeds in several places at once, which, being soon enveloped in one general flame, the uproar among the blackbirds becomes universal; and, by the light of the conflagration, they are shot down in vast numbers while hovering and screaming over the place. Sometimes straw is used for the same purpose, being previously strewed near the reeds and alder bushes, where they are known to roost, which being instantly set on fire, the consternation and havoc is prodigious; and the party return by day to pick up the slaughtered game. About the first of November, they begin to move off towards the south; though, near the sea coast, in the states of New Jersey and Delaware, they continue long after that period.

Such are the general manners and character of the red-winged starling; but there remain some facts to be mentioned, no less authentic, and well deserving the consideration of its enemies, more especially, of those whose detestation of this species, would stop at nothing short of total extirpation.

It has been already stated, that they arrive in Pennsylvania late in March. Their general food at this season, as well as during the early part of summer, (for the crows and purple grakles are the principal pests in planting time,) consists of grub-worms, caterpillars, and various other larvæ, the silent, but deadly enemies of all vegetation, and whose secret and insidious attacks are more to be dreaded by the husbandman than the combined forces of the whole feathered tribes together. For these vermin, the starlings search with great diligence; in the ground, at the roots of plants, in orchards, and meadows, as well as among buds, leaves, and blossoms; and, from their known voracity, the multitudes of these insects which they destroy must be immense. Let me illustrate this by a short

computation : If we suppose each bird, on an average, to devour fifty of these larvæ in a day, (a very moderate allowance,) a single pair, in four months, the usual time such food is sought after, will consume upwards of twelve thousand. It is believed, that not less than a million pair of these birds are distributed over the whole extent of the United States in summer; whose food, being nearly the same, would swell the amount of vermin destroyed to twelve thousand millions. But the number of young birds may be fairly estimated at double that of their parents; and, as these are constantly fed on larvæ for at least three weeks, making only the same allowance for them as for the old ones, their share would amount to four thousand two hundred millions; making a grand total of sixteen thousand two hundred millions of noxious insects destroyed in the space of four months by this single species! The combined ravages of such a hideous host of vermin would be sufficient to spread famine and desolation over a wide extent of the richest and best cultivated country on earth. All this, it may be said, is mere supposition. It is, however, supposition founded on known and acknowledged facts. I have never dissected any of these birds in spring without receiving the most striking and satisfactory proofs of these facts; and though, in a matter of this kind, it is impossible to ascertain precisely the amount of the benefits derived by agriculture from this, and many other species of our birds, yet, in the present case, I cannot resist the belief, that the services of this species, in spring, are far more important and beneficial than the value of all that portion of corn which a careful and active farmer permits himself to lose by it.

The great range of country frequented by this bird extends from Mexico, on the south, to Labrador. Our late enterprizing travellers across the continent to the Pacific Ocean, observed it numerous in several of the valleys at a great distance up the Missouri. When taken alive, or reared from the nest, it soon becomes familiar, sings frequently, bristling out its feathers,

something in the manner of the cow bunting. These notes, though not remarkably various, are very peculiar. The most common one resembles the syllables *conquer-rèe*; others, the shrill sounds produced by filing a saw: some are more guttural; and others remarkably clear. The usual note of both male and female is a single *chuck*. Instances have been produced where they have been taught to articulate several words distinctly; and, contrary to what is observed of many birds, the male loses little of the brilliancy of his plumage by confinement.

A very remarkable trait of this bird is, the great difference of size between the male and female; the former being nearly two inches longer than the latter, and of proportionate magnitude. They are known by various names in the different States of the Union; such as the *swamp blackbird*, *marsh blackbird*, *red-winged blackbird*, *corn*, or *maize thief*, *starling*, &c. Many of them have been carried from this to different parts of Europe; and Edwards relates, that one of them, which had, no doubt, escaped from a cage, was shot in the neighbourhood of London; and, on being opened, its stomach was found to be filled with grub-worms, caterpillars, and beetles; which Buffon seems to wonder at, as, "in their own country," he observes, "they feed exclusively on grain and maize."

Hitherto this species has been generally classed by naturalists with the orioles. By a careful comparison, however, of its bill with those of that tribe, the similarity is by no means sufficient to justify this arrangement; and its manners are altogether different. I can find no genus to which it makes so near an approach, both in the structure of the bill and in food, flight, and manners, as those of the stare; with which, following my judicious friend Mr Bartram, I have accordingly placed it. To the European, the perusal of the foregoing pages will be sufficient to satisfy him of their similarity of manner. For the satisfaction of those who are unacquainted with the common starling of Europe, I shall select a few sketches of its character,

from the latest and most accurate publication I have seen from that quarter.* Speaking of the stare, or starling, this writer observes, "In the winter season, these birds fly in vast flocks, and may be known at a great distance by their whirling mode of flight, which Buffon compares to a sort of vortex, in which the collective body performs an uniform circular revolution, and, at the same time, continues to make a progressive advance. The evening is the time when the stares assemble in the greatest numbers, and betake themselves to the fens and marshes, where they roost among the reeds: they chatter much in the evening and morning, both when they assemble and disperse. So attached are they to society, that they not only join those of their own species, but also birds of a different kind; and are frequently seen in company with redwings, (a species of thrush,) fieldfares, and even with crows, jackdaws, and pigeons. Their principal food consists of worms, snails, and caterpillars; they likewise eat various kinds of grain, seeds, and berries." He adds, that, "in a confined state, they are very docile, and may easily be taught to repeat short phrases, or whistle tunes with great exactness."

The red-winged starling is nine inches long, and fourteen inches in extent; the general colour is a glossy black, with the exception of the whole lesser wing-coverts, the first, or lower row of which is of a reddish cream colour, the rest a rich and splendid scarlet; legs and bill, glossy brownish black; irides, hazel; bill, cylindrical above, compressed at the sides, straight, running considerably up the forehead, where it is prominent, rounding and flattish towards the tip, though sharp-pointed; tongue, nearly as long as the bill, tapering and lacerated at the end; tail, rounded, the two middle feathers also somewhat shorter than those immediately adjoining.

The female is seven inches and a quarter in length, and twelve inches in extent; chin, a pale reddish

* Bewick's *British Birds*, part i, p. 119, Newcastle, 1809.

cream; from the nostril over the eye, and from the lower mandible, run two stripes of the same, speckled with black; from the posterior angle of the eye backwards, a streak of brownish black covers the auriculars; throat, and whole lower parts, thickly streaked with black and white, the latter inclining to cream on the breast; whole plumage above, black, each feather bordered with pale brown, white, or bay, giving the bird a very mottled appearance; lesser coverts, the same; bill and legs as in the male.

The young birds at first greatly resemble the female; but have the plumage more broadly skirted with brown. The red early shews itself on the lesser wing-coverts of the males, at first pale, inclining to orange, and partially disposed. The brown continues to skirt the black plumage for a year or two, so that it is rare to find an old male altogether destitute of some remains of it; but the red is generally complete in breadth and brilliancy by the succeeding spring. The females are entirely destitute of that ornament.

The flesh of these birds is but little esteemed, being, in general, black, dry, and tough. Strings of them are, however, frequently seen exposed for sale in our markets.

SUBGENUS IV. — *EMBERIZOIDES*.

54. *ICTERUS PECORIS*, TEMM. — *EMBERIZA PECORIS*, WILSON.

COW BUNTING.*

WILSON, PLATE XVIII. FIG. I. MALE—FIG. II. FEMALE.

THERE is one striking peculiarity in the works of the great Creator, which becomes more amazing the

* The American cuckoo (*cuculus Carolinensis*) is by many people called the cow bird, from the sound of its notes resembling the words *cow, cow*. This bird builds its own nest very artlessly in a cedar, or an apple-tree, and lays four greenish blue eggs, which it hatches, and rears its young with great tenderness.

more we reflect on it; namely, that he has formed no species of animals so minute, or obscure, that are not invested with certain powers and peculiarities, both of outward conformation, and internal faculties, exactly suited to their pursuits, sufficient to distinguish them from all others; and forming for them a character solely and exclusively their own. This is particularly so among the feathered race. If there be any case where these characteristic features are not evident, it is owing to our want of observation; to our little intercourse with that particular tribe; or to that contempt for inferior animals, and all their habitudes, which is but too general, and which bespeaks a morose, unfeeling, and unreflecting mind. These peculiarities are often surprising, always instructive where understood, and, (as in the subject of our present chapter,) at least amusing, and worthy of being farther investigated.

The most remarkable trait in the character of this species is, the unaccountable practice it has of dropping its eggs into the nests of other birds, instead of building and hatching for itself; and thus entirely abandoning its progeny to the care and mercy of strangers. More than two thousand years ago, it was well known, in those countries where the bird inhabits, that the cuckoo of Europe (*cuculus canorus*) never built herself a nest, but dropt her eggs in the nests of other birds; but, among the thousands of different species that spread over that and other parts of the globe, no other instance of the same uniform habit has been found to exist, until discovered in the bird now before us. Of the reality of the former there is no doubt; it is known to every schoolboy in Britain; of the truth of the latter I can myself speak with confidence, from personal observation, and from the testimony of gentlemen, unknown to each other, residing in different and distant parts of the United States. The circumstances by which I became first acquainted with this peculiar habit of the bird are as follows:—

I had, in numerous instances, found in the nests of

three or four particular species of birds, one egg, much larger, and differently marked from those beside it; I had remarked, that these odd-looking eggs were all of the same colour, and marked nearly in the same manner, in whatever nest they lay; though frequently the eggs beside them were of a quite different tint; and I had also been told, in a vague way, that the cow bird laid in other birds' nests. At length I detected the female of this very bird in the nest of the red-eyed flycatcher, which nest is very small, and very singularly constructed; suspecting her purpose, I cautiously withdrew without disturbing her; and had the satisfaction to find, on my return, that the egg which she had just dropt corresponded as nearly as eggs of the same species usually do, in its size, tint, and markings, to those formerly taken notice of. Since that time, I have found the young cow bunting, in many instances, in the nests of one or other of these small birds; I have seen these last followed by the young cow bird calling out clamorously for food, and often engaged in feeding it; and I have now, in a cage before me, a very fine one, which, six months ago, I took from the nest of the Maryland yellow-throat. I claim, however, no merit for a discovery not originally my own, these singular habits having long been known to people of observation resident in the country, whose information, in this case, has preceded that of all our school philosophers and closet naturalists, to whom the matter has till now been totally unknown.

About the 25th of March, or early in April, the cowpen bird makes his first appearance in Pennsylvania from the south, sometimes in company with the red-winged blackbird, more frequently in detached parties, resting early in the morning, an hour at a time, on the tops of trees near streams of water, appearing solitary, silent, and fatigued. They continue to be occasionally seen, in small solitary parties, particularly along creeks and banks of rivers, so late as the middle of June; after which we see no more of them until about the beginning or middle of October, when they reappear in much

larger flocks, generally accompanied by numbers of the redwings; between whom and the present species there is a considerable similarity of manners, dialect, and personal resemblance. In these aerial voyages, like other experienced navigators, they take advantage of the direction of the wind; and always set out with a favourable gale. My venerable and observing friend, Mr Bartram, writes me, on the 13th of October, as follows:—"The day before yesterday, at the height of the northeast storm, prodigious numbers of the cow-pen birds came by us, in several flights of some thousands in a flock; many of them settled on trees in the garden to rest themselves; and then resumed their voyage southward. There were a few of their *cousins*, the redwings, with them. We shot three, a male and two females."

From the early period at which these birds pass in the spring, it is highly probable that their migrations extend very far north. Those which pass in the months of March and April can have no opportunity of depositing their eggs here, there being not more than one or two of our small birds which build so early. Those that pass in May and June are frequently observed loitering singly about solitary thickets, reconnoitring, no doubt, for proper nurses, to whose care they may commit the hatching of their eggs, and the rearing of their helpless orphans. Among the birds selected for this duty are the following, all of which are described in this work:—the bluebird, which builds in a hollow tree; the chipping sparrow, in a cedar bush; the golden-crowned thrush, on the ground, in the shape of an oven; the red-eyed flycatcher, a neat pensile nest, hung by the two upper edges on a small sapling, or drooping branch; the yellow-bird, in the fork of an alder; the Maryland yellow-throat, on the ground, at the roots of brier bushes; the white-eyed flycatcher, a pensile nest on the bending of a smilax vine; and the small blue-gray flycatcher, also a pensile nest, fastened to the slender twigs of a tree, sometimes at the height of fifty or sixty feet from the ground. There are, no

doubt, others to whom the same charge is committed; but all these I have myself met with acting in that capacity.

Among these, the yellow-throat and the red-eyed flycatcher appear to be particular favourites; and the kindness and affectionate attention which these two little birds seem to pay to their nurslings, fully justify the partiality of the parents.

It is well known to those who have paid attention to the manners of birds, that, after their nest is fully finished, a day or two generally elapses before the female begins to lay. This delay is in most cases necessary to give firmness to the yet damp materials, and allow them time to dry. In this state it is sometimes met with, and laid in by the cow bunting; the result of which I have invariably found to be the desertion of the nest by its rightful owner, and the consequent loss of the egg thus dropt in it by the intruder. But when the owner herself has begun to lay, and there are one or more eggs in the nest before the cow bunting deposits hers, the attachment of the proprietor is secured, and remains unshaken until incubation is fully performed, and the little stranger is able to provide for itself.

The well known practice of the young cuckoo of Europe in turning out all the eggs and young which it feels around it, almost as soon as it is hatched, has been detailed in a very satisfactory and amusing manner, by the amiable Dr Jenner,* who has since risen to immortal celebrity, in a much nobler pursuit; and to whose genius and humanity the whole human race are under everlasting obligations. In our cow bunting, though no such habit has been observed, yet still there is something mysterious in the disappearance of the nurse's own eggs soon after the foundling is hatched, which happens regularly before all the rest. From twelve to fourteen days is the usual time of incubation with our small birds; but, although I cannot exactly fix the precise period

* See *Philosophical Transactions* for 1788, Part II.

requisite for the egg of the cow bunting, I think I can say almost positively, that it is a day or two less than the shortest of the above mentioned spaces. In this singular circumstance we see a striking provision of the Deity; for, did this egg require a day or two more, instead of so much less, than those among which it has been dropt, the young it contained would in every instance inevitably perish; and thus in a few years the whole species must become extinct. On the first appearance of the young cow bunting, the parent being frequently obliged to leave the nest to provide sustenance for the foundling, the business of incubation is thus necessarily interrupted; the disposition to continue it abates; nature has now given a new direction to the zeal of the parent, and the remaining eggs, within a day or two at most, generally disappear. In some instances, indeed, they have been found on the ground near, or below, the nest; but this is rarely the case.

I have never known more than one egg of the cow bunting dropt in the same nest. This egg is somewhat larger than that of the bluebird, thickly sprinkled with grains of pale brown on a dirty white ground. It is of a size proportionable to that of the bird.

So extraordinary and unaccountable is this habit, that I have sometimes thought it might not be general among the whole of this species in every situation; that the extreme heat of our summers, though suitable enough for their young, might be too much for the comfortable residence of the parents; that, therefore, in their way to the north, through our climate, they were induced to secure suitable places for their progeny; and that in the regions where they more generally pass the summer, they might perhaps build nests for themselves, and rear their own young, like every other species around them. On the other hand, when I consider that many of them tarry here so late as the middle of June, dropping their eggs, from time to time, into every convenient receptacle; that in the States of Virginia, Maryland, Delaware, New Jersey, and Penn-

sylvania, they uniformly retain the same habits; and, in short, that in all these places I have never yet seen or heard of their nest; reasoning from these facts, I think I may safely conclude, that they never build one, and that, in those remote northern regions, their manners are the same as we find them here.

What reason nature may have for this extraordinary deviation from her general practice, is, I confess, altogether beyond my comprehension. There is nothing singular to be observed in the anatomical structure of the bird that would seem to prevent, or render it incapable of, incubation. The extreme heat of our climate is probably one reason why, in the months of July and August, they are rarely to be seen here. Yet we have many other migratory birds that regularly pass through Pennsylvania to the north, leaving a few residents behind them; who, without exception, build their own nests and rear their own young. This part of the country also abounds with suitable food, such as they usually subsist on. Many conjectures, indeed, might be formed as to the probable cause; but all of them, that have occurred to me, are unsatisfactory and inconsistent. Future, and more numerous observations, made with care, particularly in those countries where they most usually pass the summer, may throw more light on this matter; till then we can only rest satisfied with the reality of the fact.

This species winters regularly in the lower parts of North and South Carolina and Georgia; I have also met with them near Williamsburg, and in several other parts of Virginia. In January, 1809, I observed strings of them for sale in the market of Charleston, South Carolina. They often frequent corn and rice fields, in company with their cousins, as Mr Bartram calls them, the red-winged blackbirds; but are more commonly found accompanying the cattle, feeding on the seeds, worms, &c. which they pick up amongst the fodder and from the excrements of the cattle, which they scratch up for this purpose. Hence they have pretty generally obtained the name of *cow-pen birds*, *cow birds*, or *cow*

blackbirds. By the naturalists of Europe they have hitherto been classed with the finches; though improperly, as they have no family resemblance to that tribe sufficient to justify that arrangement. If we are to be directed by the conformation of their bill, nostrils, tongue, and claws, we cannot hesitate a moment in classing them with the red-winged blackbirds, *oriolus phoeniceus*; not, however, as *orioles*, but as *buntings*, or some new intermediate genus; the notes or dialect of the cow bunting and those of the redwings, as well as some other peculiarities of voice and gesticulation, being strikingly similar.

Respecting this extraordinary bird, I have received communications from various quarters, all corroborative of the foregoing particulars. Among these is a letter from Dr Potter of Baltimore, which, as it contains some new and interesting facts, and several amusing incidents, illustrative of the character of the bird, I shall with pleasure lay before the reader, apologizing to the obliging writer for a few unimportant omissions which have been anticipated in the preceding pages.

“ I regret exceedingly that professional avocations have put it out of my power to have replied earlier to your favour of the 19th of September; and although I shall not now reflect all the light you desire, a faithful transcript from memoranda, noted at the moment of observation, may not be altogether uninteresting.

“ The *fringilla pecoris* is generally known in Maryland by the name of the cow blackbird; and none but the naturalist view it as a distinct species. It appears about the last of March, or first week in April, though sometimes a little earlier when the spring is unusually forward. It is less punctual in its appearance than many other of our migratory birds.

“ It commonly remains with us till about the last of October; though unusually cold weather sometimes banishes it much earlier. It, however, sometimes happens that a few of them remain with us all winter, and are seen hovering about our barns and farm-yards

when straitened for sustenance by snow or hard frost. It is remarkable that in some years I have not been able to discover one of them during the months of July and August; when they have suddenly appeared in September in great numbers. I have noticed this fact always immediately after a series of very hot weather, and then only. The general opinion is, that they then retire to the deep recesses of the shady forest; but, if this had been the fact, I should probably have discovered them in my rambles in every part of the woods. I think it more likely that they migrate farther north, till they find a temperature more congenial to their feelings, or find a richer repast in following the cattle in a better pasture.*

“ In autumn, we often find them congregated with the marsh blackbirds, committing their common depredations upon the ears of the Indian corn; and at other seasons, the similarity of their pursuits in feeding introduces them into the same company. I could never observe that they would keep the company of any other bird.

“ The cow-pen finch differs, moreover, in another respect, from all the birds with which I am acquainted. After an observance of many years, I could never discover any thing like *pairing*, or a mutual attachment between the sexes. Even in the season of love, when

* “ It may not be improper to remark here, that the appearance of this bird in spring is sometimes looked for with anxiety by the farmers. If the horned cattle happen to be diseased in spring, they ascribe it to worms, and consider the pursuit of the birds as an unerring indication of the necessity of medicine. Although this hypothesis of the worms infesting the cattle so as to produce much disease is problematical, their superabundance at this season cannot be denied. The larvæ of several species are deposited in the vegetables when green, and the cattle are fed on them as fodder in winter. This furnishes the principal inducement for the bird to follow the cattle in spring, when the aperient effects of the green grasses evacuates great numbers of worms. At this season the pecoris often stuffs its crop with them till it can contain no more. There are several species, but the most numerous is a small white one, similar to, if not the same as, the ascaris of the human species.”

other birds are separated into pairs, and occupied in the endearing office of providing a receptacle for their offspring, the fringillæ are seen feeding in odd as well as even numbers, from one to twenty, and discovering no more disposition towards perpetuating their species than birds of any other species at other seasons, excepting a promiscuous concubinage, which pervades the whole tribe. When the female separates from the company, her departure is not noticed; no gallant partner accompanies her, nor manifests any solicitude in her absence; nor is her return greeted by that gratulatory tenderness that so eminently characterizes the males of other birds. The male proffers the same civilities to any female indiscriminately, and they are reciprocated accordingly, without exciting either resentment or jealousy in any of the party. This want of sexual attachment is not inconsistent with the general economy of this singular bird; for, as they are neither their own architect, nor nurse of their own young, the degree of attachment that governs others would be superfluous.

“ That the fringilla never builds a nest for itself, you may assert without the hazard of a refutation. I once offered a premium for the nest, and the negroes in the neighbourhood brought me a variety of nests; but they were always traced to some other bird. The time of depositing their eggs is from the middle of April to the last of May, or nearly so; corresponding with the season of laying observed by the small birds on whose property it encroaches. It never deposits but one egg in the same nest, and this is generally after the rightful tenant begins to deposit hers, but never, I believe, after she has commenced the process of incubation. It is impossible to say how many they lay in a season, unless they could be watched when confined in an aviary.

“ By a minute attention to a number of these birds when they feed in a particular field in the laying season, the deportment of the female, when the time of laying draws near, becomes particularly interesting.

She deserts her associates, assumes a drooping, sickly aspect, and perches upon some eminence where she can reconnoitre the operations of other birds in the process of nidification. If a discovery suitable to her purpose cannot be made from her stand, she becomes more restless, and is seen flitting from tree to tree till a place of deposit can be found. I once had an opportunity of witnessing a scene of this sort, which I cannot forbear to relate. Seeing a female prying into a bunch of bushes in search of a nest, I determined to see the result, if practicable; and, knowing how easily they are disconcerted by the near approach of man, I mounted my horse, and proceeded slowly, sometimes seeing and sometimes losing sight of her, till I had travelled nearly two miles along the margin of a creek. She entered every thick place, prying with the strictest scrutiny into places where the small birds usually build, and at last darted suddenly into a thick copse of alders and briers, where she remained five or six minutes, when she returned, soaring above the underwood, and returned to the company she had left feeding in the field. Upon entering the covert, I found the nest of a yellow-throat, with an egg of each. Knowing the precise time of deposit, I noted the spot and date, with a view of determining a question of importance, the time required to hatch the egg of the cow bird, which I supposed to commence from the time of the yellow-throat's laying the last egg. A few days after, the nest was removed, I knew not how, and I was disappointed. In the progress of the cow bird along the creek's side, she entered the thick boughs of a small cedar, and returned several times before she could prevail on herself to quit the place; and, upon examination, I found a sparrow sitting on its nest, on which she no doubt would have stolen in the absence of the owner. It is, I believe, certain, that the cow-pen finch never makes a forcible entry upon the premises, by attacking other birds, and ejecting them from their rightful tenements, although they are all, perhaps, inferior in strength, except the bluebird, which,

although of a mild as well as affectionate disposition, makes a vigorous resistance when assaulted. Like most other tyrants and thieves, they are cowardly, and accomplish by stealth what they cannot obtain by force.

“ The deportment of the yellow-throat on this occasion is not to be omitted. She returned while I waited near the spot, and darted into her nest, but returned immediately, and perched upon a bough near the place, remained a minute or two, and entered it again, returned, and disappeared. In ten minutes she returned with the male. They chattered with great agitation for half an hour, seeming to participate in the affront, and then left the place. I believe all the birds thus intruded on manifest more or less concern at finding the egg of a stranger in their own nests. Among these, the sparrow is particularly punctilious; for she sometimes chirps her complaints for a day or two, and often deserts the premises altogether, even after she has deposited one or more eggs. The following anecdote will shew not only that the cow-pen finch insinuates herself slyly into the nests of other birds, but that even the most pacific of them will resent the insult: A bluebird had built for three successive seasons in the cavity of a mulberry tree near my dwelling. One day, when the nest was nearly finished, I discovered a female cow bird perched upon a fence stake near it, with her eyes apparently fixed upon the spot, while the builder was busy in adjusting her nest. The moment she left it, the intruder darted into it, and, in five minutes, returned, and sailed off to her companions with seeming delight, which she expressed by her gestures and notes. The bluebird soon returned, and entered the nest, but instantaneously fluttered back with much apparent hesitation, and perched upon the highest branch of the tree, uttering a rapidly repeated note of complaint and resentment, which soon brought the male, who reciprocated her feelings by every demonstration of the most vindictive resentment. They entered the nest together, and returned several times, uttering their uninterrupted

complaints for ten or fifteen minutes. The male then darted away to the neighbouring trees, as if in quest of the offender, and fell upon a cat-bird, which he chastised severely, and then returned to an innocent sparrow that was chanting its ditty in a peach tree. Notwithstanding the affront was so passionately resented, I found the bluebird had laid an egg the next day. Perhaps a tenant less attached to a favourite spot would have acted more fastidiously, by deserting the premises altogether. In this instance, also, I determined to watch the occurrences that were to follow, but, on one of my morning visits, I found the common enemy of the eggs and young of all the small birds had despoiled the nest,—a coluber was found coiled in the hollow, and the eggs sucked.

“ Agreeably to my observation, all the young birds destined to cherish the young cow bird are of a mild and affectionate disposition; and it is not less remarkable, that they are all smaller than the intruder; the bluebird is the only one nearly as large. This is a good natured mild creature, although it makes a vigorous defence when assaulted. The yellow-throat, the sparrow, the goldfinch, the indigo-bird, and the bluebird, are the only birds in whose nests I have found the eggs or the young of the cow-pen finch, though doubtless there are some others.

“ What becomes of the eggs or young of the proprietor? This is the most interesting question that appertains to this subject. There must be some special law of nature which determines that the young of the proprietors are never to be found tenants in common with the young cow bird. I shall offer the result of my own experience on this point, and leave it to you and others, better versed in the mysteries of nature than I am, to draw your own conclusions. Whatever theory may be adopted, the facts must remain the same. Having discovered a sparrow’s nest with five eggs, four and one, and the sparrow sitting, I watched the nest daily. The egg of the cow bird occupied the centre, and those of the sparrow were pushed a little

up the sides of the nest. Five days after the discovery, I perceived the shell of the finch's egg broken, and the next the bird was hatched. The sparrow returned while I was near the nest, with her mouth full of food, with which she fed the young cow bird, with every possible mark of affection, and discovered the usual concern at my approach. On the succeeding day only two of the sparrow's eggs remained, and the next day there were none. I sought in vain for them on the ground, and in every direction.

“ Having found the eggs of the cow bird in the nest of a yellow-throat, I repeated my observations. The process of incubation had commenced, and, on the seventh day from the discovery, I found a young cow bird that had been hatched during my absence of twenty-four hours, all the eggs of the proprietor remaining. I had not an opportunity of visiting the nest for three days, and, on my return, there was only one egg remaining, and that rotten. The yellow-throat attended the young interloper with the same apparent care and affection as if it had been its own offspring.

“ The next year my first discovery was in a blue-bird's nest, built in a hollow stump. The nest contained six eggs, and the process of incubation was going on. Three or four days after my first visit, I found a young cow bird, and three eggs remaining. I took the eggs out; two contained young birds, apparently come to their full time, and the other was rotten. I found one of the other eggs on the ground at the foot of the stump, differing in no respect from those in the nest, no signs of life being discoverable in either.

“ Soon after this, I found a goldfinch's nest with one egg of each only, and I attended it carefully till the usual complement of the owner were laid. Being obliged to leave home, I could not ascertain precisely when the process of incubation commenced; but from my reckoning, I think the egg of the cow bird must have been hatched in nine or ten days from the commencement of incubation. On my return, I found the young cow bird occupying nearly the whole nest, and

the foster mother as attentive to it as she could have been to her own. I ought to acknowledge here, that, in none of these instances, could I ascertain exactly the time required to hatch the cow bird's eggs; and that of course none of them are decisive; but is it not strange that the egg of the intruder should be so uniformly the first hatched? The idea of the egg being larger, and therefore from its own gravity finding the centre of the nest, is not sufficient to explain the phenomenon; for in this situation the other eggs would be proportionably elevated at the sides, and therefore receive as much or more warmth from the body of the incumbent than the other.* This principle would scarcely apply to the eggs of the bluebird, for they are nearly of the same size; if there be any difference, it would be in favour of the eggs of the builder of the nest. How do the eggs get out of the nest? Is it by the size and nestling of the young cow bird? This cannot always be the case; because, in the instance of the bluebird's nest in the hollow stump, the cavity was a foot deep, the nest at the bottom, and the ascent perpendicular; nevertheless, the eggs were removed, although filled with young ones; moreover, a young cow-pen finch is as helpless as any other young bird, and so far from having the power of ejecting others from the nest, or even the eggs, that they are sometimes found on the ground under the nest, especially when the nest happens to be very small. I will not assert that the eggs of the builder of the nest are never hatched; but I can assert, that I have never been able to find one instance to prove the affirmative. If all the eggs of both birds were to be hatched, in some cases the nest would not hold half of them; for instance, those of the sparrow, or yellow-bird. I will not assert, that the supposititious egg is brought to perfection in less time than those of the bird to which the nest

* The ingenious writer seems not to be aware that almost all birds are in the habit, while sitting, of changing the eggs from the centre to the circumference, and *vice versa*, that all of them may receive an equal share of warmth.

belongs; but from the facts stated, I am inclined to adopt such an opinion. How are the eggs removed after the accouchement of the spurious occupant? By the proprietor of the nest unquestionably; for this is consistent with the rest of her economy. After the power of hatching them is taken away by her attention to the young stranger, the eggs would be only an encumbrance, and therefore instinct prompts her to remove them. I might add, that I have sometimes found the eggs of the sparrow, in which were unmaturing young ones, lying near the nest containing a cow bird, and therefore I cannot resist this conclusion. Would the foster parent feed two species of young at the same time? I believe not. I have never seen an instance of any bird feeding the young of another, unless immediately after losing her own. I should think the sooty-looking stranger would scarcely interest a mother while the cries of her own offspring, always intelligible, were to be heard. Should such a competition ever take place, I judge the stranger would be the sufferer, and probably the species soon become extinct. Why the *lex naturæ conservatrix* should decide in favour of the surreptitious progeny is not for me to determine.

“As to the vocal powers of this bird, I believe its pretensions are very humble, none of its notes deserving the epithet musical. The sort of simple cackling complaint it utters at being disturbed, constitutes also the expression of its pleasure at finding its companions, varying only in a more rapidly repeated monotony. The deportment of the male during his promiscuous intercourse with the other sex, resembles much that of a pigeon in the same situation. He uses nearly the same gestures; and by attentively listening, you will hear a low, guttural sort of muttering, which is the most agreeable of his notes, and not unlike the cooing of a pigeon.

“This, sir, is the amount of my information on this subject; and is no more than a transcript from my notes made several years ago. For ten years past, since I have lived in this city, many of the impressions of

nature have been effaced, and artificial ideas have occupied their places. The pleasure I formerly received in viewing and examining the objects of nature, are, however, not entirely forgotten; and those which remain, if they can interest you, are entirely at your service. With the sincerest wishes for the success of your useful and arduous undertaking, — I am, dear sir, yours, very respectfully,
 NATHANIEL POTTER.”

To the above very interesting detail, I shall add the following recent fact, which fell under my own observation, and conclude my account of this singular species.

In the month of July last, I took from the nest of the Maryland yellow-throat, which was built among the dry leaves at the root of a brier bush, a young male cow bunting, which filled and occupied the whole nest. I had previously watched the motions of the foster parents for more than an hour, in order to ascertain whether any more of their young were lurking about or not; and was fully satisfied that there were none. They had, in all probability, perished in the manner before mentioned. I took this bird home with me, and placed it in the same cage with a red-bird (*loxia cardinalis*), who, at first, and for several minutes after, examined it closely, and seemingly with great curiosity. It soon became clamorous for food, and, from that moment, the red-bird seemed to adopt it as his own, feeding it with all the assiduity and tenderness of the most affectionate nurse. When he found that the grasshopper which he had brought it was too large for it to swallow, he took the insect from it, broke it in small portions, chewed them a little to soften them, and, with all the gentleness and delicacy imaginable, put them separately into its mouth. He often spent several minutes in looking at and examining it all over, and in picking off any particles of dirt that he observed on its plumage. In teaching and encouraging it to learn to eat of itself, he often reminded me of the lines of Goldsmith,

He tried each art, reproved each dull delay,
 Allured to “*fav’rite food*,” and led the way.

This cow bird is now six months old, is in complete plumage, and repays the affectionate services of his foster parent with a frequent display of all the musical talents with which nature has gifted him. These, it must be confessed, are far from being ravishing; yet, for their singularity, are worthy of notice. He spreads his wings, swells his body into a globular form, bristling every feather in the manner of a turkey cock, and, with great seeming difficulty, utters a few low, spluttering notes, as if proceeding from his belly; always, on these occasions, strutting in front of the spectator with great consequential affectation.

To see the red-bird, who is himself so excellent a performer, silently listening to all this guttural splutter, reminds me of the great Handel contemplating a wretched catgut scraper. Perhaps, however, these may be meant for the notes of *love* and *gratitude*, which are sweeter to the ear, and dearer to the heart, than all the artificial solos or concertos on this side heaven.

The length of this species is seven inches, breadth eleven inches; the head and neck is of a very deep silky drab; the upper part of the breast a dark changeable violet; the rest of the bird is black, with a considerable gloss of green when exposed to a good light; the form of the bill is evidently that of an *emberiza*; the tail is slightly forked; legs and claws, glossy black, strong and muscular; iris of the eye, dark hazel. Catesby says of this bird, "it is all over of a brown colour, and something lighter below;" a description that applies only to the female, and has been repeated, in nearly the same words, by almost all succeeding ornithologists. The young male birds are at first altogether brown, and, for a month, or more, are naked of feathers round the eye and mouth; the breast is also spotted like that of a thrush, with light drab and darker streaks. In about two months after they leave the nest, the black commences at the shoulders of the wings, and gradually increases along each side, as the young feathers come out, until the bird appears mottled on the back and breast with deep black, and light drab. At three

months, the colours of the plumage are complete, and, except in moulting, they are subject to no periodical change.

55. *ICTERUS AGRIPENNIS*, BONAPARTE.

EMBERIZA ORYZIVORA, WILSON. — RICE BUNTING.

WILSON, PLATE XII. FIG. I. MALE, IN SPRING : FIG. II. FEMALE.

THIS is the *boblink* of the eastern and northern states, and the *rice* and *reed-bird* of Pennsylvania and the southern states. Though small in size, he is not so in consequence; his coming is hailed by the sportsman with pleasure; while the careful planter looks upon him as a devouring scourge, and worse than a plague of locusts. Three good qualities, however, entitle him to our notice, particularly as these three are rarely found in the same individual,—his plumage is beautiful, his song highly musical, and his flesh excellent. I might also add, that the immense range of his migrations, and the havoc he commits, are not the least interesting parts of his history.

The winter residence of this species I suppose to be from Mexico to the mouth of the Amazon, from whence, in hosts innumerable, he regularly issues every spring; perhaps to both hemispheres, extending his migrations northerly, as far as the Illinois, and the shores of the St Lawrence. Could the fact be ascertained, which has been asserted by some writers, that the emigration of these birds was altogether unknown in this part of the continent, previous to the introduction of rice plantations, it would certainly be interesting. Yet, why should these migrations reach at least a thousand miles beyond those places where rice is now planted; and this, not in occasional excursions, but regularly to breed, and rear their young, where rice never was, and, probably, never will be cultivated? Their so recent arrival on this part of the continent, I believe to be altogether imaginary, because, though there were

not a single grain of rice cultivated within the United States, the country produces an exuberance of food, of which they are no less fond. Insects of various kinds, grubs, May-flies, and caterpillars, the young ears of Indian corn, and the seed of the wild oats, or, as it is called in Pennsylvania, reeds (the *zizania aquatica* of Linnæus,) which grows in prodigious abundance along the marshy shores of our large rivers, furnish, not only them, but millions of rail, with a delicious subsistence for several weeks. I do not doubt, however, that the introduction of rice, but more particularly the progress of agriculture, in this part of America, has greatly increased their numbers, by multiplying their sources of subsistence fifty fold within the same extent of country.

In the month of April, or very early in May, the rice bunting, male and female, arrive within the southern boundaries of the United States; and are seen around the town of Savannah, in Georgia, about the 4th of May, sometimes in separate parties of males and females, but more generally promiscuously. They remain there but a short time; and, about the 12th of May, make their appearance in the lower parts of Pennsylvania, as they did at Savannah. While here, the males are extremely gay and full of song; frequenting meadows, newly ploughed fields, sides of creeks, rivers, and watery places, feeding on May-flies and caterpillars, of which they destroy great quantities. In their passage, however, through Virginia, at this season, they do great damage to the early wheat and barley, while in its milky state. About the 20th of May, they disappear, on their way to the north. Nearly at the same time, they arrive in the State of New York, spread over the whole New England States as far as the river St Lawrence, from lake Ontario to the sea; in all of which places, north of Pennsylvania, they remain during the summer, building, and rearing their young. The nest is fixed in the ground, generally in a field of grass; the outside is composed of dry leaves and coarse grass, the inside is lined with fine stalks of the same, laid in considerable

quantity. The female lays five eggs, of a bluish white, marked with numerous irregular spots of blackish brown. The song of the male, while the female is sitting, is singular, and very agreeable. Mounting and hovering on wing, at a small height above the field, he chants out such a jingling medley of short variable notes, uttered with such seeming confusion and rapidity, and continued for a considerable time, that it appears as if half a dozen birds of different kinds were all singing together. Some idea may be formed of this song by striking the high keys of a piano-forte at random, singly, and quickly, making as many sudden contrasts of high and low notes as possible. Many of the tones are, in themselves, charming; but they succeed each other so rapidly that the ear can hardly separate them. Nevertheless the general effect is good; and, when ten or twelve are all singing on the same tree, the concert is singularly pleasing. I kept one of these birds for a long time, to observe its change of colour. During the whole of April, May, and June, it sang almost continually. In the month of June, the colour of the male begins to change, gradually assimilating to that of the female, and, before the beginning of August, it is difficult to distinguish the one from the other. At this time, also, the young birds are so much like the female, or rather like both parents, and the males so different in appearance from what they were in spring, that thousands of people in Pennsylvania, to this day, persist in believing them to be a different species altogether; while others allow them, indeed, to be the same, but confidently assert that they are all females—none but females, according to them, returning in the fall; what becomes of the males they are totally at a loss to conceive. Even Mr Mark Catesby, who resided for years in the country they inhabit, and who, as he himself informs us, examined by dissection great numbers of them in the fall, and repeated his experiment the succeeding year, lest he should have been mistaken, declares that he uniformly found them to be females. These assertions must appear odd to

the inhabitants of the eastern States, to whom the change of plumage in these birds is familiar, as it passes immediately under their eye; and also to those who, like myself, have kept them in cages, and witnessed their gradual change of colour. That accurate observer, Mr William Bartram, appears, from the following extract, to have taken notice of, or at least suspected, this change of colour in these birds, more than forty years ago. "Being in Charleston," says he, "in the month of June, I observed a cage full of rice birds, that is, of the yellow or female colour, who were very merry and vociferous, having the same variable music with the pied or male bird, which I thought extraordinary, and, observing it to the gentleman, he assured me that they were all of the male kind, taken the preceding spring; but had changed their colour, and would be next spring of the colour of the pied, thus changing colour with the seasons of the year. If this is really the case, it appears they are both of the same species intermixed, spring and fall." Without, however, implicating the veracity of Catesby, who, I have no doubt, believed as he wrote, a few words will easily explain why he was deceived: The internal organization of undomesticated birds, of all kinds, undergoes a remarkable change every spring and summer; and those who wish to ascertain this point by dissection will do well to remember, that in this bird those parts that characterize the male are, in autumn, no larger than the smallest pin's head, and in young birds of the first year can scarcely be discovered; though in spring their magnitude in each is at least one hundred times greater. To an unacquaintance with this extraordinary circumstance, I am persuaded, has been owing the mistake of Mr Catesby, that the females only return in the fall; for the same opinion I long entertained myself, till a more particular examination shewed me the source of my mistake. Since that, I have opened and examined many hundreds of these birds, in the months of September and October, and, on the whole, have found about as many males as females among them. The latter may be distinguished

from the former by being of a rather more shining yellow on the breast and belly; it is the same with the young birds of the first season.

During the breeding season, they are dispersed over the country; but, as soon as the young are able to fly, they collect together in great multitudes, and pour down on the oat fields of New England like a torrent, depriving the proprietors of a good tithe of their harvest; but, in return, often supply his table with a very delicious dish. From all parts of the north and western regions, they direct their course towards the south; and, about the middle of August, revisit Pennsylvania, on their route to winter quarters. For several days, they seem to confine themselves to the fields and uplands; but, as soon as the seeds of the reed are ripe, they resort to the shores of the Delaware and Schuylkill in multitudes; and these places, during the remainder of their stay, appear to be their grand rendezvous. The reeds, or wild oats, furnish them with such abundance of nutritious food, that in a short time they become extremely fat; and are supposed, by some of our epicures, to be equal to the famous ortolans of Europe. Their note at this season is a single *chink*, and is heard over-head, with little intermission, from morning to night. These are halcyon days for our gunners of all descriptions, and many a lame and rusty gun-barrel is put in requisition for the sport. The report of musketry along the reedy shores of the Schuylkill and Delaware is almost incessant, resembling a running fire. The markets of Philadelphia, at this season, exhibit proofs of the prodigious havoc made among these birds; for almost every stall is ornamented with strings of reed birds. This sport, however, is considered inferior to that of rail shooting, which is carried on at the same season and places, with equal slaughter. Of this, as well as of the rail itself, we shall give a particular account in its proper place.

Whatever apology the people of the eastern and southern States may have for the devastation they spread among the rice and reed birds, the Pennsylv-

vanians — at least those living in this part of it — have little to plead in justification, but the pleasure of destruction, or the savoury dish they furnish their tables with; for the oat harvest is generally secured before the great body of these birds arrive, the Indian corn too ripe and hard, and the reeds seem to engross all their attention. But in the States south of Maryland, the harvest of early wheat and barley in spring, and the numerous plantations of rice in fall, suffer severely. Early in October, or as soon as the nights begin to set in cold, they disappear from Pennsylvania, directing their course to the south. At this time they swarm among the rice fields; and appear in the Island of Cuba in immense numbers, in search of the same delicious grain. About the middle of October, they visit the Island of Jamaica in equal numbers, where they are called butter birds. They feed on the seed of the Guinea grass, and are also in high esteem there for the table.*

Thus it appears, that the regions north of the fortieth degree of latitude, are the breeding places of these birds; that their migrations northerly are performed from March to May, and their return southerly from August to November; their precise winter quarters, or farthest retreat southerly, is not exactly known.

The rice bunting is seven inches and a half long, and eleven and a half in extent; his spring dress is as follows:—Upper part of the head, wings, tail, and sides of the neck, and whole lower parts, black; the feathers frequently skirted with brownish yellow, as he passes into the colours of the female; back of the head, a cream colour; back, black, seamed with brownish yellow; scapulars, pure white, rump and tail-coverts the same; lower part of the back, bluish white; tail, formed like those of the woodpecker genus, and often used in the same manner, being thrown in to support it while ascending the stalks of the reed; this habit of throwing in the tail it retains

* Rennel's *Hist. Jam.*

even in the cage ; legs, a brownish flesh colour ; hind heel, very long ; bill, a bluish horn colour ; eye, hazel. In the month of June this plumage gradually changes to a brownish yellow, like that of the female, which has the back streaked with brownish black ; whole lower parts, dull yellow ; bill, reddish flesh colour ; legs and eyes as in the male. The young birds retain the dress of the female until the early part of the succeeding spring ; the plumage of the female undergoes no material change of colour.

GENUS X.—QUISCALUS, VIEILL.

56. *QUISCALUS FERRUGINEUS*, BONAPARTE.

GRACULA FERRUGINEA, WILS.

RUSTY GRAKLE.

WILSON, PLATE XXI. FIG. III. — ADULT MALE IN SPRING.

HERE is a single species described by one of the most judicious naturalists of Great Britain no less than five different times!—the greater part of these descriptions is copied by succeeding naturalists, whose synonymes it is unnecessary to repeat : so great is the uncertainty in judging, from a mere examination of their dried or stuffed skins, of the particular tribes of birds, many of which, for several years, are constantly varying in the colours of their plumage, and, at different seasons, or different ages, assuming new and very different appearances. Even the size is by no means a safe criterion, the difference in this respect between the male and female of the same species (as in the one now before us) being sometimes very considerable.

This bird arrives in Pennsylvania, from the north early in October ; associates with the redwings, and, cow-pen buntings, frequents corn fields, and places where grasshoppers are plenty ; but Indian corn, at that season, seems to be its principal food. It is a very silent bird, having only now and then a single note, or *chuck*. We see them occasionally until about the

middle of November, when they move off to the south. On the 12th of January I overtook great numbers of these birds in the woods near Petersburg, Virginia, and continued to see occasional parties of them almost every day as I advanced southerly, particularly in South Carolina, around the rice plantations, where they were numerous, feeding about the hog pens, and wherever Indian corn was to be procured. They also extend to a considerable distance westward. On the 5th of March, being on the banks of the Ohio, a few miles below the mouth of the Kentucky river, in the midst of a heavy snow storm, a flock of these birds alighted near the door of the cabin where I had taken shelter, several of which I shot, and found their stomachs, as usual, crammed with Indian corn. Early in April they pass hastily through Pennsylvania, on their return to the north to breed.

From the accounts of persons who have resided near Hudson's Bay, it appears that these birds arrive there in the beginning of June, as soon as the ground is thawed sufficiently for them to procure their food, which is said to be worms and maggots; sing with a fine note till the time of incubation, when they have only a chucking noise, till the young take their flight; at which time they resume their song. They build their nests in trees, about eight feet from the ground, forming them with moss and grass, and lay five eggs of a dark colour, spotted with black. It is added, they gather in great flocks, and retire southerly in September.*

The male of this species, when in perfect plumage, is nine inches in length, and fourteen in extent; at a small distance appears wholly black; but on a near examination is of a glossy dark green; the irides of the eye are silvery, as in those of the purple grackle; the bill is black, nearly of the same form with that of the last mentioned species; the lower mandible a little rounded, with the edges turned inward, and the upper one furnished with a sharp bony process on the inside,

* *Arctic Zoology*, p. 259.

exactly like that of the purple species. The tongue is slender, and lacerated at the tip; legs and feet, black and strong; the hind claw the largest; the tail is slightly rounded. This is the colour of the male when of full age; but three-fourths of these birds which we meet with, have the whole plumage of the breast, head, neck, and back, tintured with brown; every feather being skirted with ferruginous; over the eye is a light line of pale brown, below that one of black passing through the eye. This brownness gradually goes off towards spring, for almost all those I shot in the southern states were but slightly marked with ferruginous. The female is nearly an inch shorter; head, neck, and breast, almost wholly brown; a light line over the eye; lores, black; belly and rump, ash; upper and under tail-coverts, skirted with brown; wings, black, edged with rust colour; tail, black, glossed with green; legs, feet, and bill, as in the male.

These birds might easily be domesticated. Several that I had winged and kept for some time, became in a few days quite familiar, seeming to be very easily reconciled to confinement.

57. *QUISCALUS VERSICOLOR*, VIEILL. — *GRACULA QUISCALA*, WILS.

PURPLE GRAKLE.

WILSON, PLATE XXI. FIG. IV. — MALE.

THIS noted depredator is well known to every careful farmer of the northern and middle states. About the 20th of March the purple grakles visit Pennsylvania from the south, fly in loose flocks, frequent swamps and meadows, and follow in the furrows after the plough; their food at this season consisting of worms, grubs, and caterpillars, of which they destroy prodigious numbers, as if to recompense the husbandman beforehand for the havoc they intend to make among his crops of Indian corn. Towards evening they retire to the nearest cedars and pine trees to roost, making a continual chattering as they fly along. On the tallest

of these trees they generally build their nests in company, about the beginning or middle of April; sometimes ten or fifteen nests being on the same tree. One of these nests, taken from a high pine tree, is now before me. It measures full five inches in diameter within, and four in depth; is composed outwardly of mud, mixed with long stalks and roots of a knotty kind of grass, and lined with fine bent and horse hair. The eggs are five, of a bluish olive colour, marked with large spots and straggling streaks of black and dark brown, also with others of a fainter tinge. They rarely produce more than one brood in a season.

The trees where these birds build are often at no great distance from the farm house, and overlook the plantations. From thence they issue, in all directions, and with as much confidence, to make their daily depredations among the surrounding fields, as if the whole were intended for their use alone. Their chief attention, however, is directed to the Indian corn in all its progressive stages. As soon as the infant blade of this grain begins to make its appearance above ground, the grakles hail the welcome signal with screams of peculiar satisfaction, and, without waiting for a formal invitation from the proprietor, descend on the fields and begin to pull up and regale themselves on the seed, scattering the green blades around. While thus eagerly employed, the vengeance of the gun sometimes overtakes them; but these disasters are soon forgotten, and those

—— who live to get away,
Return to steal, another day.

About the beginning of August, when the young ears are in their milky state, they are attacked with redoubled eagerness by the grakles and redwings, in formidable and combined bodies. They descend like a blackening, sweeping tempest on the corn, dig off the external covering of twelve or fifteen coats of leaves, as dexterously as if done by the hand of man, and, having laid bare the ear, leave little behind to the farmer but the cobs, and shrivelled skins, that contained their favourite

fare. I have seen fields of corn of many acres, where more than one-half was thus ruined. Indeed the farmers in the immediate vicinity of the rivers Delaware and Schuylkill, generally allow one-fourth of this crop to the blackbirds, among whom our grakle comes in for his full share. During these depredations, the gun is making great havoc among their numbers, which has no other effect on the survivors than to send them to another field, or to another part of the same field. This system of plunder and of retaliation continues until November, when, towards the middle of that month, they begin to sheer off towards the south. The lower parts of Virginia, North and South Carolina, and Georgia, are the winter residences of these flocks. Here numerous bodies, collecting together from all quarters of the interior and northern districts, and darkening the air with their numbers, sometimes form one congregated multitude of many hundred thousands. A few miles from the banks of the Roanoke, on the 20th of January, I met with one of those prodigious armies of grakles. They rose from the surrounding fields with a noise like thunder, and, descending on the length of road before me, covered it and the fences completely with black, and when they again rose, and, after a few evolutions, descended on the skirts of the high timbered woods, at that time destitute of leaves, they produced a most singular and striking effect; the whole trees for a considerable extent, from the top to the lowest branches, seeming as if hung in mourning; their notes and screaming the meanwhile resembling the distant sound of a great cataract, but in more musical cadence, swelling and dying away on the ear, according to the fluctuation of the breeze. In Kentucky, and all along the Mississippi, from its juncture with the Ohio to the Balize, I found numbers of these birds, so that the purple grakle may be considered as a very general inhabitant of the territory of the United States.

Every industrious farmer complains of the mischief committed on his corn by the *crow blackbirds*, as they are usually called; though, were the same means used,

as with pigeons, to take them in clap nets, multitudes of them might thus be destroyed; and the products of them in market, in some measure, indemnify him for their depredations. But they are most numerous and most destructive at a time when the various harvests of the husbandman demand all his attention, and all his hands to cut, cure, and take in; and so they escape with a few sweeps made among them by some of the younger boys with the gun; and by the gunners from the neighbouring towns and villages; and return from their winter quarters, sometimes early in March, to renew the like scenes over again. As some consolation, however, to the industrious cultivator, I can assure him, that were I placed in his situation, I should hesitate whether to consider these birds most as friends or enemies, as they are particularly destructive to almost all the noxious worms, grubs, and caterpillars, that infest his fields, which, were they allowed to multiply unmolested, would soon consume nine-tenths of all the production of his labour, and desolate the country with the miseries of famine! Is not this another striking proof that the Deity has created nothing in vain; and that it is the duty of man, the lord of the creation, to avail himself of their usefulness, and guard against their bad effects as securely as possible, without indulging in the barbarous and even impious wish for their utter extermination?

The purple grakle is twelve inches long and eighteen in extent; on a slight view, seems wholly black, but placed near, in a good light, the whole head, neck, and breast, appear of a rich glossy steel blue, dark violet, and silky green; the violet prevails most on the head and breast, and the green on the hind part of the neck. The back, rump, and whole lower parts, the breast excepted, reflect a strong coppery gloss; wing-coverts, secondaries, and coverts of the tail, rich light violet, in which the red prevails; the rest of the wings, and rounded tail, are black, glossed with steel blue. All the above colours are extremely shining, varying as differently exposed to the light; iris of the eye, silvery;

bill more than an inch long, strong, and furnished on the inside of the upper mandible with a sharp process, like the stump of the broken blade of a penknife, intended to assist the bird in macerating its food; tongue, thin, bifid at the end, and lacerated along the sides.

The female is rather less, has the upper part of the head, neck, and the back, of a dark sooty brown; chin, breast, and belly, dull pale brown, lightest on the former; wings, tail, lower parts of the back and vent, black, with a few reflections of dark green; legs, feet, bill, and eyes, as in the male.

The purple grakle is easily tamed, and sings in confinement. They have also in several instances been taught to articulate some few words pretty distinctly.

A singular attachment frequently takes place between this bird and the fish hawk. The nest of this latter is of very large dimensions, often from three to four feet in breadth, and from four to five feet high; composed, externally, of large sticks, or fagots, among the interstices of which sometimes three or four pair of crow blackbirds will construct their nests, while the hawk is sitting or hatching above. Here each pursues the duties of incubation and of rearing their young; living in the greatest harmony, and mutually watching and protecting each other's property from depredators.

GENUS XI.—*CORVUS*, LINNÆUS.

SUBGENUS I.—*CORVUS*, BRISS.

58. *CORVUS CORAX*.—RAVEN.

WILSON, PLATE LXXV. FIG. III.

A KNOWLEDGE of this celebrated bird has been handed down to us from the earliest ages; and its history is almost coeval with that of man. In the best and most ancient of all books, we learn, that at the end of forty days, after the great flood had covered the

earth, Noah, wishing to ascertain whether or no the waters had abated, sent forth a raven, which did not return into the ark.* This is the first notice that is taken of this species. Though the raven was declared unclean by the law of Moses, yet we are informed, that, when the prophet Elijah provoked the enmity of Ahab, by prophesying against him, and hid himself by the brook Cherith, the ravens were appointed by Heaven to bring him his daily food.† The colour of the raven has given rise to a similitude, in one of the most beautiful of eclogues, which has been perpetuated in all subsequent ages, and which is not less pleasing for being trite or proverbial. The favourite of the royal lover of Jerusalem, in the enthusiasm of affection, thus describes the object of her adoration, in reply to the following question :—

What is thy beloved more than another beloved,
 O thou fairest among women ?
 My beloved is white and ruddy, the chiefest among
 Ten thousand. His head is as the most fine gold,
 His locks are bushy, and black as a raven ! ‡

The above-mentioned circumstances taken into consideration, one would suppose that the lot of the subject of this chapter would have been of a different complexion from what history and tradition inform us is the fact. But in every country we are told the raven is considered an ominous bird, whose croakings foretell approaching evil ; and many a crooked beldam has given interpretation to these oracles, of a nature to infuse terror into a whole community. Hence this ill-fated bird, from time immemorial, has been the innocent subject of vulgar obloquy and detestation.

Augury, or the art of foretelling future events by the flight, cries, or motions of birds, descended from the Chaldeans to the Greeks, thence to the Etrurians, and from them it was transmitted to the Romans.§ The

* Genesis, viii, 7.

† 1 Kings, xvii, 5, 6.

‡ Song of Solomon, v, 9, 10, 11.

§ That the science of augury is very ancient, we learn from the Hebrew lawgiver, who prohibits it, as well as every other kind of

crafty legislators of these celebrated nations, from a deep knowledge of human nature, made superstition a principal feature of their religious ceremonies, well knowing that it required a more than ordinary policy to govern a multitude, ever liable to the fatal influences of passion; and who, without some timely restraints, would burst forth like a torrent, whose course is marked by wide-spreading desolation. Hence to the purposes of polity the raven was made subservient; and the Romans having consecrated it to Apollo, as to the god of divination, its flight was observed with the greatest solemnity; and its tones and inflections of voice were noted with a precision which intimated a belief in its infallible prescience.

But the ancients have not been the only people infected with this species of superstition; the moderns, even though favoured with the light of Christianity, have exhibited as much folly, through the impious curiosity of prying into futurity, as the Romans themselves. It is true that modern nations have not instituted their sacred colleges or sacerdotal orders, for the purposes of divination; but, in all countries, there have been self-constituted augurs, whose interpretations of omens have been received with religious respect by the credulous multitude. Even at this moment, in some parts of the world, if a raven alight on a village church, the whole fraternity is in an uproar; and Heaven is importuned, in all the ardour of devotion, to avert the impending calamity.

divination. Deut. chap. xviii. The Romans derived their knowledge of augury chiefly from the Tuscans or Etrurians, who practised it in the earliest times. This art was known in Italy before the time of Romulus, since that prince did not commence the building of Rome till he had taken the auguries. The successors of Romulus, from a conviction of the usefulness of the science, and at the same time not to render it contemptible by becoming too familiar, employed the most skilful augurs from Etruria to introduce the practice of it into their religious ceremonies. And, by a decree of the senate, some of the youth of the best families in Rome were annually sent into Tuscany to be instructed in this art. — Vide *Ciceron. de Divin.*; also Calmet and the Abbé Banier.

The poets have taken advantage of this weakness of human nature; and, in their hands, the raven is a fit instrument of terror. Shakespeare puts the following malediction into the mouth of his Caliban:—

As wicked dew, as e'er my mother brush'd,
With raven's feather, from unwholesome fen,
Drop on you both! *

The ferocious wife of Macbeth, on being advised of the approach of Duncan, whose death she had conspired, thus exclaims:—

The raven himself is hoarse,
That croaks the fatal entrance of Duncan
Under my battlements! †

The Moor of Venice says,—

It comes o'er my memory,
As doth the raven o'er the infected house,
Boding to all. ‡

The last quotation alludes to the supposed habit of this bird's flying over those houses which contain the sick, whose dissolution is at hand, and thereby announced. Thus Marlowe, in the *Jew of Malta*, as cited by Malone:—

The sad presaging raven tolls
The sick man's passport in her hollow beak;
And, in the shadow of the silent night,
Both shake contagion from her sable wing.

But it is the province of philosophy to dispel these illusions which bewilder the mind, by pointing out the simple truths which nature has been at no pains to conceal, but which the folly of mankind has shrouded in all the obscurity of mystery.

The raven is a general inhabitant of the United States, but is more common in the interior. On the lakes, and particularly in the neighbourhood of the

* *Tempest*, act i, scene 2.

† Act i, scene 5.

‡ *Othello*, act i, scene 4.

Falls of the Niagara river, they are numerous; and it is a remarkable fact, that where they so abound, the common crow (*c. corone*) seldom makes its appearance; being intimidated, it is conjectured, by the superior size and strength of the former, or by an antipathy which the two species manifest towards each other. This I had an opportunity of observing myself, in a journey during the months of August and September, along the lakes Erie and Ontario. The ravens were seen every day, prowling about in search of the dead fish which the waves are continually casting ashore, and which afford them an abundance of a favourite food; but I did not see or hear a single crow within several miles of the lakes, and but very few through the whole of the Genesee country.

The food of this species is dead animal matter of all kinds, not excepting the most putrid carrion, which it devours in common with the vultures; worms, grubs, reptiles, and shell fish, the last of which, in the manner of the crow, it drops from a considerable height in the air on the rocks, in order to break the shells; it is fond of bird's eggs, and is often observed sneaking around the farm house in search of the eggs of the domestic poultry, which it sucks with eagerness; it is likewise charged with destroying young ducks and chickens, and lambs which have been yeaned in a sickly state. The raven, it is said, follows the hunters of deer for the purpose of falling heir to the offal;* and the huntsmen are obliged to cover their game, when it is left in the woods, with their hunting frocks, to protect it from this thievish connoisseur, who, if he have an opportunity, will attack the region of the kidneys, and mangle the saddle without ceremony.

Buffon says, that "the raven *plucks out the eyes of buffaloes*, and then, *fixing on the back, it tears off the flesh deliberately*; and what renders the ferocity more detestable, it is not incited by the cravings of hunger,

* This is the case in those parts of the United States where the deer are hunted without dogs: where these are employed, they are generally rewarded with the offal.

but by the appetite for carnage; for it can subsist on fruits, seed of all kinds, and indeed may be considered as an omnivorous animal." This is mere fable, and of a piece with many other absurdities of the same romancing author.

This species is found almost all over the habitable globe. We trace it in the north from Norway to Greenland, and hear of it in Kamtschatka. It is common every where in Russia and Siberia, except within the Arctic circle;* and all through Europe. Kolben enumerates the raven among the birds of the Cape of Good Hope;† De Grandpré represents it as numerous in Bengal, where they are said to be protected for their usefulness;‡ and the unfortunate La Pérouse saw them at Baie de Castries, on the east coast of Tartary; likewise at Port des François, 58° 37' north latitude, and 139° 50' west longitude; and at Monterey Bay, North California.§ The English circumnavigators met with them at Nootka Sound;|| and at the Sandwich Islands, two being seen in the village of Kakooa; also at Owhyhee, and supposed to be adored there, as they were called Eatooas.¶ Our intrepid American travellers, under the command of Lewis and Clark, shortly after they embarked on the Columbia river, saw abundance of ravens, which were attracted thither by the immense quantity of dead salmon which lined the shores.** They are found at all seasons at Hudson's Bay;†† are frequent in Mexico;‡‡ and it is more than probable that they inhabit the whole continent of America.

The raven measures, from the tip of the bill to the end of the tail, twenty-six inches, and is four feet in extent; the bill is large and strong, of a shining black, notched near the tip, and three inches long; the cetaeous feathers which cover the nostrils extend half its

* Latham.

† Medley's Kolben, vol. ii, p. 136.

‡ Voy. in the Indian Ocean, p. 148.

§ Voy. par I. F. G. De la Pérouse, ii, p. 129. 203. 443.

|| Cook's last voy. ii, p. 236. Am. ed.

¶ Idem, iii, p. 329.

** Gass's Journal, p. 153.

†† Charlevoix. Kalm. Hearne's Journey. ‡‡ Fernandez.

length ; the eyes are black ; the general colour is a deep glossy black, with steel-blue reflections ; the lower parts are less glossy ; the tail is rounded, and extends about two inches beyond the wings ; the legs are two inches and a half in length, and, with the feet, are strong and black ; the claws are long.

This bird is said to attain to a great age ; and its plumage to be subject to change from the influence of years and of climate. It is found in Iceland and Greenland entirely white.

The raven was the constant attendant of Lewis and Clark's party in their long and toilsome journey. During the winter, at Fort Mandan, they were observed in immense numbers, notwithstanding the cold was so excessive, that on the 17th December, 1804, the thermometer stood at 45° below 0.

Like the crow, this species may be easily domesticated, and in that state would afford amusement by its familiarity, frolics, and sagacity. But such noisy and mischievous pets, in common with parrots and monkeys, are not held in high estimation in this quarter of the globe ; and are generally overlooked for those universal favourites, which either gratify the eye by the neatness or brilliancy of their plumage, or gladden the ear by the simplicity or variety of their song.

59. *CORVUS CORONE*, LINNÆUS. — CROW.

WILSON, PLATE XXXVI. FIG. III.

THIS is perhaps the most generally known, and least beloved, of all our land birds ; having neither melody of song, nor beauty of plumage, nor excellence of flesh, nor civility of manners, to recommend him ; on the contrary, he is branded as a thief and a plunderer ; a kind of black-coated vagabond, who hovers over the fields of the industrious, fattening on their labours ; and, by his voracity, often blasting their expectations. Hated as he is by the farmer, watched and persecuted

by almost every bearer of a gun, who all triumph in his destruction, had not Heaven bestowed on him intelligence and sagacity far beyond common, there is reason to believe, that the whole tribe (in these parts at least) would long ago have ceased to exist.

The crow is a constant attendant on agriculture, and a general inhabitant of the cultivated parts of North America. In the interior of the forest he is more rare, unless during the season of breeding. He is particularly attached to low flat corn countries, lying in the neighbourhood of the sea, or of large rivers; and more numerous in the northern than southern states, where vultures abound, and with whom the crows are unable to contend. A strong antipathy, it is also said, prevails between the crow and the raven, insomuch, that where the latter are numerous, the former rarely resides. Many of the first settlers of the Genesee country have informed me, that, for a long time, ravens were numerous with them, but no crows; and even now the latter are seldom observed in that country. In travelling from Nashville to Natchez, a distance of four hundred and seventy miles, I saw few or no crows, but ravens frequently, and vultures in great numbers.

The usual breeding time of the crow, in Pennsylvania, is in March, April, and May, during which season they are dispersed over the woods in pairs, and roost in the neighbourhood of the tree they have selected for their nest. About the middle of March they begin to build, generally choosing a high tree; though I have also known them prefer a middle sized cedar. One of their nests, now before me, is formed externally of sticks, wet moss, thin bark mixed with mossy earth, and lined with large quantities of horse hair, to the amount of more than half a pound, some cow hair, and some wool, forming a very soft and elastic bed. The eggs are four, of a pale green colour, marked with numerous specks and blotches of olive.

During this interesting season, the male is extremely watchful, making frequent excursions of half a mile or so in circuit, to reconnoitre; and the instant he observes

a person approaching, he gives the alarm, when both male and female retire to a distance till the intruder has gone past. He also regularly carries food to his mate, while she is sitting; occasionally relieves her; and when she returns, again resigns his post. At this time, also, as well as until the young are able to fly, they preserve uncommon silence, that their retreat may not be suspected.

It is in the month of May, and until the middle of June, that the crow is most destructive to the corn fields, digging up the newly planted grains of maize, pulling up by the roots those that have begun to vegetate, and thus frequently obliging the farmer to replant, or lose the benefit of the soil; and this sometimes twice, and even three times, occasioning a considerable additional expense, and inequality of harvest. No mercy is now shewn him. The myriads of worms, moles, mice, caterpillars, grubs, and beetles, which he has destroyed, are altogether overlooked on these occasions. Detected in robbing the hens' nests, pulling up the corn, and killing the young chickens, he is considered as an outlaw, and sentenced to destruction. But the great difficulty is, how to put this sentence in execution. In vain the gunner skulks along the hedges and fences; his faithful sentinels, planted on some commanding point, raise the alarm, and disappoint vengeance of its object. The coast again clear, he returns once more in silence to finish the repast he had begun. Sometimes he approaches the farm house by stealth, in search of young chickens, which he is in the habit of snatching off, when he can elude the vigilance of the mother hen, who often proves too formidable for him. A few days ago, a crow was observed eagerly attempting to seize some young chickens in an orchard, near the room where I write; but these clustering close round the hen, she resolutely defended them, drove the crow into an apple tree, whither she instantly pursued him with such spirit and intrepidity, that he was glad to make a speedy retreat, and abandon his design.

The crow himself sometimes falls a prey to the

superior strength and rapacity of the great owl, whose weapons of offence are by far the more formidable of the two.*

* "A few years ago," says an obliging correspondent, "I resided on the banks of the Hudson, about seven miles from the city of New York. Not far from the place of my residence was a pretty thick wood or swamp, in which great numbers of crows, who used to cross the river from the opposite shore, were accustomed to roost. Returning homeward one afternoon, from a shooting excursion, I had occasion to pass through this swamp. It was near sunset, and troops of crows were flying in all directions over my head. While engaged in observing their flight, and endeavouring to select from among them an object to shoot at, my ears were suddenly assailed by the distressful cries of a crow, who was evidently struggling under the talons of a merciless and rapacious enemy. I hastened to the spot whence the sounds proceeded, and, to my great surprise, found a crow lying on the ground, just expiring, and seated upon the body of the yet warm and bleeding quarry, a *large brown owl*, who was beginning to make a meal of the unfortunate robber of corn fields. Perceiving my approach, he forsook his prey with evident reluctance, and flew into a tree at a little distance, where he sat watching all my movements, alternately regarding, with longing eyes, the victim he had been forced to leave, and darting at me no very friendly looks, that seemed to reproach me for having deprived him of his expected regale. I confess that the scene before me was altogether novel and surprising. I am but little conversant with natural history; but I had always understood, that the depredations of the owl were confined to the smaller birds and animals of the lesser kind, such as mice, young rabbits, &c. and that he obtained his prey rather by fraud and stratagem, than by open rapacity and violence. I was the more confirmed in this belief, from the recollection of a passage in *Macbeth*, which now forcibly occurred to my memory, — The courtiers of King Duncan are recounting to each other the various prodigies that preceded his death, and one of them relates to his wondering auditors, that

An eagle, towering in his pride of place,
Was by a *mousing owl*, hawk'd at and kill'd.

But to resume my relation — That the owl was the murderer of the unfortunate crow, there could be no doubt. No other bird of prey was in sight; I had not fired my gun since I entered the wood; nor heard any one else shoot; besides, the unequivocal situation in which I found the parties, would have been sufficient before any 'twelve good men and true,' or a jury of crows, to have convicted him of his guilt. It is proper to add, that I avenged the death of the hapless crow, by a well aimed shot at the felonious robber, that extended him breathless on the ground."

Towards the close of summer, the parent crows, with their new families, forsaking their solitary lodgings, collect together, as if by previous agreement, when evening approaches. About an hour before sunset, they are first observed, flying, somewhat in Indian file, in one direction, at a short height above the tops of the trees, silent and steady, keeping the general curvature of the ground, continuing to pass sometimes till after sunset, so that the whole line of march would extend for many miles. This circumstance, so familiar and picturesque, has not been overlooked by the poets, in their descriptions of a rural evening. Burns, in a single line, has finely sketched it :—

The blackening trains of crows to their repose.

The most noted crow roost that I am acquainted with is near Newcastle, on an island in the Delaware. It is there known by the name of the Pea Patch, and is a low flat alluvial spot, of a few acres, elevated but a little above high water mark, and covered with a thick growth of reeds. This appears to be the grand rendezvous, or head-quarters, of the greater part of the crows within forty or fifty miles of the spot. It is entirely destitute of trees, the crows alighting and nestling among the reeds, which by these means are broken down and matted together. The noise created by those multitudes, both in their evening assembly, and reascension in the morning, and the depredations they commit in the immediate neighbourhood of this great resort, are almost incredible. Whole fields of corn are sometimes laid waste by thousands alighting on it at once, with appetites whetted by the fast of the preceding night; and the utmost vigilance is unavailing to prevent, at least, a partial destruction of this their favourite grain. Like the stragglers of an immense, undisciplined, and rapacious army, they spread themselves over the fields, to plunder and destroy wherever they alight. It is here that the character of the crow is universally execrated; and to say to the man who has lost his crop of corn by these birds, that crows are exceedingly

useful for destroying vermin, would be as consolatory as to tell him who had just lost his house and furniture by the flames, that fires are excellent for destroying bugs.

The strong attachment of the crows to this spot may be illustrated by the following circumstance: Some years ago, a sudden and violent northeast storm came on during the night, and the tide, rising to an uncommon height, inundated the whole island. The darkness of the night, the suddenness and violence of the storm, and the incessant torrents of rain that fell, it is supposed, so intimidated the crows, that they did not attempt to escape, and almost all perished. Thousands of them were next day seen floating in the river; and the wind, shifting to the northwest, drove their dead bodies to the Jersey side, where for miles they blackened the whole shore.

This disaster, however, seems long ago to have been repaired; for they now congregate on the Pea Patch in as immense multitudes as ever.*

So universal is the hatred to crows, that few states either here or in Europe, have neglected to offer rewards for their destruction. In the United States, they have been repeatedly ranked in our laws with the wolves, the panthers, foxes, and squirrels, and a proportionable premium offered for their heads, to be paid by any justice of the peace to whom they are delivered. On

* The following is extracted from the late number of a newspaper printed in that neighbourhood;—

“The farmers of Red Lion Hundred held a meeting at the village of St George’s, in the state of Delaware, on Monday the 6th inst. to receive proposals of John Deputy, on a plan for banishing or destroying the crows. Mr Deputy’s plan, being heard and considered, was approved, and a committee appointed to contract with him, and to procure the necessary funds to carry the same into effect. Mr Deputy proposes, that for five hundred dollars he will engage to kill or banish the crows from their roost on the Pea Patch, and give security to return the money on failure.

“The sum of five hundred dollars being thus required, the committee beg leave to address the farmers and others of Newcastle county and elsewhere on the subject.”

all these accounts, various modes have been invented for capturing them. They have been taken in clap nets, commonly used for taking pigeons; two or three live crows being previously procured as decoys, or, as they are called, *stool-crows*. Corn has been steeped in a strong decoction of hellebore, which, when eaten by them, produces giddiness, and finally, it is said, death. Pieces of paper formed into the shape of a hollow cone, besmeared within with birdlime, and a grain or two of corn dropt on the bottom, have also been adopted. Numbers of these being placed on the ground, where corn has been planted, the crows, attempting to reach the grains, are instantly hoodwinked, fly directly upwards to a great height; but generally descend near the spot whence they rose, and are easily taken. The reeds of their roosting places are sometimes set on fire during a dark night, and the gunners having previously posted themselves around, the crows rise in great uproar, and, amidst the general consternation, by the light of the burnings, hundreds of them are shot down.

Crows have been employed to catch crows by the following stratagem: A live crow is pinned by the wings down to the ground on his back, by means of two sharp, forked sticks. Thus situated, his cries are loud and incessant, particularly if any other crows are within view. These, sweeping down about him, are instantly grappled by the prostrate prisoner, by the same instinctive impulse that urges a drowning person to grasp at every thing within his reach. Having disengaged the game from his clutches, the trap is again ready for another experiment; and by pinning down each captive, successively, as soon as taken, in a short time you will probably have a large flock screaming above you, in concert with the outrageous prisoners below. Many farmers, however, are content with hanging up the skins, or dead carcasses, of crows in their corn fields, *in terrorem*; others depend altogether on the gun, keeping one of their people supplied with ammunition, and constantly on the look out. In hard winters the crows suffer severely; so that they have

been observed to fall down in the fields, and on the roads, exhausted with cold and hunger. In one of these winters, and during a long continued deep snow, more than six hundred crows were shot on the carcass of a dead horse, which was placed at a proper distance from the stable, from a hole of which the discharges were made. The premiums awarded for these, with the price paid for the quills, produced nearly as much as the original value of the horse, besides, as the man himself assured me, saving feathers sufficient for filling a bed.

The crow is easily raised and domesticated; and it is only when thus rendered unsuspecting of, and placed on terms of familiarity with, man, that the true traits of his genius and native disposition fully develop themselves. In this state he soon learns to distinguish all the members of the family; flies towards the gate, screaming, at the approach of a stranger; learns to open the door by alighting on the latch; attends regularly at the stated hours of dinner and breakfast, which he appears punctually to recollect; is extremely noisy and loquacious; imitates the sound of various words pretty distinctly; is a great thief and hoarder of curiosities, hiding in holes, corners, and crevices, every loose article he can carry off, particularly small pieces of metal, corn, bread, and food of all kinds; is fond of the society of his master, and will know him even after a long absence, of which the following is a remarkable instance, and may be relied on as a fact: A very worthy gentleman, now [1811] living in the Genesee country, but who, at the time alluded to, resided on the Delaware, a few miles below Easton, had raised a crow, with whose tricks and society he used frequently to amuse himself. This crow lived long in the family; but at length disappeared, having, as was then supposed, been shot by some vagrant gunner, or destroyed by accident. About eleven months after this, as the gentleman, one morning, in company with several others, was standing on the river shore, a number of crows happening to pass by, one of them left the flock, and flying directly towards the company, alighted on the gentle-

man's shoulder, and began to gabble away with great volubility, as one long absent friend naturally enough does on meeting with another. On recovering from his surprise, the gentleman instantly recognized his old acquaintance, and endeavoured, by several civil but sly manœuvres, to lay hold of him; but the crow, not altogether relishing quite so much familiarity, having now had a taste of the sweets of liberty, cautiously eluded all his attempts; and suddenly glancing his eye on his distant companions, mounted in the air after them, soon overtook and mingled with them, and was never afterwards seen to return.

The habits of the crow in his native state are so generally known as to require little farther illustration. His watchfulness, and jealous sagacity in distinguishing a person with a gun, are notorious to every one. In spring, when he makes his appearance among the groves and low thickets, the whole feathered songsters are instantly alarmed, well knowing the depredations and murders he commits on their nests, eggs, and young. Few of them, however, have the courage to attack him, except the king-bird, who on these occasions teases and pursues him from place to place, diving on his back while high in air, and harassing him for a great distance. A single pair of these noble spirited birds, whose nest was built near, have been known to protect a whole field of corn from the depredations of the crows, not permitting one to approach it.

The crow is eighteen inches and a half long, and three feet two inches in extent; the general colour is a shining glossy blue black, with purplish reflections; the throat and lower parts are less glossy; the bill and legs, a shining black, the former two inches and a quarter long, very strong, and covered at the base with thick tufts of recumbent feathers; the wings, when shut, reach within an inch and a quarter of the tip of the tail, which is rounded; fourth primary, the longest; secondaries scolloped at the ends, and minutely pointed, by the prolongation of the shaft; iris, dark hazel.

The above description agrees so nearly with the

European species, as to satisfy me, that they are the same; though the voice of ours is said to be less harsh, not unlike the barking of a small spaniel: the pointedness of the ends of the tail feathers, mentioned by European naturalists, and occasioned by the extension of the shafts, is rarely observed in the present species; though always very observable in the secondaries.

The female differs from the male in being more dull coloured, and rather deficient in the glossy and purplish tints and reflections. The difference, however, is not great.

Besides grain, insects, and carrion, they feed on frogs, tadpoles, small fish, lizards, and shell fish; with the latter they frequently mount to a great height, dropping them on the rocks below, and descending after them to pick up the contents. The same habit is observable in the gull, the raven, and sea-side crow. Many other aquatic insects, as well as marine plants, furnish him with food; which accounts for their being so generally found, and so numerous, on the sea-shore, and along the banks of our large rivers.

60. *CORVUS OSSIFRAGUS*, WILSON. — FISH CROW.

WILSON, PLATE XXXVII. FIG. II.

THIS roving inhabitant of our sea-coasts, ponds, and river shores, is much less distinguished than the fish-hawk, this being the first time, as far as I can learn, that he has ever been introduced to the notice of the world.

I first met with this species on the sea-coast of Georgia, and observed that they regularly retired to the interior as evening approached, and came down to the shores of the river Savannah by the first appearance of day. Their voice first attracted my notice, being very different from that of the common crow, more hoarse and guttural, uttered as if something stuck in their throat, and varied into several modulations as they flew along. Their manner of flying was also unlike the

others, as they frequently sailed about, without flapping the wings, something in the manner of the raven; and I soon perceived that their food, and their mode of procuring it, were also both different: their favourite haunts being about the banks of the river, along which they usually sailed, dexterously snatching up, with their claws, dead fish, or other garbage, that floated on the surface. At the country seat of Stephen Elliot, Esq. near the Ogechee river, I took notice of these crows frequently perching on the backs of the cattle, like the magpie and jackdaw of Britain; but never mingling with the common crows, and differing from them in this particular, that the latter generally retire to the shore, the reeds, and marshes, to roost, while the fish-crow always, a little before sunset, seeks the interior high woods to repose in.

On my journey through the Mississippi territory last year, I resided for some time at the seat of my hospitable friend, Dr Samuel Brown, a few miles from Fort Adams, on the Mississippi. In my various excursions there, among the lofty fragrance-breathing magnolia woods, and magnificent scenery, that adorn the luxuriant face of nature in those southern regions, this species of crow frequently made its appearance, distinguished by the same voice and habits it had in Georgia. There is, in many of the ponds there, a singular kind of lizard, that swims about, with its head above the surface, making a loud sound, not unlike the harsh jarring of a door. These the crow now before us would frequently seize with his claws, as he flew along the surface, and retire to the summit of a dead tree to enjoy his repast. Here I also observed him a pretty constant attendant at the pens where the cows were usually milked, and much less shy, less suspicious, and more solitary than the common crow. In the county of Cape May, New Jersey, I again met with these crows, particularly along Egg-Harbour river; and latterly on the Schuylkill and Delaware, near Philadelphia, during the season of shad and herring fishing, viz. from the middle of March till the beginning of June. A small party of these crows,

during this period, regularly passed Mr Bartram's gardens to the high woods to roost, every evening a little before sunset, and as regularly returned, at or before sunrise every morning, directing their course towards the river. The fishermen along these rivers also inform me, that they have particularly remarked this crow, by his croaking voice, and his fondness for fish; almost always hovering about their fishing places to glean up the refuse. Of their manner of breeding I can only say, that they separate into pairs, and build in tall trees near the sea or river shore; one of their nests having been built this season in a piece of tall woods near Mr Beasley's, at Great Egg-Harbour. From the circumstance of six or seven being usually seen here together in the month of July, it is probable that they have at least four or five young at a time.

I can find no description of this species by any former writer. Mr Bartram mentions a bird of this tribe, which he calls the *great sea-side crow*; but the present species is considerably inferior in size to the common crow, and having myself seen and examined it in so many and remotely situated parts of the country, and found it in all these places alike, I have no hesitation in pronouncing it to be a new and hitherto undescribed species.

The fish crow is sixteen inches long, and thirty-three in extent; black all over, with reflections of steel-blue and purple; the chin is bare of feathers around the base of the lower mandible; upper mandible notched near the tip, the edges of both turned inwards about the middle; eye, very small, placed near the corner of the mouth, and of a dark hazel colour; recumbent hairs or bristles, large and long; ear-feathers, prominent; first primary little more than half the length, fourth the longest; wings, when shut, reach within two inches of the tip of the tail; tail, rounded, and seven inches long from its insertion; thighs, very long; legs, stout; claws, sharp, long and hooked, hind one the largest, all jet black. Male and female much alike.

I would beg leave to recommend to the watchful

farmers of the United States, that, in their honest indignation against the common crow, they would spare the present species, and not shower destruction indiscriminately on their black friends and enemies; at least on those who *sometimes* plunder them, and those who never molest or injure their property.

61. *CORVUS COLUMBIANUS*, WILS. — CLARK'S CROW.

WILSON, PLATE XX. FIG. II.

THIS species resembles, a little, the jackdaw of Europe (*corvus monedula*); but is remarkable for its formidable claws, which approach to those of the falco genus; and would seem to intimate that its food consists of living animals, for whose destruction these weapons must be necessary. In conversation with different individuals of the party,* I understood that this bird inhabits the shores of the Columbia, and the adjacent country, in great numbers, frequenting the rivers and sea-shore, probably feeding on fish; and that it has all the gregarious and noisy habits of the European species, several of the party supposing it to be the same. The following description was taken with particular care, after a minute examination and measurement of the only preserved skin that was saved; and which is now deposited in Mr Peale's museum:

This bird measures thirteen inches in length; the wings, the two middle tail feathers, and the interior vanes of the next, (except at the tip,) are black, glossed with steel-blue; all the secondaries, except the three next the body, are white for an inch at their extremities, forming a large spot of white on that part, when the wing is shut; the tail is rounded; yet the two middle feathers are somewhat shorter than those adjoining; all the rest are pure white, except as already described; the general colour of the head, neck, and

* The exploring party, under Captains Clark and Lewis, mentioned at p. 168, by which this bird was discovered.

body, above and below, is a light silky drab, darkening almost to a dove colour on the breast and belly; vent, white; claws, black, large, and hooked, particularly the middle and hind claw; legs, also black; bill, a dark horn colour; iris of the eye, unknown.

In the state of Georgia, and several parts of West Florida, I discovered a crow, not hitherto taken notice of by naturalists, rather larger than the present species, but much resembling it in the form and length of its wings, in its tail, and particularly its claws. This bird is a constant attendant along the borders of streams and stagnating ponds, feeding on small fish and lizards, which I have many times seen him seize as he swept along the surface. A well preserved specimen of this bird was presented to Mr Peale, and is now in his museum. It is highly probable, that, with these external resemblances, the habits of both may be nearly alike.

SUBGENUS II. — *PICA*, BRISSON.

62. *CORVUS PICA*. — MAGPIE.

WILSON, PLATE XXXV. FIG. II.

THIS bird is much better known in Europe than in this country, where it has not been long discovered; although it is now found to inhabit a wide extent of territory, and in great numbers. The description was taken from a very beautiful specimen, sent from the Mandan nation, on the Missouri, to Mr Jefferson, and by that gentleman to Mr Peale of this city, in whose museum it lived for several months, and where I had an opportunity of examining it. On carefully comparing it with the European magpie in the same collection, no material difference could be perceived.

This bird unites in its character courage and cunning, turbulence and rapacity. Not inelegantly formed, and distinguished by gay as well as splendid plumage, he has long been noted in those countries where he commonly resides, and his habits and manners are there

familiarly known. He is particularly pernicious to plantations of young oaks, tearing up the acorns; and also to birds, destroying great numbers of their eggs and young, even young chickens, partridges, grouse, and pheasants. It is perhaps on this last account that the whole vengeance of the game laws has lately been let loose upon him in some parts of Britain, as appears by accounts from that quarter, where premiums, it is said, are offered for his head, as an arch poacher; and penalties inflicted on all those who permit him to breed on their premises. Under the lash of such rigorous persecution, a few years will probably exterminate the whole tribe from the island. He is also destructive to gardens and orchards; is noisy and restless, almost constantly flying from place to place; alights on the backs of the cattle, to rid them of the larvæ that fester in the skin; is content with carrion when nothing better offers; eats various kinds of vegetables, and devours greedily grain, worms, and insects of almost every description. When domesticated, he is easily taught to imitate the human voice, and to articulate words pretty distinctly; has all the pilfering habits of his tribe, filling every chink, nook, and crevice, with whatever he can carry off; is subject to the epilepsy, or some similar disorder; and is, on the whole, a crafty, restless, and noisy bird.

He generally selects a tall tree, adjoining the farm house, for his nest, which is placed among the highest branches; this is large, composed outwardly of sticks, roots, turf, and dry weeds, and well lined with wool, cow hair, and feathers; the whole is surrounded, roofed, and barricaded with thorns, leaving only a narrow entrance. The eggs are usually five, of a greenish colour, marked with numerous black or dusky spots. In the northern parts of Europe, he migrates at the commencement of winter.

In this country, the magpie was first taken notice of at the factories, or trading houses, on Hudson's Bay, where the Indians used sometimes to bring it in, and gave it the name of Heart-bird,—for what reason is

uncertain. It appears, however, to be rather rare in that quarter. These circumstances are taken notice of by Mr Pennant and other British naturalists.

In 1804, the exploring party under the command of Captains Lewis and Clark, on their route to the Pacific Ocean across the continent, first met with the magpie somewhere near the great bend of the Missouri, and found that the number of these birds increased as they advanced. Here also the blue jay disappeared; as if the territorial boundaries and jurisdiction of these two noisy and voracious families of the same tribe had been mutually agreed on, and distinctly settled. But the magpie was found to be far more daring than the jay, dashing into their very tents, and carrying off the meat from the dishes. One of the hunters who accompanied the expedition informed me, that they frequently attended him while he was engaged in skinning and cleaning the carcass of the deer, bear, or buffalo he had killed, often seizing the meat that hung within a foot or two of his head. On the shores of the Kooskoos-ke river, on the west side of the great range of rocky mountains, they were found to be equally numerous.

It is highly probable that those vast plains or prairies, abounding with game and cattle, frequently killed for the mere hides, tallow, or even marrow bones, may be one great inducement for the residency of these birds, so fond of flesh and carrion. Even the rigorous severity of winter in the high regions along the head waters of Rio du Nord, the Arkansaw, and Red River, seems insufficient to force them from those favourite haunts; though it appears to increase their natural voracity to a very uncommon degree. Colonel Pike relates, that in the month of December, in the neighbourhood of the North Mountain, N. lat. 41° W. long. 34° , Reaumur's thermometer standing at 17° below 0, these birds were seen in great numbers. "Our horses," says he, "were obliged to scrape the snow away to obtain their miserable pittance; and, to increase their misfortunes, the poor animals were attacked by the magpies, who, attracted by the scent of their sore backs, alighted on

them, and, in defiance of their wincing and kicking, picked many places quite raw. The difficulty of procuring food rendered those birds so bold, as to alight on our men's arms, and eat meat out of their hands."*

The magpie is eighteen inches in length; the head, neck, upper part of the breast and back, are a deep velvety black; primaries, brownish black, streaked along their inner vanes with white; secondaries, rich purplish blue; greater coverts, green blue; scapulars, lower part of the breast and belly, white; thighs and vent, black; tail, long; the two exterior feathers scarcely half the length of the longest, the others increasing to the two middle ones, which taper towards their extremities. The colour of this part of the plumage is very splendid, being glossy green, dashed with blue and bright purple; this last colour bounds the green; nostrils, covered with a thick tuft of recumbent hairs, as are also the sides of the mouth; bill, legs, and feet, glossy black. The female differs only in the less brilliancy of her plumage.

SUBGENUS II. — *GARRULUS*, BRISSON.

63. *CORVUS CRISTATUS*, LINN. — BLUE JAY.

WILSON, PLATE I. FIG. I.

THIS elegant bird, which, as far as I can learn, is peculiar to North America, is distinguished as a kind of beau among the feathered tenants of our woods, by the brilliancy of his dress; and, like most other cock-combs, makes himself still more conspicuous by his loquacity, and the oddness of his tones and gestures. The jay measures eleven inches in length; the head is ornamented with a crest of light blue or purple feathers, which he can elevate or depress at pleasure; a narrow line of black runs along the frontlet, rising on each side higher than the eye, but not passing over it, as Catesby has represented, and as Pennant and many

* Pike's *Journal*, p. 170.

others have described it; back and upper part of the neck, a fine light purple, in which the blue predominates; a collar of black, proceeding from the hind head, passes with a graceful curve down each side of the neck to the upper part of the breast, where it forms a crescent; chin, cheeks, throat, and belly, white, the three former slightly tinged with blue; greater wing-coverts, a rich blue; exterior sides of the primaries, light blue, those of the secondaries, a deep purple, except the three feathers next the body, which are of a splendid light blue; all these, except the primaries, are beautifully barred with crescents of black, and tipped with white; the interior sides of the wing feathers are dusky black; tail long and cuneiform, composed of twelve feathers of a glossy light blue, marked at half inches with transverse curves of black, each feather being tipped with white, except the two middle ones, which deepen into a dark purple at the extremities. Breast and sides under the wings, a dirty white, faintly stained with purple; inside of the mouth, the tongue, bill, legs, and claws, black; iris of the eye, hazel.

The blue jay is an almost universal inhabitant of the woods, frequenting the thickest settlements as well as the deepest recesses of the forest, where his squalling voice often alarms the deer, to the disappointment and mortification of the hunter,—one of whom informed me, that he made it a point, in summer, to kill every jay he could meet with. In the charming season of spring, when every thicket pours forth harmony, the part performed by the jay always catches the ear. He appears to be among his fellow musicians what the trumpeter is in a band, some of his notes having no distant resemblance to the tones of that instrument. These he has the faculty of changing through a great variety of modulations, according to the particular humour he happens to be in. When disposed for ridicule, there is scarce a bird whose peculiarities of song he cannot tune his notes to. When engaged in the blandishments of love, they resemble the soft chattering of a duck, and, while he nestles among the thick

branches of the cedar, are scarce heard at a few paces distance; but he no sooner discovers your approach than he sets up a sudden and vehement outcry, flying off, and screaming with all his might, as if he called the whole feathered tribes of the neighbourhood to witness some outrageous usage he had received. When he hops undisturbed among the high branches of the oak and hickory, they become soft and musical; and his calls of the female a stranger would readily mistake for the repeated squeakings of an ungreased wheelbarrow. All these he accompanies with various nods, jerks, and other gesticulations, for which the whole tribe of jays are so remarkable, that, with some other peculiarities, they might have very well justified the great Swedish naturalist in forming them into a separate genus by themselves.

The blue jay builds a large nest, frequently in the cedar, sometimes on an apple-tree, lines it with dry fibrous roots, and lays five eggs of a dull olive, spotted with brown. The male is particularly careful of not being heard near the place, making his visits as silently and secretly as possible. His favourite food is chestnuts, acorns, and Indian corn. He occasionally feeds on bugs and caterpillars, and sometimes pays a plundering visit to the orchard, cherry rows, and potato patch; and has been known, in times of scarcity, to venture into the barn, through openings between the weather boards. In these cases he is extremely active and silent, and, if surprised in the fact, makes his escape with precipitation, but without noise, as if conscious of his criminality.

Of all birds he is the most bitter enemy to the owl. No sooner has he discovered the retreat of one of these, than he summons the whole feathered fraternity to his assistance, who surround the glimmering *solitaire*, and attack him from all sides, raising such a shout as may be heard, in a still day, more than half a mile off. When, in my hunting excursions, I have passed near this scene of tumult, I have imagined to myself that I heard the insulting party venting their respective charges

with all the virulency of a Billingsgate mob; the owl, meanwhile, returning every compliment with a broad goggling stare. The war becomes louder and louder, and the owl at length, forced to betake himself to flight, is followed by his whole train of persecutors, until driven beyond the boundaries of their jurisdiction.

But the blue jay himself is not guiltless of similar depredations with the owl, and becomes in his turn the very tyrant he detested, when he sneaks through the woods, as he frequently does, and among the thickets and hedge-rows, plundering every nest he can find of its eggs, tearing up the callow young by piecemeal, and spreading alarm and sorrow around him. The cries of the distressed parents soon bring together a number of interested spectators (for birds in such circumstances seem truly to sympathize with each other,) and he is sometimes attacked with such spirit as to be under the necessity of making a speedy retreat.

He will sometimes assault small birds, with the intention of killing and devouring them; an instance of which I myself once witnessed, over a piece of woods near the borders of Schuylkill; where I saw him engaged for more than five minutes pursuing what I took to be a species of motacilla (*m. maculosa*, yellow rump,) wheeling, darting, and doubling in the air, and, at last, to my great satisfaction, got disappointed, in the escape of his intended prey. In times of great extremity, when his hoard or magazine is frozen up, buried in snow, or perhaps exhausted, he becomes very voracious, and will make a meal of whatever carrion or other animal substance comes in the way, and has been found regaling himself on the bowels of a robin (*turdus migratorius*) in less than five minutes after it was shot.

There are, however, individual exceptions to this general character for plunder and outrage, a proneness for which is probably often occasioned by the wants and irritations of necessity. A blue jay, which I have kept for some time, and with whom I am on terms of familiarity, is in reality a very notable example of mildness of disposition and sociability of manners. An

accident in the woods first put me in possession of this bird, while in full plumage, and in high health and spirits; I carried him home with me, and put him into a cage already occupied by a golden-winged woodpecker (*picus auratus*,) where he was saluted with such rudeness, and received such a drubbing from the lord of the manor, for entering his premises, that, to save his life, I was obliged to take him out again. I then put him into another cage, where the only tenant was a female *oriolus spurius* (bastard baltimore.) She also put on airs of alarm, as if she considered herself endangered and insulted by the intrusion; the jay, meanwhile, sat mute and motionless on the bottom of the cage, either dubious of his own situation, or willing to allow time for the fears of his neighbour to subside. Accordingly, in a few minutes, after displaying various threatening gestures (like some of those Indians we read of in their first interviews with the whites,) she began to make her approaches, but with great circumspection, and readiness for retreat. Seeing, however, the jay begin to pick up some crumbs of broken chestnuts, in a humble and peaceable way, she also descended, and began to do the same; but, at the slightest motion of her new guest, wheeled round, and put herself on the defensive. All this ceremonious jealousy vanished before evening; and they now roost together, feed, and play together, in perfect harmony and good humour. When the jay goes to drink, his messmate very impudently jumps into the saucer to wash herself, throwing the water in showers over her companion, who bears it all patiently; venturing now and then to take a sip between every splash, without betraying the smallest token of irritation. On the contrary, he seems to take pleasure in his little fellow-prisoner, allowing her to pick (which she does very gently) about his whiskers, and to clean his claws from the minute fragments of chestnuts which happen to adhere to them. This attachment on the one part, and mild condescension on the other, may, perhaps, be partly the effect of mutual misfortunes, which are found not only to knit

mankind, but many species of inferior animals, more closely together; and shews that the disposition of the blue jay may be humanized, and rendered susceptible of affectionate impressions, even for those birds which, in a state of nature, he would have no hesitation in making a meal of.

He is not only bold and vociferous, but possesses a considerable talent for mimicry, and seems to enjoy great satisfaction in mocking and teasing other birds, particularly the little hawk (*f. Sparverius*), imitating his cry wherever he sees him, and squealing out as if caught: this soon brings a number of his own tribe around him, who all join in the frolic, darting about the hawk, and feigning the cries of a bird sorely wounded, and already under the clutches of its devourer; while others lie concealed in bushes, ready to second their associates in the attack. But this ludicrous farce often terminates tragically. The hawk, singling out one of the most insolent and provoking, sweeps upon him in an unguarded moment, and offers him up a sacrifice to his hunger and resentment. In an instant the tune is changed; all their buffoonery vanishes, and loud and incessant screams proclaim their disaster.

Wherever the jay has had the advantage of education from man, he has not only shewn himself an apt scholar, but his suavity of manners seems equalled only by his art and contrivances; though it must be confessed, that his itch for thieving keeps pace with all his other acquirements. Dr Mease, on the authority of Colonel Postell, of South Carolina, informs me, that a blue jay which was brought up in the family of the latter gentleman, had all the tricks and loquacity of a parrot; pilfered every thing he could conveniently carry off, and hid them in holes and crevices; answered to his name with great sociability, when called on; could articulate a number of words pretty distinctly; and, when he heard any uncommon noise, or loud talking, seemed impatient to contribute his share to the general festivity (as he probably thought it) by a display of all the oratorical powers he was possessed of

Mr Bartram relates an instance of the jay's sagacity, worthy of remark. "Having caught a jay in the winter season," says he, "I turned him loose in the green-house, and fed him with corn, (zea, maize,) the heart of which they are very fond of. This grain being ripe and hard, the bird at first found a difficulty in breaking it, as it would start from his bill when he struck it. After looking about, and, as if considering for a moment, he picked up his grain, carried and placed it close up in a corner on the shelf, between the wall and a plant box, where, being confined on three sides, he soon effected his purpose, and continued afterwards to make use of this same practical expedient. The jay," continues this judicious observer, "is one of the most useful agents in the economy of nature, for disseminating forest trees, and other ruciferous and hard-seeded vegetables on which they feed. Their chief employment, during the autumnal season, is foraging to supply their winter stores. In performing this necessary duty, they drop abundance of seed in their flight over fields, hedges, and by fences, where they alight to deposit them in the post holes, &c. It is remarkable what numbers of young trees rise up in fields and pastures after a wet winter and spring. These birds alone are capable, in a few years' time, to replant all the cleared lands."*

The blue jays seldom associate in any considerable numbers, except in the months of September and October, when they hover about, in scattered parties of from forty to fifty, visiting the oaks, in search of their favourite acorns. At this season they are less shy than usual, and keep chattering to each other in a variety of strange and querulous notes. I have counted fifty-three, but never more, at one time; and these generally following each other in straggling irregularly from one range of woods to another. Yet we are told by the learned Dr Latham, — and his statement has been copied into many respectable European publications, — that the

* Letter of Mr William Bartram to the author.

blue jays of North America "often unite into flocks of twenty thousand at least! which, alighting on a field of ten or twelve acres, soon lay waste the whole."* If this were really so, these birds would justly deserve the character he gives them, of being the most destructive species in America. But I will venture the assertion, that the tribe *oriolus phœniceus*, or red-winged black-birds, in the environs of the river Delaware alone, devour and destroy more Indian corn than the whole blue jays of North America. As to their assembling in such immense multitudes, it may be sufficient to observe, that a flock of blue jays of twenty thousand would be as extraordinary an appearance in America, as the same number of magpies or cuckoos would be in Britain.

It has been frequently said, that numbers of birds are common to the United States and Europe; at present, however, I am not certain of many. Comparing the best descriptions and delineations of the European ones with those of our native birds, said to be of the same species, either the former are very erroneous, or the difference of plumage and habits in the latter justifies us in considering a great proportion of them to be really distinct species. Be this, however, as it may, the blue jay appears to belong exclusively to North America. I cannot find it mentioned by any writer or traveller among the birds of Guiana, Brazil, or any other part of South America. It is equally unknown in Africa. In Europe, and even in the eastern parts of Asia, it is never seen in its wild state. To ascertain the exact limits of its native regions, would be difficult. These, it is highly probable, will be found to be bounded by the extremities of the temperate zone. Dr Latham has indeed asserted, that the blue jay of America is not found farther north than the town of Albany.† This, however, is a mistake. They are common in the eastern

* *Synopsis of Birds*, vol. i. p. 387. See also *Encyclopædia Britannica*, art. *Corvus*.

† *Synopsis*, vol. i. p. 387.

States, and are mentioned by Dr Belknap in his enumeration of the birds of New Hampshire.* They are also natives of Newfoundland. I myself have seen them in Upper Canada. Blue jays and yellow birds were found by Mr M'Kenzie, when on his journey across the continent, at the head waters of the Unjigah, or Peace river, in N. lat. 54°, W. lon. 121°, on the west side of the great range of stony mountains.† Steller, who, in 1741, accompanied Captain Behring in his expedition, for the discovery of the northwest coast of America, and who wrote the journal of the voyage, relates, that he himself went on shore near cape St Elias, in lat. 58° 28' W. lon. 141° 46', according to his estimation, where he observed several species of birds *not known in Siberia*; and one, in particular, described by Catesby, under the name of the blue jay.‡ Mr William Bartram informs me, that they are numerous in the peninsula of Florida, and that he also found them at Natchez, on the Mississippi. Captain Lewis and Clark, and their intrepid companions, in their memorable expedition across the continent of North America to the Pacific ocean, continued to see blue jays for six hundred miles up the Missouri.§ From these accounts it follows, that this species occupies, generally or partially, an extent of country stretching upwards of seventy degrees from east to west, and more than thirty degrees from north to south; though, from local circumstances, there may be intermediate tracts, in this immense range, which they seldom visit.

* *History of New Hampshire*, vol. iii. p. 163.

† *Voyages from Montreal, &c.* p. 216, 4to. London, 1801.

‡ See STELLER'S *Journal*, *apud Pallas*.

§ This fact I had from Captain Lewis.

64. *CORVUS CANADENSIS*, LINNÆUS. — CANADA JAY.

WILSON, PL. XXI. FIG. I. — EDINBURGH COLLEGE MUSEUM.

WERE I to adopt the theoretical reasoning of a celebrated French naturalist, I might pronounce this bird to be a debased descendant from the common blue jay of the United States, degenerated by the influence of the bleak and chilling regions of Canada; or perhaps a *spurious* production between the blue jay and the cat-bird: or, what would be more congenial to the Count's ideas, trace its degradation to the circumstance of migrating, some thousand years ago, from the genial shores of Europe, — where nothing like degeneracy or degradation ever takes place among any of God's creatures. I shall, however, on the present occasion, content myself with stating a few particulars better supported by facts, and more consonant to the plain homespun of common sense.

This species inhabits the country extending from Hudson's Bay, and probably farther north to the river St Lawrence; also, in winter, the inland parts of the district of Maine, and northern tracts of the States of Vermont and New York. When the season is very severe, with deep snow, they sometimes advance farther south; but generally return northward as the weather becomes more mild.

The character given of this bird by the people of those parts of the country where it inhabits, is, that it feeds on black moss, worms, and even flesh; when near habitations or tents, pilfers every thing it can come at; is bold, and comes even into the tent, to eat meat out of the dishes; watches the hunters while baiting their traps for martens, and devours the bait as soon as their backs are turned; that they breed early in spring, building their nests on pine trees, forming them of sticks and grass, and lay blue eggs; that they have two,

rarely three young at a time, which are at first quite black, and continue so for some time; that they fly in pairs; lay up hoards of berries in hollow trees; are seldom seen in January, unless near houses; are a kind of mock-bird; and, when caught, pine away, though their appetite never fails them; notwithstanding all which ingenuity and good qualities, they are, as we are informed, detested by the natives.*

The only individuals of this species I ever met with in the United States were on the shores of the Mohawk, a short way above the Little Falls. It was about the last of November, and the ground deeply covered with snow. There were three or four in company, or within a small distance of each other, flitting leisurely along the roadside, keeping up a kind of low chattering with one another, and seemed nowise apprehensive at my approach. I soon secured the whole. On dissection, I found their stomachs occupied by a few spiders, and the aureliæ of some insects. I could perceive no difference between the plumage of the male and female.

The Canada jay is eleven inches long, and fifteen in extent; back, wings, and tail, a dull leaden gray, the latter long, cuneiform, and tipped with dirty white; interior vanes of the wings, brown, and also partly tipped with white; plumage of the head, loose and prominent; the forehead and feathers covering the nostril, as well as the whole lower parts, a dirty brownish white, which also passes round the bottom of the neck like a collar; part of the crown and hind head, black; bill and legs, also black; eye, dark hazel. The whole plumage on the back is long, loose, unwebbed, and in great abundance, as if to protect it from the rigours of the regions it inhabits.

A gentleman of observation, who resided for many years near the North River, not far from Hudson, in the State of New York, informs me, that he has particularly observed this bird to arrive there at the com-

* HEARNE'S *Journey*, p. 405.

mencement of cold weather; he has often remarked its solitary habits; it seemed to seek the most unfrequented, shaded retreats, keeping almost constantly on the ground, yet would sometimes, towards evening, mount to the top of a small tree, and repeat its notes (which a little resemble those of the baltimore,) for a quarter of an hour together; and this it generally did immediately before snow, or falling weather.

FAMILY VIII.

SERICATI, ILLIGER.

GENUS XII.—*BOMBYCILLA*, VIEILL.

65. *BOMBYCILLA CAROLINENSIS*, BRISSON.

AMPELIS AMERICANA, WILSON.—CEDAR BIRD.

WILSON, PL. VII. FIG. I.—EDINBURGH COLLEGE MUSEUM.

THE plumage of these birds is of an exquisitely fine and silky texture, lying extremely smooth and glossy, Notwithstanding the name *chatterers* given to them, they are perhaps the most silent species we have; making only a feeble, lisping sound, chiefly as they rise or alight. They fly in compact bodies, of from twenty to fifty; and usually alight so close together on the same tree, that one half are frequently shot down at a time. In the months of July and August, they collect together in flocks, and retire to the hilly parts of the State, the Blue Mountains, and other collateral ridges of the Alleghany, to enjoy the fruit of the *vaccinium uliginosum*, whortleberries, which grow there in great abundance; whole mountains, for many miles, being almost entirely covered with them; and where, in the month of August, I have myself found the cedar birds numerous. In October they descend to the lower, cultivated parts of the country, to feed on the berries of the sour gum, and red cedar, of which last they are immoderately fond; and thirty or forty may sometimes be seen fluttering among the branches of one small cedar tree, plucking off the berries. They are also found as far south as Mexico, as appears from the

accounts of Fernandez, Seba,* and others. Fernandez saw them near Tetzeuco, and calls them *coquantotl*; says they delight to dwell in the mountainous parts of the country; and that their flesh and song are both indifferent.† Most of our epicures here are, however, of a different opinion, as to their palatableness; for, in the fall and beginning of summer, when they become very fat, they are in considerable esteem for the table; and great numbers are brought to the market of Philadelphia, where they are sold from twelve to twenty-five cents per dozen. During the whole winter and spring they are occasionally seen; and, about the 25th of May, appear in numerous parties, making great havoc among the early cherries, selecting the best and ripest of the fruit. Nor are they easily intimidated by the presence of Mr Scarecrow; for I have seen a flock deliberately regaling on the fruit of a loaded cherry tree, while on the same tree one of these *guardian angels*, and a very formidable one too, stretched his stiffened arms, and displayed his dangling legs, with all the pomposity of authority! At this time of the season most of our resident birds, and many of our summer visitants, are sitting, or have young; while, even on the 1st of June, the eggs in the ovary of the female cedar bird are no larger than mustard seed; and it is generally the 8th or 10th of that month before they begin to build. These last are curious circumstances, which it is difficult to account for, unless by supposing, that incubation is retarded by a scarcity of suitable food in spring, berries and other fruit being their usual fare. In May, before the cherries are ripe, they are lean, and little else is found in their stomachs than a few shrivelled cedar berries, the refuse of the former season, and a few fragments of beetles and other insects, which do not appear to be their common food; but in June,

* The figure of this bird, in Seba's voluminous work, is too wretched for criticism; it is there called "Oiseau Xomotl, d'Amerique, hupé." Seb. ii. p. 66, t. 65, fig. 5.

† *Hist. Av. Nov. Hisp.* 55.

while cherries and strawberries abound, they become extremely fat; and, about the 10th or 12th of that month, disperse over the country in pairs to breed; sometimes fixing on the cedar, but generally choosing the orchard for that purpose. The nest is large for the size of the bird, fixed in the forked or horizontal branch of an apple tree, ten or twelve feet from the ground; outwardly, and at bottom, is laid a mass of coarse dry stalks of grass, and the inside is lined wholly with very fine stalks of the same material. The eggs are three or four, of a dingy bluish white, thick at the great end, tapering suddenly, and becoming very narrow at the other; marked with small roundish spots of black of various sizes and shades; and the great end is of a pale dull purple tinge, marked likewise with touches of various shades of purple and black. About the last week in June the young are hatched, and are at first fed on insects and their larvæ; but, as they advance in growth, on berries of various kinds. These facts I have myself been an eye witness to. The female, if disturbed, darts from the nest in silence to a considerable distance; no notes of wailing or lamentation are heard from either parent, nor are they even seen, notwithstanding you are in the tree examining the nest and young. These nests are less frequently found than many others, owing, not only to the comparatively few numbers of the birds, but to the remarkable muteness of the species. The season of love, which makes almost every other small bird musical, has no such effect on them; for they continue, at that interesting period, as silent as before.

This species is also found in Canada, where it is called *recollet*, probably, as Dr Latham supposes, from the colour and appearance of its crest resembling the hood of an order of friars of that denomination; it has also been met with by several of our voyagers on the northwest coast of America, and appears to have an extensive range.

Almost all the ornithologists of Europe persist in

considering this bird as a variety of the European chattering, (*a. garrulus*,) with what justice or propriety a mere comparison of the two will determine: The European species is very nearly twice the cubic bulk of ours; has the whole lower parts of an uniform dark vinous bay; the tips of the wings streaked with lateral bars of yellow; the nostrils, covered with bristles;* the feathers on the chin, loose and tufted; the wings, black; and the markings of white and black on the sides of the head different from the American, which is as follows:—Length, seven inches, extent, eleven inches; head, neck, breast, upper part of the back and wing-coverts, a dark fawn colour; darkest on the back, and brightest on the front; head, ornamented with a high pointed, almost upright, crest; line from the nostril over the eye to the hind head, velvety black, bordered above with a fine line of white, and another line of white passes from the lower mandible; chin, black, gradually brightening into fawn colour, the feathers there lying extremely close; bill, black; upper mandible, nearly triangular at the base, without bristles, short, rounding at the point, where it is deeply notched; the lower scolloped at the tip, and turning up; tongue, as in the rest of the genus, broad, thin, cartilaginous, and lacerated at the end; belly, yellow; vent, white; wings, deep slate, except the two secondaries next the body, whose exterior vanes are of a fawn colour, and interior ones, white; forming two whitish strips there, which are very conspicuous; rump and tail-coverts, pale light blue; tail, the same, gradually deepening into black, and tipped for half an inch with rich yellow. Six or seven, and sometimes the whole nine, secondary feathers of the wings, are ornamented at the tips with small red oblong appendages, resembling red sealing-wax; these appear to be a prolongation of the shafts, and to be intended for preserving the ends, and consequently the vanes, of the quills, from being broken and worn away

* Turton.

by the almost continual fluttering of the bird among thick branches of the cedar. The feathers of those birds, which are without these appendages, are uniformly found ragged on the edges; but smooth and perfect in those on whom the marks are full and numerous. These singular marks have been usually considered as belonging to the male alone, from the circumstance, perhaps, of finding female birds without them. They are, however, common to both male and female. Six of the latter are now lying before me, each with large and numerous clusters of eggs, and having the waxen appendages in full perfection. The young birds do not receive them until the second fall, when, in moulting time, they may be seen fully formed, as the feather is developed from its sheath. I have once or twice found a solitary one on the extremity of one of the tail feathers. The eye is of a dark blood colour; the legs and claws, black; the inside of the mouth, orange; gap, wide; and the gullet capable of such distension as often to contain twelve or fifteen cedar berries, and serving as a kind of craw to prepare them for digestion. No wonder, then, that this gluttonous bird, with such a mass of food almost continually in its throat, should want both the inclination and powers for vocal melody, that which would seem to belong to those only of less gross and voracious habits. The chief difference in the plumage of the male and female consists in the dulness of the tints of the latter, the inferior appearance of the crest, and the narrowness of the yellow bar on the tip of the tail.

Though I do not flatter myself with being able to remove that prejudice from the minds of foreigners, which has made them look on this bird, also, as a degenerate and not a distinct species from their own; yet they must allow that the change has been very great, very uniform, and universal, all over North America, where I have never heard that the European species has been found; or, even if it were, this would only shew more clearly the specific difference of the

two, by proving, that climate or food could never have produced these differences in either when both retain them, though confined to the same climate.

But it is not only in the colour of their plumage that these two birds differ, but in several important particulars, in their manners and habits. The breeding place of the European species is absolutely unknown; supposed to be somewhere about the polar regions; from whence, in winter, they make different and very irregular excursions to different parts of Europe; seldom advancing farther south than the north of England, in lat. 54° N. and so irregularly, that many years sometimes elapse between their departure and reappearance; which, in more superstitious ages, has been supposed to portend some great national calamity. On the other hand, the American species inhabits the whole extensive range between Mexico and Canada, and perhaps much farther both northerly and southerly, building and rearing their young in all the intermediate regions, often in our gardens and orchards, within a few yards of our houses. Those of our fellow-citizens who have still any doubts, and wish to examine for themselves, may see beautiful specimens of both birds in the superb collection of Mr Charles W. Peale of Philadelphia, whose magnificent museum is indeed a national blessing, and will be a lasting honour to his memory.

In some parts of the country they are called crown birds; in others cherry birds, from their fondness for that fruit. They also feed on ripe persimmons, small winter grapes, bird cherries, and a great variety of other fruits and berries. The action of the stomach on these seeds and berries does not seem to injure their vegetative powers; but rather to promote them, by imbedding them in a calcareous case, and they are thus transported to and planted in various and distant parts by these little birds. In other respects, however, their usefulness to the farmer may be questioned; and in the general chorus of the feathered songsters they can scarcely be said to take a part. We must, therefore,

rank them far below many more homely and minute warblers, their neighbours, whom Providence seems to have formed, both as allies to protect the property of the husbandman from devouring insects, and as musicians to cheer him, while engaged in the labours of the field, with their innocent and delightful melody.

END OF VOLUME FIRST.

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